2026-2027 Next Level Programs of Study

Review Document

Revision Date: July 28, 2026

Purpose

The purpose of the NLPS Review Document is to provide instructors, administrators, and other stakeholders with the opportunity to view the 4-course sequence for each Next Level Program of Study (NLPS) in its entirety and find relevant information about all NLPS courses. Individuals can find course descriptions, the aligned postsecondary course, and other additional information.

CTE funding information, assignment codes, dual credit availability and certification alignment are included where possible. It may still be necessary to use some of the additional resources provided by the CTE team, but the Review Document consolidates much of the pertinent course information into one resource.

Important Notes

- Postsecondary courses followed by an * are not available for dual credit
- Vincennes University postsecondary courses followed by a □ are not available for dual credit for freshmen secondary students
- Vincennes University postsecondary courses followed by a ^ are only available for dual credit through an approved VU Early College program
- For schools offering the Aviation Maintenance program in alignment with Ivy Tech, please contact your campus partner to discuss certifications available for students.

Notable updates for 2026-2027

- **To make the Review Document easier to navigate and maintain, course competencies are not included in the document but are hyperlinked within each course's information.**
- Because all CTE courses count as electives (personalized or directed) across all diploma types, this is no longer noted on each individual course.
    - Courses that meet science, STEM, or other graduation requirements for the Core 40 or new Indiana Diploma are still noted with each course's information.
- Two new pathways have been added to the Digital Technology career cluster - AI/Machine Learning and Data Analytics
- For the program of study Capstone courses, priority standards are denoted with tan shading. These are the standards that must be covered in the first two credits of a program of study Capstone course.
- Course additions per the 26-27 CTE Course Titles and Descriptions include Software and Cloud Foundations (7488); AI and Data Fundamentals (7490); AI/Machine Learning Capstone (7494); Data Analytics Capstone (7492)
    - Digital Technology courses 7484 Data Analytics and Information Operations and 7180 Information Technology Fundamentals will be phased out after the 27-28 school year.
- Course removals shared through the 26-27 CTE Course Titles and Descriptions and other prior communication are Understanding Diversity (7174); Relationship and Emotions (7177); Human Services Capstone (7241); Semiconductor and EV Battery Manufacturing Capstone (7250); Introduction to Housing and Interior Design (5350); Introduction to Fashion & Textiles (5380); Principles of Architecture, Engineering and Construction (7295); Surveying (7296); Advanced Architectural Drafting and Design (7389); and Architecture, Engineering and Construction

Capstone (7292)
- Beginning in the 2026-27 school year, Community Health Worker (Course 7278, currently Concentrator B in Social and Community Services sequence) has been renamed Advanced Social and Community Services.

Next Level Programs of Study (NLPS) Overview

Each CTE program of study consists of a four course sequence. **The Concentrator sequences consist of three courses for every program of study: Principles, Concentrator A, and Concentrator B**. Programs of study begin with a base course and gradually increase the depth of content and occupational specificity. Each program of study also includes a Capstone course designed to let students' complete Postsecondary Credentials and participate in embedded work-based learning.

CTE programs of study can be offered in a variety of settings, including comprehensive high schools or a career center. Students can take up to 6 credits in a pathway each year, **made possible by allowing any required prerequisites to be implemented as corequisites.** Other benefits of the NLPS course structure include the following:

- Ability to earn CTE Concentrator Status in one year if participating in a multi-period training program that allows the student to complete the Principles, Concentrator A, and Concentrator B courses.
- All programs of study follow the same 4-course structure. This creates greater consistency and expectations across all CTE pathways.
- Most advanced courses (Concentrator A and Concentrator B courses) are each aligned to 6 college credit hours that have been intentionally aligned to Postsecondary Credentials.
- The Capstone course includes time for embedded work-based learning experiences.

These elements and others allow students to meet many of the requirements of Indiana's new high school diploma and Readiness Seals through participating in a Next Level Program of Study.

Other NLPS Resources:

To learn more about CTE Programs of Study and to use additional resources, please visit the Career and Technical Education (CTE) website.

All programming resources can primarily be found on the CTE Programs of Study page, including the **Master Pathways List** that allows individuals to quickly identify the available programs of study and the course options within each pathway.

While aligned Postsecondary and Industry Credentials are listed under each course in this document; the full 2026-2027 Credentials of Value list is also available.

Questions regarding Next Level Programs of Study and this Review Document can be directed to CTE@che.in.gov.

2026-2027 Next Level Programs of Study

Review Document

Advanced Manufacturing
Biotechnology
Design Technology
Electronics and Computer Technology
Engineering
Industry 4.0 – Smart Manufacturing
Industrial Automation and Robotics
Industrial Technical Maintenance - Electrical
Industrial Technical Maintenance – Mechanical
Precision Machining
Welding Technology
Agriculture
Ag Mechanical and Engineering
Agri-Science - Plants or Animals - (combined Animal, Plant, and Food Products)
Horticulture
Landscaping
Precision Agriculture
Veterinary Science
Water Systems
Arts, Entertainment, & Design
Digital Design
Fashion and Textiles
Interior Design
Radio and Television
Business Management
Business Administration
Business Operations and Technology
Construction
Building and Facilities Maintenance
Civil Construction
Construction Trades – Carpentry
Construction Trades – Electrical
Heating, Ventilating and Air Conditioning Technology (HVAC)
Heavy Equipment Operator
Plumbing and Pipefitting
CTE and WBL Courses
CTE Foundational Courses
CTE Nonstandard Courses: CTE Pilot, Locally Created CTE Concentrator, CTSO Leadership
Work-Based Learning
Digital Technology
AI/Machine Learning ***(NEW)***

Computer Science
Cybersecurity (VU)
Cybersecurity and Information Assurance (ITCC)
Data Analytics ***(NEW)***
Informatics
Information Technology Operations
Networking
Software Development
Education
Early Childhood
Education Professions
Energy & Natural Resources
Energy Technology
Natural Resources
Financial Services
Accounting
Finance and Investment
Insurance
Health & Human Services
Biomedical Sciences and Technology
Central Service Tech / Surgical Technician
Certified Clinical Medical Assistant (CCMA)
Cosmetology and Barbering
Dental Careers
Emergency Medical Services
Exercise Science
Pharmacy
Pre-Nursing / Healthcare Specialist (Includes CNA)
Social and Community Services
Hospitality, Events, & Tourism
Culinary Arts
Hospitality Management
Nutrition Science
Marketing, Sales, & Entrepreneurship
Entrepreneurship
Marketing and Sales
Public Service & Safety
Criminal Justice
Fire and Rescue
Paralegal
Supply Chain & Transportation

Automotive Collision Repair
Automotive Services
Aviation Maintenance
Aviation Management
Commercial Driver
Diesel Services
Supply Chain and Logistics

All CTE course standards and competencies can be accessed via Google Drive in addition to the hyperlinks in each course below.

Advanced Manufacturing

Introduction to Advanced Manufacturing and Logistics		
Career Cluster	Advanced Manufacturing	
Program of Study		
NLPS Sequence	Introductory	
Course Code	4796	
Course Description	*Introduction to Advanced Manufacturing and Logistics introduces students to the field of advanced manufacturing and logistics. The course explores the field's relationship to society, individuals, and the environment. Students learn to apply modern manufacturing processes in order to obtain resources and change them into industrial materials, industrial products, and consumer products. Students investigate the properties of engineered materials. Students study six major types of material processes: casting and molding, forming, separating, conditioning, finishing, and assembling. After gaining a working knowledge of these processes, students are introduced to the logistical and business principles utilized in today's advanced manufacturing industry. Students gain a basic understanding of tooling, electrical skills, operation skills, inventory principles, Material Safety Data Sheets (MSDS), chart and graph reading, and other Manufacturing Skill Standards Council (MSSC) concepts. There is also an emphasis placed on the flow process principles, material movement, safety, and related business operations. Students have the opportunity to develop the characteristics employers seek as well as skills that will help them in future endeavors.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	1 or 2 semester course, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status		
Additional Notes	**Note**: This course qualifies for funding at the 8th grade level. When offered as applied: 2 units maximum; counts as an employability applied unit for alternate diploma	
ADDITIONAL COURSE INFO		
Funding	Introductory	Available for 8th grade
Bulletin 400	• Industrial Arts 7-12, K12	
Rules 46-47	• Industrial Technology K-12 • Industrial Education K-12 • Occupational Specialist I, II or III in related course approved for a CTE pathway	
Rules 2002	• Technology Education with high school setting • Workplace Specialist I or II in related course approved for a CTE pathway	
REPA/REPA 3	• Technology Education 5-12 • Workplace Specialist I or II in related course approved for a CTE pathway	

POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/ Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 4796 Introduction to Advanced Manufacturing here.

Advanced Manufacturing: Special Topics	
Career Cluster	Advanced Manufacturing
Program of Study	
NLPS Sequence	
Course Code	4880
Course Description	*Advanced Manufacturing: Special Topics is an extended-learning experience designed to address the advancement and specialization of careers within the Advanced Manufacturing Career Cluster through the provision of a specialized course for a specific workforce in the school's region. The learning experience takes place at a qualified site and is designed to give the student the opportunity to learn and practice technical skills—while working under the direction of an appropriately-licensed professional. Throughout the course, students will focus on learning about employment opportunities and obtaining the knowledge, skills, and attitudes essential for success in specific occupations. Course standards and curriculum must be tailored to the specific profession. Course Standards must prepare students to advance in this career field and, where applicable, provide students with opportunities for certification or dual credit. Participation in a related CTSO is encouraged to aid in the development of leadership, communication, and other career-related skills.*
Prerequisite(s)/ Corequisite(s)	None
Credits	1 semester course, up to 3 credits per semester, may be offered for successive semesters up to 12 credits
Counts Toward	
Dual Credit Status	X
Additional Notes	Schools must have an approved Nonstandard Course Waiver on file to be eligible

	for CTE Funding.
ADDITIONAL COURSE INFO	
Funding	Pilot
Bulletin 400	• Standard Trade & Industrial: Manufacturing K-12 • Industrial Arts K-12
Rules 46-47	• Standard Trade & Industrial: Engineering or Manufacturing 9-12 • Industrial Technology K-12 • Industrial Education K-12 • Occupational Specialist I, II or III: Manufacturing 9-12
Rules 2002	• CTE: Trade & Industrial: Engineering or Manufacturing • Workplace Specialist: Engineering or Manufacturing • Technology Education with high school setting
REPA/REPA 3	•CTE: Trade & Industrial Engineering or Manufacturing 5-12 •Workplace Specialist: Advanced Manufacturing 9-12 •Technology Education 5-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/ Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	

Advanced Career & Technical Education, College Credit: Advanced Manufacturing	
Career Cluster	Advanced Manufacturing
Program of Study	
NLPS Sequence	
Course Code	6146
Course Description	*Advanced Career & Technical Education, College Credit: Advanced Manufacturing is the course title covering any advanced CTE course offered for credit by an accredited postsecondary institution through an adjunct agreement with a secondary school. The intent of this course is to allow students to earn college*

	credit for courses with content that goes beyond what is currently approved for high school credit. This course may be used for any dual enrollment course, including a joint program of study involving a postsecondary partnership.
Prerequisite(s)/ Corequisite(s)	None
Credits	1 semester course, up to 3 credits per semester, may be offered for successive semesters up to 12 credits
Counts Toward	
Dual Credit Status	X
Additional Notes	A student should earn at least 3 postsecondary credits for each high school credit. Schools must have an approved Nonstandard Course Waiver on file to be eligible for CTE Funding.
ADDITIONAL COURSE INFO	
Funding	Pilot
Bulletin 400	● Standard Trade & Industrial: Manufacturing K-12 ● Industrial Arts K-12
Rules 46-47	● Standard Trade & Industrial: Engineering or Manufacturing 9-12 ● Industrial Technology K-12 ● Industrial Education K-12 ● Occupational Specialist I, II or III: Manufacturing 9-12
Rules 2002	● CTE: Trade & Industrial: Engineering or Manufacturing ● Workplace Specialist: Engineering or Manufacturing ● Technology Education with high school setting
REPA/REPA 3	● CTE: Trade & Industrial Engineering or Manufacturing 5-12 ● Workplace Specialist: Advanced Manufacturing 9-12 ● Technology Education 5-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/ Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Competencies dependent on enrolled postsecondary coursework.

Engineering and Technology: Special Topics	
Career Cluster	Advanced Manufacturing
Program of Study	
NLPS Sequence	
Course Code	4788
Course Description	*Engineering and Technology: Special Topics is an extended learning experience designed to address the advancement and specialization of careers within the career cluster through the provision of a specialized course for a specific workforce in the school's region. The learning experience is at a qualified site, and is designed to give the student the opportunity to learn and practice technical skills while working under the direction of the appropriately licensed professional. Throughout the course, students will focus on learning about employment opportunities and obtaining the knowledge, skills and attitudes essential for success in specific occupations. Course standards and curriculum must be tailored to the specific profession, preparing students to advance in this career field, and where applicable, provide students with opportunities for certification or dual credit. Participation in a related CTSO encourages the development of leadership, communication and career-related skills, and opportunities for community service.*
Prerequisite(s)/ Corequisite(s)	None
Credits	1 semester course, up to 3 credits per semester, May be offered for successive semesters up to 12 credits
Counts Toward	
Dual Credit Status	X
Additional Notes	Schools must have an approved Nonstandard Course Waiver on file to be eligible for CTE Funding.
ADDITIONAL COURSE INFO	
Funding	Pilot
Bulletin 400	● Industrial Arts 7-12, K-12 ● Appropriate Vocational license
Rules 46-47	● Industrial Technology K-12 ● Industrial Education K-12 ● Occupational Specialist I, II or III in related course approved for a CTE pathway ● Appropriate Vocational License
Rules 2002	● Technology Education with high school setting ● Workplace Specialist I or II in related course approved for a CTE pathway ● Appropriate CTE License
REPA/REPA 3	● Technology Education 5-12 ● Workplace Specialist I or II in related course approved for a CTE pathway ● Appropriate CTE license
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	

VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/ Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	

Introduction to Design Processes	
Career Cluster	Advanced Manufacturing
Program of Study	
NLPS Sequence	
Course Code	4794
Course Description	*Introduction to Design Processes is a course that specializes in modern design and engineering processes with a focus on creative problem solving in developing, testing, communicating, and presenting post-evaluation of products. Students use the design process to analyze research, develop ideas, and produce products and solutions. This process gives a framework through which they design, manufacture, test, and present their ideas. Students will demonstrate and utilize design principles and elements for visual presentation. Designing aspects will also cover aesthetics, ergonomics, the environment, safety, and production. The design process is a core-learning tool for many courses enabling the student to solve problems in a systematic, logical and creative manner. Students develop a good understanding of the way the process helps them think creatively and develop aesthetic ideas. The design process encourages the students to engage in higher level thinking to create solutions for many types of problems.*
Prerequisite(s)/ Corequisite(s)	None
Credits	1 or 2 semester course, 1 credit per semester, 2 credits maximum
Counts Toward	
Dual Credit Status	
Additional Notes	
ADDITIONAL COURSE INFO	
Funding	Introductory
Bulletin 400	● Industrial Arts 7-12, K12
Rules 46-47	● Industrial Technology K-12

	● Industrial Education K-12 ● Occupational Specialist I, II, or III in related course approved for a CTE pathway
Rules 2002	● Technology Education with high school setting ● Workplace Specialist I or II in related course approved for a CTE pathway
REPA/REPA 3	● Technology Education 5-12 ● Workplace Specialist I or II in related course approved for a CTE pathway
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/ Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 4794 Introduction to Design Processes here.

Computers in Design & Production	
Career Cluster	Advanced Manufacturing
Program of Study	
NLPS Sequence	Introductory
Course Code	4800
Course Description	*Computers in Design and Production is a course that specializes in using modern technological processes, computers, design, and production systems in the production of products and structures through the use of automated production systems. Emphasis is placed on using modern technologies and on developing career related skills for electronics, manufacturing, precision machining, welding, and architecture career pathways. Students apply ingenuity using tools, materials, processes, and resources to create solutions as it applies in the electronics, manufacturing, precision machining, welding, and architecture. The content and activities should be developed locally in accordance with available advanced technologies in the school. Course content should address major technological content related to topics such as: Architectural drawing and print design, design documentation using CAD systems; assignments involving the interface of CAD, CNC, CAM, and CIM technologies; computer simulation of products and systems; publishing of various media; animation and related multimedia applications; 3-D*

	modeling of products or structures; digital creation and editing of graphics and audio files; control technologies; and automation in the modern workplace.
Prerequisite(s)/ Corequisite(s)	None
Credits	1 or 2 semester course, 1 credit per semester, 2 credits maximum
Counts Toward	Counts as a directed elective or elective for all diplomas
Dual Credit Status	X
Additional Notes	
ADDITIONAL COURSE INFO	
Funding	
Bulletin 400	● Industrial Arts 7-12, K12
Rules 46-47	● Industrial Technology K-12 ● Industrial Education K-12
Rules 2002	● Technology Education with high school setting ● Workplace Specialist: Computers in Design & Production
REPA/REPA 3	● Technology Education 5-12 ● Workplace Specialist: Computers in Design & Production
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/ Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 4800 Computers in Design & Production here.

Introduction to the Energy Industry	
Career Cluster	Advanced Manufacturing
Program of Study	
NLPS Sequence	
Course Code	5614

Course Description	*Introduction to the Energy Industry provides students with an understanding of the occupations in the energy industry and the education and training to enter and advance in careers in the field. Students will explore all aspects of the energy industry including nuclear, natural gas and renewable energy. Schools certified through the Center for Energy Workforce Development (CEWD) can offer their students the opportunity to earn the Energy Industry Fundamentals Certificate.*
Prerequisite(s)/ Corequisite(s)	None
Credits	1 or 2 semester course, 1 credit per semester, 2 credits maximum
Counts Toward	
Dual Credit Status	X
Additional Notes	
ADDITIONAL COURSE INFO	
Funding	Introductory
Bulletin 400	● Industrial Arts K-12
Rules 46-47	● Industrial Technology 9-12 ● Industrial Education K-12 ● Occupational Specialist I, II or III in related course approved for a CTE pathway
Rules 2002	● Technology Education ● Workplace Specialist I or II in related course approved for a CTE pathway
REPA/REPA 3	● CTE: Trade & Industry: Energy Industry 5-12 ● Workplace Specialist: Energy Industry 9-12 ● Technology Education ● Workplace Specialist I or II in related course approved for a CTE pathway
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/ Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 5614 Introduction to the Energy Industry here.

Advanced Career & Technical Education, College Credit: STEM	
Career Cluster	Advanced Manufacturing
Program of Study	
NLPS Sequence	
Course Code	6126
Course Description	*Advanced Career and Technical Education, College Credit is a course covering any CTE advanced course offered for credit by an accredited postsecondary institution through an adjunct agreement with a secondary school. The intent of this course is to allow students to earn college credit for courses with content that goes beyond that currently approved for high school credit. This course may be used for any dual enrollment course, including a joint program of study involving a postsecondary partnership.*
Prerequisite(s)/ Corequisite(s)	None
Credits	1 semester course, up to 3 credits per semester, May be offered for successive semesters up to 12 credits
Counts Toward	
Dual Credit Status	X
Additional Notes	A student should earn at least 3 postsecondary credits for each high school credit. Schools must have an approved Nonstandard Course Waiver on file to be eligible for CTE Funding.
ADDITIONAL COURSE INFO	
Funding	Pilot
Bulletin 400	● Industrial Arts 7-12, K12
Rules 46-47	● Industrial Technology K-12 ● Industrial Education K-12
Rules 2002	● Technology Education with high school setting ● Workplace Specialist: Computers in Design & Production
REPA/REPA 3	● Technology Education 5-12 ● Workplace Specialist: Computers in Design & Production
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/ Sciences Requirements	
Industry	

Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	

Engineering Essentials		
Career Cluster	Advanced Manufacturing	
Program of Study		
NLPS Sequence	Introductory	
Course Code	7199	
Course Description	*Engineering Essentials is designed as a first-exposure experience to inspire students of all backgrounds to explore the breadth of engineering-related career opportunities. Throughout the course, students explore global engineering challenges and sustainability goals, the impact of engineering, and the variety of career paths available to them. Students will understand the various disciplines within the engineering field, approach and solve problems in different ways, use a variety of industry tools, and build an engineering mindset.* ***Note:*** *This course aligns with the PLTW Engineering Essentials curriculum. Use of the PLTW curriculum may require additional training and membership in the PLTW network.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	1 or 2 semester course, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status		
Additional Notes	Schools that have agreed to be part of the Project Lead the Way network must follow all training and data collection requirements ****Note**: This course qualifies for funding at the 8th grade level	
ADDITIONAL COURSE INFO		
Funding	Introductory	Available for 8th grade
Bulletin 400	● Industrial Arts 7-12, K-12 ● Standard Trade & Industrial: Engineering K-12 ● Standard Trade & Industrial: Drafting K-12	
Rules 46-47	● Industrial Technology K-12 ● Standard Trade & Industrial: Engineering 9-12 ● Standard Trade & Industrial: Drafting 9-12 ● Occupational Specialist I, II or III: Drafting 9-12 ● Industrial Education K-12 ● Occupational Specialist I, II or III: Engineering 9-12	
Rules 2002	● Technology Education with high school setting	

	● CTE: Trade & Industrial: Engineering ● Workplace Specialist: Engineering ● CTE: Trade & Industrial: Drafting & Computer Aided Design (CAD) ● Workplace Specialist: Drafting & Computer Aided Design (CAD)
REPA/REPA 3	● Technology Education 5-12 ● CTE: Trade & Industrial Engineering 5-12 ● Workplace Specialist: Engineering 9-12 ● CTE: Trade & Industrial Drafting & Computer Aided Design (CAD) 5-12 ● Workplace Specialist: Mechanical Drafting 9-12 ● Workplace Specialist: Architectural Drafting 9-12 ● Workplace Specialist: Architectural Engineering 9-12 ● CTE: Trade & Industrial: Architecture 5-12 ● Workplace Specialist: Architecture 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/ Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7199 Engineering Essentials here.

Advanced Manufacturing Biotechnology							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
7340	Principles of Biotechnology	7341	Biotech Manufacturing	7343	Advanced Biotech Manufacturing	7344	Biotechnology Capstone
				7342	Biotech Regulatory Affairs		

Principles of Biotechnology		
Career Cluster	Advanced Manufacturing	
Program of Study	Biotechnology	
NLPS Sequence	A	
Course Code	7340	
Course Description	*Principles of Biotechnology presents an in-depth overview of biotechnology emphasizing basic molecular techniques of manipulating DNA; processes involved in protein purification and analysis; microbial, plant, aquatic, medical and animal biotechnology; regulations and ethics of the biotechnology industry.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● No License Available	
Rules 46-47	● No License Available	
Rules 2002	● No License Available	
REPA/REPA 3	● Life Science 5-12 ● Chemistry 5-12 ● CTE: T&I: Biotechnology ● Workplace Specialist: Biotechnology	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	BIOT 100: Survey of Biotechnology	

VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	CT Biopharmaceutical Manufacturing (51.2006); CT Medical Device Quality (41.0000)
Liberal Arts/ Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7340 Principles of Biotechnology here.

Biotech Manufacturing		
Career Cluster	Advanced Manufacturing	
Program of Study	Biotechnology	
NLPS Sequence	B	
Course Code	7341	
Course Description	*Biotech Manufacturing introduces students to the basics of design and manufacturing within the biotechnology industry, gaining an understanding of the work environment. Students will learn a brief history of the U.S. Food and Drug Administration (FDA), then will learn how the practices set forth by the FDA control the work environment and the behavior of workers in the field. This course prepares students for the most basic entry-level positions in this regulated industry.*	
Prerequisite(s)/ Corequisite(s)	Principles of Biotechnology	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Counts as STEM-Focused credit under the new diploma	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● No License Available	
Rules 46-47	● No License Available	
Rules 2002	● No License Available	
REPA/REPA 3	● Life Science 5-12 ● Chemistry 5-12 ● CTE: T&I: Biotechnology ● Workplace Specialist: Biotechnology	

POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	BIOT 102: Survey of Good Manufacturing Practices; BIOT 103: Safety and Regulatory Compliance for Biotechnology
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	CT Biopharmaceutical Manufacturing (51.2006); CT Medical Device Quality (41.0000)
Liberal Arts/ Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7341 Biotech Manufacturing here.

Biotech Regulatory Affairs		
Career Cluster	Advanced Manufacturing	
Program of Study	Biotechnology	
NLPS Sequence	C	
Course Code	7342	
Course Description	*Biotech Regulatory Affairs provides an entry-level introduction to the laws and regulations that govern the development, marketing, and commercial distribution of drugs as well as biological and medical devices. Students will also discuss how laws and regulations influence the pharmaceutical, biotechnology, and medical device industry as a whole. The goal of the course is to provide students with a greater understanding of how to interact with the U.S. Food and Drug Administration (FDA) and other global regulatory agencies.*	
Prerequisite(s)/ Corequisite(s)	Principles of Biotechnology, Biotech Manufacturing	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Counts as STEM-Focused credit under the new diploma	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● No License Available	
Rules 46-47	● No License Available	

Rules 2002	● No License Available
REPA/REPA 3	● Life Science 5-12 ● Chemistry 5-12 ● CTE: T&I: Biotechnology ● Workplace Specialist: Biotechnology
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	BIOT 105: Survey of Regulatory Affairs
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	CT Biopharmaceutical Manufacturing (51.2006)
Liberal Arts/ Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7342 Biotech Regulatory Affairs here.

Advanced Biotech Manufacturing		
Career Cluster	Advanced Manufacturing	
Program of Study	Biotechnology	
NLPS Sequence	C	
Course Code	7343	
Course Description	*Advanced Biotech Manufacturing will introduce students to the key industrial technology knowledge and skills required in the manufacturing of pharmaceuticals and/or medical devices. Students will learn the basics of fluid power and metrology. Students will apply these skills through lecture, lab, and simulations.*	
Prerequisite(s)/ Corequisite(s)	Principles of Biotechnology, Biotech Manufacturing	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Counts as STEM-Focused credit for the new diploma	
Dual Credit Status	X	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I

Bulletin 400	● No License Available
Rules 46-47	● No License Available
Rules 2002	● No License Available
REPA/REPA 3	● Life Science 5-12 ● Chemistry 5-12 ● CTE: T&I: Biotechnology ● Workplace Specialist: Biotechnology
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	DESN 101: Intro to Design Technology*; INDT 108: Metrology*
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	ITCC - CT Biopharmaceutical Manufacturing (51.2006); CT Medical Device Quality (41.0000)
Liberal Arts/ Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7343 Advanced Biotech Manufacturing here.

Biotechnology Capstone	
Career Cluster	Advanced Manufacturing
Program of Study	Biotechnology
NLPS Sequence	D
Course Code	7344
Course Description	*The Biotechnology Capstone focuses on safety, quality, and manufacturing practices for Biotechnical manufacturing careers. The course can be customized to provide a focus on pharmaceutical manufacturing. Capstone content can be combined with outside experiences and credits can be applied to the Medical Device Quality CT, Biopharmaceutical Manufacturing CT and Biotechnology AAS (the degree requires Biology, but not chemistry) at Ivy Tech. Students should have completed a college level Biology or Chemistry course prior to enrolling in the capstone course.*
Prerequisite(s)/ Corequisite(s)	Principles of Biotechnology, Biotech Manufacturing, Advanced Biotech Manufacturing or Biotech Regulatory Affairs
Credits	2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum

Counts Toward	Counts as STEM-Focused credit for the new diploma	
Dual Credit Status	X	
Additional Notes	Students enrolled in this pathway should complete a college level Biology or Chemistry course prior to enrolling in this course.	
ADDITIONAL COURSE INFO		
Funding	High Value	Level II
Bulletin 400	● No License Available	
Rules 46-47	● No License Available	
Rules 2002	● No License Available	
REPA/REPA 3	● Life Science 5-12 ● Chemistry 5-12 ● CTE: T&I: Biotechnology ● Workplace Specialist: Biotechnology	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	BIOT 104: Quality Practices*; BIOT 106: Introduction to Biotechnology Laboratory*; BIOT 110: Pharmaceutical Manufacturing*	
VU Course Alignment		
Four Yr. Course Alignment		
Postsecondary Credential	CT Biopharmaceutical Manufacturing (51.2006); CT Medical Device Quality (41.0000)	
Liberal Arts/ Sciences Requirements		
Industry Credential		
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 7344 Biotechnology Capstone here.	

Advanced Manufacturing Design Technology							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
4802	Introduction to Engineering Design	7196	Mechanical and Architectural Design	7202	Manufacturing Principles and Design	7223	Mechanical Design Capstone
				7197	BIM Architecture	7225	Architectural Design Capstone

Introduction to Engineering Design		
Career Cluster	Advanced Manufacturing	
Program of Study	Design Technology, Electronics and Computer Technology, Engineering	
NLPS Sequence	A	
Course Code	4802	
Course Description	*Introduction to Engineering Design is a fundamental pre-engineering course where students become familiar with the engineering design process. Students work both individually and in teams to design solutions to a variety of problems using industry standard sketches and current 3D design and modeling software to represent and communicate solutions. Students apply their knowledge through hands-on projects and document their work with the use of an engineering notebook. Students begin with completing structured activities and move to solving open-ended projects and problems that require them to develop planning, documentation, communication, and other professional skills. Ethical issues related to professional practice and product development are also presented.* ***Note:** This course aligns with the PLTW Introduction to Engineering Design curriculum. Use of the PLTW curriculum may require additional training and membership in the PLTW network.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes	NOTE: Schools that have agreed to be part of the Project Lead the Way network must follow all training and data collection requirements.	
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Industrial Arts 7-12, K-12 ● Standard Trade & Industrial: Engineering K-12 ● Standard Trade & Industrial: Drafting K-12	

Rules 46-47	● Industrial Technology K-12 ● Standard Trade & Industrial: Engineering 9-12 ● Standard Trade & Industrial: Drafting 9-12 ● Occupational Specialist I, II or III: Drafting 9-12 ● Industrial Education K-12 ● Occupational Specialist I, II or III: Engineering 9-12
Rules 2002	● Technology Education with high school setting ● CTE: Trade & Industrial: Engineering ● Workplace Specialist: Engineering ● CTE: Trade & Industrial: Drafting & Computer Aided Design (CAD) ● Workplace Specialist: Drafting & Computer Aided Design (CAD)
REPA/REPA 3	● Technology Education 5-12 ● CTE: Trade & Industrial Engineering 5-12 ● Workplace Specialist: Engineering 9-12 ● CTE: Trade & Industrial Drafting & Computer Aided Design (CAD) 5-12 ● Workplace Specialist: Mechanical Drafting 9-12 ● Workplace Specialist: Architectural Drafting 9-12 ● Workplace Specialist: Architectural Engineering 9-12 ● CTE: Trade & Industrial: Architecture 5-12 ● Workplace Specialist: Architecture 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	DESN 101: Intro to Design Technology; DESN 113: 2D Computer-Aided Design
VU Course Alignment	DRAF 140: Introduction to CAD
Four Yr. Course Alignment	USI - ENGR 121: Drafting & Annotation
Postsecondary Credential	VU - A.S. Product Design and Production (15.1306) USI - B.S.E. in Engineering (14.0101)
Liberal Arts/ Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 4802 Introduction to Engineering Design here.

Mechanical and Architectural Design	
Career Cluster	Advanced Manufacturing
Program of Study	Design Technology
NLPS Sequence	B
Course Code	7196

Course Description	*Mechanical and Architectural Design provides students with a basic understanding of creating working drawings related to manufacturing detailing and assembly as well as a survey of Architectural design focused on the creative design of buildings. Topics include fastening devices, thread symbols and nomenclature, surface texture symbols, classes of fits, and the use of parts lists, title blocks and revision blocks. From an Architecture perspective, this course covers problems of site analysis, facilities programming, space planning, conceptual design, proper use of materials, and selection of structure and construction techniques.*	
Prerequisite(s)/ Corequisite(s)	Introduction to Engineering Design	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Industrial Arts 7-12, K-12 ● Standard Trade & Industrial: Engineering K-12 ● Standard Trade & Industrial: Drafting K-12	
Rules 46-47	● Industrial Technology K-12 ● Standard Trade & Industrial: Engineering 9-12 ● Standard Trade & Industrial: Drafting 9-12 ● Occupational Specialist I, II or III: Drafting 9-12 ● Industrial Education K-12 ● Occupational Specialist I, II or III: Engineering 9-12	
Rules 2002	● Technology Education with high school setting ● CTE: Trade & Industrial: Engineering ● Workplace Specialist: Engineering ● CTE: Trade & Industrial: Drafting & Computer Aided Design (CAD) ● Workplace Specialist: Drafting & Computer Aided Design (CAD)	
REPA/REPA 3	● Technology Education 5-12 ● CTE: Trade & Industrial Engineering 5-12 ● Workplace Specialist: Engineering 9-12 ● CTE: Trade & Industrial Drafting & Computer Aided Design (CAD) 5-12 ● Workplace Specialist: Mechanical Drafting 9-12 ● Workplace Specialist: Architectural Drafting 9-12 ● Workplace Specialist: Architectural Engineering 9-12 ● CTE: Trade & Industrial: Architecture 5-12 ● Workplace Specialist: Architecture 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	DESN 104: Mechanical Graphics; DESN 105: Architectural Design I	
VU Course		

Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	ITCC - CT Computer-Aided Design (15.1302), TC Design Technology (15.1301), CT Mechanical Design (15.1306)
Liberal Arts/ Sciences Requirements	ITCC - MATH 122: Applied Technical Mathematics, ENGL 111: English Composition or COMM 104: Workplace Communication, IVYT 113: Student Success in Technology
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7196 Mechanical and Architectural Design here.

Manufacturing Principles and Design		
Career Cluster	Advanced Manufacturing	
Program of Study	Design Technology	
NLPS Sequence	C	
Course Code	7202	
Course Description	*Manufacturing Principles and Design challenges students to use 2D and 3D CAD skills to explore topics related to manufacturing principles and design. Students will gain an understanding of solid modeling and parametric solid modeling and use 3D printers to create industry part prints. Additionally, students will compare manufacturing practices like Lean Manufacturing, design and program CNC processes, and use metrology tools and practices to evaluate an object.*	
Prerequisite(s)/ Corequisite(s)	Introduction to Engineering Design; Mechanical and Architectural Design Fundamentals	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Counts as a quantitative reasoning course for CORE 40 diplomas	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	• Standard Trade & Industrial: Drafting K-12 • Industrial Arts 7-12	
Rules 46-47	• Standard Trade & Industrial: Drafting 9-12 • Occupational Specialist I, II or III: Drafting 9-12 • Industrial Education K-12 • Industrial Technology K-12	
Rules 2002	• CTE: Trade & Industrial: Drafting & Computer Aided Design (CAD) • Workplace Specialist: Drafting & Computer Aided Design (CAD)	

	● Technology Education with high school setting
REPA/REPA 3	● CTE: Trade & Industrial Drafting & Computer Aided Design (CAD) 5-12 ● CTE: Trade & Industrial: Drafting 5-12 ● Workplace Specialist: Drafting & Computer Aided Design 9-12 ● Workplace Specialist: Mechanical Drafting 9-12 ● Technology Education 5-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	DESN 195: Manufacturing Principles & Design; DESN 220: 3D Computer-Aided Design
VU Course Alignment	
Four Yr. Course Alignment	USI – MFET 103: Materials & Manufacturing Processes
Postsecondary Credential	ITCC - CT Computer-Aided Design (15.1302), TC Design Technology (15.1301) USI - B.S. in Manufacturing Engineering Technology (15.0613)
Liberal Arts/ Sciences Requirements	ITCC - MATH 122: Applied Technical Mathematics, ENGL 111: English Composition or COMM 104: Workplace Communication, IVYT 113: Student Success in Technology
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7202 Manufacturing Principles and Design here.

BIM Architecture	
Career Cluster	Advanced Manufacturing
Program of Study	Design Technology
NLPS Sequence	C
Course Code	7197
Course Description	*BIM Architecture introduces students to Building Information Modeling (BIM) which is an intelligent 3D model-based process that gives architecture, engineering, and construction professionals the insight and tools to better plan, design, and construct buildings. Students will deepen their skills in 3D CAD and learn to use BIM software to capture and analyze concepts and to prepare client presentations for Commercial Construction.*
Prerequisite(s)/ Corequisite(s)	Introduction to Engineering Design
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
Counts Toward	Counts as a quantitative reasoning course for CORE 40 diplomas
Dual Credit Status	X (PCL/CTE)
Additional Notes	

ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	• Standard Trade & Industrial: Drafting K-12 • Industrial Arts K-12	
Rules 46-47	• Standard Trade & Industrial: Drafting 9-12 • Occupational Specialist I, II or III: Drafting 9-12 • Industrial Technology 9-12	
Rules 2002	• CTE: Trade & Industrial: Drafting & Computer Aided Design (CAD) • Workplace Specialist: Drafting & Computer Aided Design (CAD) • Technology Education 5-12	
REPA/REPA 3	• CTE: Trade & Industrial Drafting & Computer Aided Design (CAD) 5-12 • Workplace Specialist: Architectural Drafting 9-12 • Workplace Specialist: Drafting & Computer Aided Design 9-12 • CTE: Trade & Industrial: Architecture 5-12 • Workplace Specialist: Architecture 9-12 • Technology Education 5-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	DESN 115: BIM Architecture*; DESN 220: 3D Computer-Aided Design	
VU Course Alignment		
Four Yr. Course Alignment		
Postsecondary Credential	ITCC: CT Computer-Aided Design (15.1302), TC Design Technology (15.1301), CT Mechanical Design (15.1306)	
Liberal Arts/ Sciences Requirements	ITCC - MATH 122: Applied Technical Mathematics, ENGL 111: English Composition or COMM 104: Workplace Communication, IVYT 113: Student Success in Technology	
Industry Credential		
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 7197 BIM Architecture here.	

Mechanical Design Capstone	
Career Cluster	Advanced Manufacturing
Program of Study	Design Technology
NLPS Sequence	D
Course Code	7223
Course Description	*The Mechanical Design Capstone covers a broad range of design techniques that are critical for the Manufacturing industry. Students will have the chance to study*

	solid modeling techniques and design, fundamental principles of geometric dimensioning and tolerancing, Solidworks design software, and an introduction to additive manufacturing.
Prerequisite(s)/ Corequisite(s)	Introduction to Engineering Design; Mechanical and Architectural Design Fundamentals; Manufacturing Principles and Design
Credits	2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum
Counts Toward	Counts as a quantitative reasoning course for CORE 40 diplomas Counts as STEM-Focused credit for new diploma
Dual Credit Status	X (PCL/CTE)
Additional Notes	
ADDITIONAL COURSE INFO	
Funding	High Value | Level II
Bulletin 400	● Standard Trade & Industrial: Drafting K-12 ● Industrial Arts 7-12
Rules 46-47	● Standard Trade & Industrial: Drafting 9-12 ● Occupational Specialist I, II or III: Drafting 9-12 ● Industrial Education K-12 ● Industrial Technology K-12
Rules 2002	● CTE: Trade & Industrial: Drafting & Computer Aided Design (CAD) ● Workplace Specialist: Drafting & Computer Aided Design (CAD) ● Technology Education with high school setting
REPA/REPA 3	● CTE: Trade & Industrial Drafting & Computer Aided Design (CAD) 5-12 ● CTE: Trade & Industrial: Drafting 5-12 ● Workplace Specialist: Drafting & Computer Aided Design 9-12 ● Workplace Specialist: Mechanical Drafting 9-12 ● Technology Education 5-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	DESN 223: Parametric Solid Modeling*; DESN 227: Geometric Dimensioning and Tolerancing*; DESN 271: Introduction to Solidworks*; DESN 273: Design for Additive Manufacturing*
VU Course Alignment	
Four Yr. Course Alignment	USI – ME 121 – Solid Molding
Postsecondary Credential	ITCC: CT Computer-Aided Design (15.1302), TC Design Technology (15.1301), CT Mechanical Design (15.1306) USI: B.S.C.E. in Civil Engineering (14.0801)
Liberal Arts/ Sciences Requirements	
Industry Credential	Certified SolidWorks Associate
CONTENT STANDARDS AND COMPETENCIES	

Course Competencies	Access competencies for 7223 Mechanical Design Capstone here.

Architectural Design Capstone		
Career Cluster	Advanced Manufacturing	
Program of Study	Design Technology	
NLPS Sequence	D	
Course Code	7225	
Course Description	*The Architectural Design Capstone covers residential design and drafting. Topics include interior space planning, structural design and development of working drawings. The course provides an opportunity for students to design a residence using accepted building standards and introduces various construction materials. Students will also learn advanced CAD design topics in architectural design. Completion of the entire course may also provide students the opportunity to understand basic surveying equipment and surveying techniques.*	
Prerequisite(s)/ Corequisite(s)	Introduction to Engineering Design; Mechanical and Architectural Design Fundamentals; BIM Architecture	
Credits	2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level II
Bulletin 400	● Standard Trade & Industrial: Drafting K-12 ● Industrial Arts K-12	
Rules 46-47	● Standard Trade & Industrial: Drafting 9-12 ● Occupational Specialist I, II or III: Drafting 9-12 ● Industrial Technology 9-12	
Rules 2002	● CTE: Trade & Industrial: Drafting & Computer Aided Design (CAD) ● Workplace Specialist: Drafting & Computer Aided Design (CAD) ● Technology Education 5-12	
REPA/REPA 3	● CTE: Trade & Industrial Drafting & Computer Aided Design (CAD) 5-12 ● Workplace Specialist: Architectural Drafting 9-12 ● Workplace Specialist: Drafting & Computer Aided Design 9-12 ● CTE: Trade & Industrial: Architecture 5-12 ● Workplace Specialist: Architecture 9-12 ● Technology Education 5-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	DESN 204: Architectural Design II*; DESN 108: Residential Design*; DESN 109: Construction Materials and Specifications* ***OR*** DESN 210: Surveying*	

VU Course Alignment	
Four Yr. Course Alignment	USI - CE 321: Building Information Modeling
Postsecondary Credential	ITCC - CT Computer-Aided Design (15.1302), TC Design Technology (15.1301), CT Architectural Design (15.1303), CT Mechanical Design (15.1306) USI - B.S.C.E. in Civil Engineering (14.0801)
Liberal Arts/ Sciences Requirements	
Industry Credential	Autodesk Certified User - Revit Exam
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7225 Architectural Design Capstone here.

Advanced Manufacturing Electronics and Computer Technology							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
4802	Introduction to Engineering Design	7361	Electronic Fundamentals	5538	Digital Electronics	7362	Electronics and Computer Technology
						7098	Semiconductor Fabrication Capstone

Introduction to Engineering Design		
Career Cluster	Advanced Manufacturing	
Program of Study	Design Technology, Electronics and Computer Technology, Engineering	
NLPS Sequence	A	
Course Code	4802	
Course Description	*Introduction to Engineering Design is a fundamental pre-engineering course where students become familiar with the engineering design process. Students work both individually and in teams to design solutions to a variety of problems using industry standard sketches and current 3D design and modeling software to represent and communicate solutions. Students apply their knowledge through hands-on projects and document their work with the use of an engineering notebook. Students begin with completing structured activities and move to solving open-ended projects and problems that require them to develop planning, documentation, communication, and other professional skills. Ethical issues related to professional practice and product development are also presented.* ***Note:** This course aligns with the PLTW Introduction to Engineering Design curriculum. Use of the PLTW curriculum may require additional training and membership in the PLTW network.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes	**Note:** Schools that have agreed to be part of the Project Lead the Way network must follow all training and data collection requirements.	
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Industrial Arts 7-12, K-12 ● Standard Trade & Industrial: Engineering K-12	

	● Standard Trade & Industrial: Drafting K-12
Rules 46-47	● Industrial Technology K-12 ● Standard Trade & Industrial: Engineering 9-12 ● Standard Trade & Industrial: Drafting 9-12 ● Occupational Specialist I, II or III: Drafting 9-12 ● Industrial Education K-12 ● Occupational Specialist I, II or III: Engineering 9-12
Rules 2002	● Technology Education with high school setting ● CTE: Trade & Industrial: Engineering ● Workplace Specialist: Engineering ● CTE: Trade & Industrial: Drafting & Computer Aided Design (CAD) ● Workplace Specialist: Drafting & Computer Aided Design (CAD)
REPA/REPA 3	● Technology Education 5-12 ● CTE: Trade & Industrial Engineering 5-12 ● Workplace Specialist: Engineering 9-12 ● CTE: Trade & Industrial Drafting & Computer Aided Design (CAD) 5-12 ● Workplace Specialist: Mechanical Drafting 9-12 ● Workplace Specialist: Architectural Drafting 9-12 ● Workplace Specialist: Architectural Engineering 9-12 ● CTE: Trade & Industrial: Architecture 5-12 ● Workplace Specialist: Architecture 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	DESN 101: Intro to Design Technology; DESN 113: 2D Computer-Aided Design
VU Course Alignment	DRAF 140: Introduction to CAD
Four Yr. Course Alignment	USI - ENGR 121: Drafting & Annotation
Postsecondary Credential	VU - A.S. Product Design and Production (15.1306)
Liberal Arts/ Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 4802 Introduction to Engineering Design here.

Electronic Fundamentals	
Career Cluster	Advanced Manufacturing
Program of Study	Electronics and Computer Technology
NLPS Sequence	B

Course Code	7361	
Course Description	*In Electronic Fundamentals, students will concentrate on the physical world of electricity and electronics. Practical techniques for proper and safe use of basic hand and machine tools are introduced. Techniques for connecting various types of circuits are also covered. The process of fabricating printed circuit boards is presented.*	
Prerequisite(s)/ Corequisite(s)	Introduction to Engineering Design	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Counts as a quantitative reasoning course for CORE 40 diplomas	
Dual Credit Status	X	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Standard Trade & Industrial: Electronics Technology K-12	
Rules 46-47	● Standard Trade & Industrial: Electronics Technology 9-12 ● Occupational Specialist I, II or III: Electronics Technology or Industrial Electronics 9-12 ● Industrial Technology K-12	
Rules 2002	● CTE: Trade & Industrial: Electronics Technology ● Workplace Specialist: Electronics Technology or Industrial Electronics ● Technology Education	
REPA/REPA 3	● CTE: Trade & Industrial Electronics Technology 5-12 ● Workplace Specialist: Electronics Technology or Industrial Electronics 9- 12 ● Technology Education 5-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	EECT 101: Introduction to Electronics and Projects	
VU Course Alignment		
Four Yr. Course Alignment		
Postsecondary Credential	CT Automation Controls (15.0406); AAS Electronics and Computer Technology (15.0399)	
Liberal Arts/ Sciences Requirements		
Industry Credential	C-207 Programmable Controller Systems 1 (SACA)	
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 7361 Electronic Fundamentals here.	

Digital Electronics		
Career Cluster	Advanced Manufacturing	
Program of Study	Engineering; Electronics and Computer Technology	
NLPS Sequence	C	
Course Code	5538	
Course Description	*Digital Electronics is a course of study in applied digital logic that encompasses the design and application of electronic circuits and devices found in video games, watches, calculators, digital cameras, and thousands of other devices. Instruction includes the application of engineering and scientific principles as well as the use of Boolean algebra to solve design problems. Using computer software that reflects current industry standards, activities should provide opportunities for students to design, construct, test, and analyze simple and complex digital circuitry software that will be used to develop and evaluate the product design. This course engages students in critical thinking and problem-solving skills, time management and teamwork skills.* ***Note:** This course aligns with the PLTW Digital Electronics curriculum. Use of the PLTW curriculum may require additional training and membership in the PLTW network.*	
Prerequisite(s)/ Corequisite(s)	Introduction to Engineering Design	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Qualifies as a quantitative reasoning course for CORE 40 diplomas Counts as STEM-Focused credit under new diploma	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Industrial Arts 7-12, K-12 ● Standard Trade & Industrial: Engineering K-12	
Rules 46-47	● Industrial Technology K-12 ● Industrial Education K-12 ● Standard Trade & Industrial: Engineering 9-12 ● Occupational Specialist I, II or III: Digital Electronics Technology ● Occupational Specialist I, II or III: Electronics Technology 9-12 or Industrial Electronics 9-12	
Rules 2002	● Technology Education with high school setting ● CTE: Trade & Industrial: Engineering ● Workplace Specialist: Digital Electronics Technology ● Workplace Specialist: Electronics Technology 9-12 or Industrial Electronics 9-12	
REPA/REPA 3	● Technology Education 5-12 ● CTE: Trade & Industrial Engineering 5-12	

	● Workplace Specialist: Engineering 9-12 ● Workplace Specialist: Electronics Technology 9-12 or Industrial Electronics 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	EECT 112: Digital Fundamentals
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/ Sciences Requirements	
Industry Credential	Associate Certified Electronics Technician (CETa), C-207 Programmable Controller Systems 1 (SACA)
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 5538 Digital Electronics here.

Electronics and Computer Technology Capstone		
Career Cluster	Advanced Manufacturing	
Program of Study	Electronics and Computer Technology	
NLPS Sequence	D	
Course Code	7362	
Course Description	*Electronics and Computer Technology Capstone provides the opportunity for students to dig deeper into foundational electronic concepts including circuit analysis and digital electronics modules. This course incorporates classroom, laboratory, and work-based learning experiences in the fundamental electronics concepts of circuit analysis and digital electronics as well as optional modules focused on industrial technology, emerging electronic technologies, residential and commercial electronic communication, and automation. Industry certifications and additional postsecondary education are critical components of this pathway.*	
Prerequisite(s)/ Corequisite(s)	Introduction to Engineering Design; Electronic Fundamentals; Digital Electronics	
Credits	2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum	
Counts Toward	Counts as a quantitative reasoning course for CORE 40 diplomas	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level II

Bulletin 400	● Standard Trade & Industrial: Electronics Technology K-12
Rules 46-47	● Standard Trade & Industrial: Electronics Technology 9-12 ● Occupational Specialist I, II or III: Electronics Technology or Industrial Electronics 9-12 ● Industrial Technology K-12
Rules 2002	● CTE: Trade & Industrial: Electronics Technology ● Workplace Specialist: Electronics Technology or Industrial Electronics ● Technology Education
REPA/REPA 3	● CTE: Trade & Industrial Electronics Technology 5-12 ● Workplace Specialist: Electronics Technology or Industrial Electronics 9- 12 ● Technology Education 5-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	INDT 205: Programmable Controllers I **OR** EECT 209: Industrial Computers I*; INDT 206: Programmable Controllers II* **OR** EECT 210: Industrial Computers II*; EECT 128: Introduction to C Programming*
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	ITCC: CT Automation Controls (15.0406); AAS Electronics and Computer Technology (15.0399)
Liberal Arts/ Sciences Requirements	
Industry Credential	C-207 Programmable Controller Systems 1 (SACA)
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7362 Electronics and Computer Technology Capstone here.

Semiconductor Fabrication Capstone	
Career Cluster	Advanced Manufacturing
Program of Study	Electronics and Computer Technology
NLPS Sequence	D
Course Code	7098
Course Description	*The semiconductor fabrication capstone provides students with an opportunity to delve into the burgeoning semiconductor manufacturing industry. Students will be challenged to identify, understand, and apply core concepts to semiconductor manufacturing. Topics such as microelectromechanical systems and vacuum technology in manufacturing will be discussed. Emphasis will also be placed on specific operating and safety procedures which the fabrication of semiconductors requires.*

Prerequisite(s)/ Corequisite(s)	Introduction to Engineering Design; Electronic Fundamentals; Digital Electronics	
Credits	2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum	
Counts Toward		
Dual Credit Status		
Additional Notes	Counts as a quantitative reasoning course	
ADDITIONAL COURSE INFO		
Funding	High Value	Level II
Bulletin 400	● Industrial Arts 7-12, K-12 ● Standard Trade & Industrial: Electronics Technology K-12 ● Standard Trade & Industrial: Engineering K-12 ● Standard Trade & Industrial: Drafting K-12	
Rules 46-47	● Industrial Technology K-12 ● Industrial Education K-12 ● Standard Trade & Industrial: Electronics Technology 9-12 ● Standard Trade & Industrial: Drafting 9-12 ● Standard Trade & Industrial: Engineering 9-12 ● Occupational Specialist I, II or III: Electronics Technology or Industrial Electronics 9-12 ● Occupational Specialist I, II, or III: Drafting 9-12 ● Occupational Specialist I, II, or III: Engineering 9-12	
Rules 2002	● CTE: Trade & Industrial: Electronics Technology ● CTE: Trade & Industrial: Engineering ● CTE: Trade & Industrial: Drafting & Computer Aided Design (CAD) ● Workplace Specialist: Electronics Technology or Industrial Electronics ● Workplace Specialist: Drafting & Computer Aided Design (CAD) ● Technology Education with high school setting	
REPA/REPA 3	● CTE: Trade & Industrial: Electronics Technology 5-12 ● CTE: Trade & Industrial: Engineering 5-12 ● CTE: Trade & Industrial: Drafting & Computer Aided Design (CAD) ● Workplace Specialist: Electronics Technology or Industrial Electronics 9- 12 ● Workplace Specialist: Engineering 9-12 ● Workplace Specialist: Mechanical Drafting 9-12 ● Workplace Specialist: Architectural Engineering 9-12 ● Technology Education 5-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment		
VU Course Alignment		
Four Yr. Course Alignment		
Postsecondary Credential		

Liberal Arts/ Sciences Requirements	
Industry Credential	C-207 Programmable Controller Systems 1 (SACA)
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7098 Semiconductor Fabrication Capstone here.

Advanced Manufacturing Engineering							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
4802	Introduction to Engineering Design	5644	Principles of Engineering	5538	Digital Electronics	5698	Engineering Design and Development
				5650	Civil Engineering and Architecture		
				5518	Aerospace Engineering		
				5534	Computer Integrated Manufacturing		
				4818	Environmental Sustainability		

Introduction to Engineering Design	
Career Cluster	Advanced Manufacturing
Program of Study	Design Technology, Electronics and Computer Technology, Engineering
NLPS Sequence	A
Course Code	4802
Course Description	*Introduction to Engineering Design is a fundamental pre-engineering course where students become familiar with the engineering design process. Students work both individually and in teams to design solutions to a variety of problems using industry standard sketches and current 3D design and modeling software to represent and communicate solutions. Students apply their knowledge through hands-on projects and document their work with the use of an engineering notebook. Students begin with completing structured activities and move to solving open-ended projects and problems that require them to develop planning, documentation, communication, and other professional skills. Ethical issues related to professional practice and product development are also presented.* ***Note:*** *This course aligns with the PLTW Introduction to Engineering Design curriculum. Use of the PLTW curriculum may require additional training and membership in the PLTW network.*
Prerequisite(s)/ Corequisite(s)	None
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
Counts Toward	

Dual Credit Status	X (PCL/CTE)	
Additional Notes	Schools that have agreed to be part of the Project Lead the Way network must follow all training and data collection requirements.	
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Industrial Arts 7-12, K-12 ● Standard Trade & Industrial: Engineering K-12 ● Standard Trade & Industrial: Drafting K-12	
Rules 46-47	● Industrial Technology K-12 ● Standard Trade & Industrial: Engineering 9-12 ● Standard Trade & Industrial: Drafting 9-12 ● Occupational Specialist I, II or III: Drafting 9-12 ● Industrial Education K-12 ● Occupational Specialist I, II or III: Engineering 9-12	
Rules 2002	● Technology Education with high school setting ● CTE: Trade & Industrial: Engineering ● Workplace Specialist: Engineering ● CTE: Trade & Industrial: Drafting & Computer Aided Design (CAD) ● Workplace Specialist: Drafting & Computer Aided Design (CAD)	
REPA/REPA 3	● Technology Education 5-12 ● CTE: Trade & Industrial Engineering 5-12 ● Workplace Specialist: Engineering 9-12 ● CTE: Trade & Industrial Drafting & Computer Aided Design (CAD) 5-12 ● Workplace Specialist: Mechanical Drafting 9-12 ● Workplace Specialist: Architectural Drafting 9-12 ● Workplace Specialist: Architectural Engineering 9-12 ● CTE: Trade & Industrial: Architecture 5-12 ● Workplace Specialist: Architecture 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	DESN 101: Intro to Design Technology; DESN 113: 2D Computer-Aided Design	
VU Course Alignment	DRAF 140: Introduction to CAD	
Four Yr. Course Alignment	USI - ENGR 121: Drafting & Annotation	
Postsecondary Credential	VU - A.S. Product Design and Production (15.1306)	
Liberal Arts/ Sciences Requirements		
Industry Credential		
CONTENT STANDARDS AND COMPETENCIES		
Course	Access competencies for 4802 Introduction to Engineering Design here.	

Competencies	

Principles of Engineering		
Career Cluster	Advanced Manufacturing	
Program of Study	Engineering	
NLPS Sequence	B	
Course Code	5644	
Course Description	*Principles of Engineering is a course that focuses on the process of applying engineering, technological, scientific, and mathematical principles in the design, production, and operation of products, structures, and systems. This is a hands-on course designed to provide students interested in engineering careers to explore experiences related to specialized fields such as civil, mechanical, and materials engineering. Students will engage in research, development, planning, design, production, and project management to simulate a career in engineering. The topics of ethics and the impacts of engineering decisions are also addressed. Classroom activities are organized to allow students to work in teams and use modern technological processes, computers, CAD software, and production systems in developing and presenting solutions to engineering problems. Schools may use the PLTW curriculum to meet the standards for this course.* ***Note:** This course aligns with the PLTW Principles of Engineering curriculum. Use of the PLTW curriculum may require additional training and membership in the PLTW network.*	
Prerequisite(s)/ Corequisite(s)	Introduction to Engineering Design	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Fulfills a science course requirement for CORE 40 diplomas Counts as a quantitative reasoning course for CORE 40 diplomas Counts as STEM-Focused credit for new diploma	
Dual Credit Status	X (PCL/CTE)	
Additional Notes	If PLTW curriculum is used, PLTW training is required of the teacher	
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	• Industrial Arts 7-12, K-12 • Standard Trade & Industrial: Engineering K-12	
Rules 46-47	• Industrial Technology K-12 • Standard Trade & Industrial: Engineering 9-12 • Occupational Specialist I, II or III: Engineering	
Rules 2002	• Technology Education with high school setting • CTE: Trade & Industrial: Engineering • Workplace Specialist: Engineering	

REPA/REPA 3	● Technology Education 5-12 ● CTE: Trade & Industrial Engineering 5-12 ● Workplace Specialist: Engineering 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	DESN 104: Mechanical Graphics
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/ Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 5644 Principles of Engineering here.

Aerospace Engineering	
Career Cluster	Advanced Manufacturing
Program of Study	Engineering
NLPS Sequence	C
Course Code	5518
Course Description	*Aerospace Engineering should provide students with the fundamental knowledge and experience to apply mathematical, scientific, and engineering principles to the design, development, and evolution of aircraft, space vehicles and their operating systems. Emphasis should include investigation and research on flight characteristics, analysis of aerodynamic design, and impact of this technology on the environment. Classroom instruction should provide creative thinking and problem-solving activities using software that allows students to design, test, and evaluate a variety of air and space vehicles, their systems, and launching, guidance and control procedures.* ***Note:*** *This course aligns with the PLTW Aerospace Engineering curriculum. Use of the PLTW curriculum may require additional training and membership in the PLTW network.*
Prerequisite(s)/ Corequisite(s)	Introduction to Engineering Design
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
Counts Toward	Counts as a quantitative reasoning course for CORE 40 diplomas

	Fulfills a science requirement for CORE 40 diplomas Counts as STEM-Focused credit for new diploma	
Dual Credit Status	X	
Additional Notes	If PLTW curriculum is used, PLTW training is required of the teacher	
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Industrial Arts 7-12, K-12 ● Standard Trade & Industrial: Engineering K-12	
Rules 46-47	● Industrial Technology K-12 ● Standard Trade & Industrial: Engineering 9-12 ● Occupational Specialist I, II or III: Engineering	
Rules 2002	● Technology Education with high school setting ● CTE: Trade & Industrial: Engineering ● Workplace Specialist: Engineering	
REPA/REPA 3	● Technology Education 5-12 ● CTE: Trade & Industrial Engineering 5-12 ● Workplace Specialist: Engineering 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment		
VU Course Alignment		
Four Yr. Course Alignment		
Postsecondary Credential		
Liberal Arts/ Sciences Requirements		
Industry Credential		
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 5518 Aerospace Engineering here.	

Civil Engineering and Architecture	
Career Cluster	Advanced Manufacturing
Program of Study	Engineering
NLPS Sequence	C
Course Code	5650
Course	*Civil Engineering and Architecture introduces students to the fundamental design*

Description	*and development aspects of civil engineering and architectural planning activities. Application and design principles will be used in conjunction with mathematical and scientific knowledge. Computer software programs should allow students opportunities to design, simulate, and evaluate the construction of buildings and communities. Emphasis should be placed on learning ways that environmental factors might influence the planning and design of a project. Activities should include the preparation of cost estimates as well as a review of regulatory procedures that would affect the project design.* ***Note:** This course aligns with the PLTW Civil Engineering and Architecture curriculum. Use of the PLTW Curriculum may require additional training and membership in the PLTW network.*	
Prerequisite(s)/ Corequisite(s)	Introduction to Engineering Design	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Counts as a quantitative reasoning course for CORE 40 diplomas Counts as STEM-Focused credit for new diploma	
Dual Credit Status	X (PCL/CTE)	
Additional Notes	If PLTW curriculum is used, PLTW training is required of the teacher	
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Industrial Arts 7-12, K-12 ● Standard Trade & Industrial: Engineering K-12	
Rules 46-47	● Industrial Technology K-12 ● Industrial Education K-12 ● Standard Trade & Industrial: Civil-Architectural Engineering 9-12 ● Occupational Specialist I, II or III: Civil-Architectural Engineering 9-12	
Rules 2002	● Technology Education with high school setting ● CTE: Trade & Industrial: Civil-Architectural Engineering Workplace Specialist: Civil-Architectural Engineering	
REPA/REPA 3	● Technology Education 5-12 ● CTE: Trade & Industrial Civil-Architectural Engineering 5-12 ● Workplace Specialist: Engineering 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	DESN 105: Architectural Design I	
VU Course Alignment		
Four Yr. Course Alignment		
Postsecondary Credential		
Liberal Arts/		

Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 5650 Civil Engineering and Architecture here.

Computer Integrated Manufacturing		
Career Cluster	Advanced Manufacturing	
Program of Study	Engineering	
NLPS Sequence	C	
Course Code	5534	
Course Description	*Computer Integrated Manufacturing is a course that applies principles of rapid prototyping, robotics, and automation. This course builds upon the computer solid modeling skills developed in Introduction of Engineering Design. Students will use computer controlled rapid prototyping and CNC equipment to solve problems by constructing actual models of their three-dimensional designs. Students will also be introduced to the fundamentals of robotics and how this equipment is used in an automated manufacturing environment. Students will evaluate their design solutions using various techniques of analysis and make appropriate modifications before producing their prototypes.* ***Note:** This course aligns with the PLTW Computer Integrated Manufacturing curriculum. Use of the PLTW curriculum may require additional training and membership in the PLTW network.*	
Prerequisite(s)/ Corequisite(s)	Introduction to Engineering Design	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Counts as a quantitative reasoning course for CORE 40 diplomas Counts as STEM-Focused credit for new diploma	
Dual Credit Status	X	
Additional Notes	If PLTW curriculum is used, PLTW training is required of the teacher	
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Industrial Arts 7-12, K-12 ● Standard Trade & Industrial: Engineering K-12	
Rules 46-47	● Industrial Technology K-12 ● Standard Trade & Industrial: Engineering 9-12 ● Occupational Specialist I, II or III: Engineering	
Rules 2002	● Technology Education with high school setting	

	● CTE: Trade & Industrial: Engineering ● Workplace Specialist: Engineering
REPA/REPA 3	● Technology Education 5-12 ● CTE: Trade & Industrial Engineering 5-12 ● Workplace Specialist: Engineering 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/ Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 5534 Computer Integrated Manufacturing here.

Digital Electronics	
Career Cluster	Advanced Manufacturing
Program of Study	Engineering; Electronics and Computer Technology
NLPS Sequence	C
Course Code	5538
Course Description	*Digital Electronics is a course of study in applied digital logic that encompasses the design and application of electronic circuits and devices found in video games, watches, calculators, digital cameras, and thousands of other devices. Instruction includes the application of engineering and scientific principles as well as the use of Boolean algebra to solve design problems. Using computer software that reflects current industry standards, activities should provide opportunities for students to design, construct, test, and analyze simple and complex digital circuitry software that will be used to develop and evaluate the product design. This course engages students in critical thinking and problem-solving skills, time management and teamwork skills.* ***Note:*** *This course aligns with the PLTW Digital Electronics curriculum. Use of the PLTW curriculum may require additional training and membership in the PLTW network.*
Prerequisite(s)/	Introduction to Engineering Design

Corequisite(s)		
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Counts as a quantitative reasoning course for CORE 40 diplomas Counts as STEM-Focused credit for new diploma	
Dual Credit Status	X (PCL/CTE)	
Additional Notes	If PLTW curriculum is used, PLTW training is required of the teacher	
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Industrial Arts 7-12, K-12 ● Standard Trade & Industrial: Engineering K-12	
Rules 46-47	● Industrial Technology K-12 ● Industrial Education K-12 ● Standard Trade & Industrial: Engineering 9-12 ● Occupational Specialist I, II or III: Digital Electronics Technology ● Occupational Specialist I, II or III: Electronics Technology 9-12 or Industrial Electronics 9-12	
Rules 2002	● Technology Education with high school setting ● CTE: Trade & Industrial: Engineering ● Workplace Specialist: Digital Electronics Technology ● Workplace Specialist: Electronics Technology 9-12 or Industrial Electronics 9-12	
REPA/REPA 3	● Technology Education 5-12 ● CTE: Trade & Industrial Engineering 5-12 ● Workplace Specialist: Engineering 9-12 ● Workplace Specialist: Electronics Technology 9-12 or Industrial Electronics 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	EECT 111: Introduction to Circuit Analysis*; EECT 112: Digital Fundamentals	
VU Course Alignment		
Four Yr. Course Alignment		
Postsecondary Credential		
Liberal Arts/ Sciences Requirements		
Industry Credential	Associate Certified Electronics Technician (CETa)	
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 5538 Digital Electronics here.	

Environmental Sustainability		
Career Cluster	Advanced Manufacturing	
Program of Study	Engineering	
NLPS Sequence	C	
Course Code	4818	
Course Description	*Environmental Sustainability is a specialization course that builds upon prior knowledge learned in previous engineering and science courses. Students investigate and design solutions in response to current challenges such as providing the world with clean and abundant drinking water, an adequate food supply, and renewable energy. Students are introduced to environmental issues and use the engineering design process to design, build, and test potential solutions. This course engages critical thinking and problem-solving skills as students apply and extend their knowledge through designing experiments, managing projects, conducting research, and creating presentations to communicate solutions.*	
Prerequisite(s)/ Corequisite(s)	Introduction to Engineering Design	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Fulfills a science course requirement for CORE 40 diplomas Counts as STEM-Focused credit for new diploma	
Dual Credit Status	X	
Additional Notes	If PLTW curriculum is used, PLTW training is required of the teacher	
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	• Industrial Arts 7-12, K-12 • Standard Trade & Industrial: Engineering K-12 • Biology 7-12 • Earth Science 7-12	
Rules 46-47	• Industrial Technology K-12 • Industrial Education K-12 • Standard Trade & Industrial: Engineering or Manufacturing 9-12 • Occupational Specialist I, II or III: Engineering 9-12 • Conservation & Environmental Studies 9-12 • Biology 9-12 • Earth/Space Science 9-12	
Rules 2002	• Technology education with a high school setting • CTE Trade & Industrial: Engineering • A Workplace Specialist: Biotechnology Engineering • Earth/Space Science with a high school setting • Life Science with a high school setting	
REPA/REPA 3	• Technology education 5-12 • CTE Trade & Industrial: Engineering • A Workplace Specialist: Biotechnology Engineering	

	● Earth/Space Science 5-12 ● Life Science 5-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/ Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 4818 Environmental Sustainability here.

Engineering Design and Development	
Career Cluster	Advanced Manufacturing
Program of Study	Engineering
NLPS Sequence	D
Course Code	5698
Course Description	*Engineering Design and Development (EDD) is an engineering research course in which students work in teams to research, design, test, and construct a solution to an open-ended engineering problem. The product development life cycle and a design process are used to guide the team to reach a solution to the problem. The team and/or individual(s)communicates their solution to a panel of stakeholders at the conclusion of the course. As a capstone course in the Engineering Pathway, EDD engages students in critical thinking, problem-solving, time management, and teamwork skills.* ***Note:** This course aligns with the PLTW Engineering Design and Development curriculum. Use of the PLTW curriculum may require additional training and membership in the PLTW network.*
Prerequisite(s)/ Corequisite(s)	Introduction to Engineering Design; Principles of Engineering; and one Pre-Engineering Specialty course
Credits	2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum
Counts Toward	Counts as a quantitative reasoning course for CORE 40 diplomas Counts as STEM-Focused credit for new diploma

Dual Credit Status	X	
Additional Notes	If PLTW curriculum is used, PLTW training is required of the teacher	
ADDITIONAL COURSE INFO		
Funding	High Value	Level II
Bulletin 400	● Industrial Arts 7-12, K-12 ● Standard Trade & Industrial: Engineering K-12	
Rules 46-47	● Industrial Technology K-12 ● Standard Trade & Industrial: Engineering 9-12 ● Occupational Specialist I, II or III: Engineering	
Rules 2002	● Technology Education with high school setting ● CTE: Trade & Industrial: Engineering ● Workplace Specialist: Engineering	
REPA/REPA 3	● Technology Education 5-12 ● CTE: Trade & Industrial Engineering 5-12 ● Workplace Specialist: Engineering 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment		
VU Course Alignment		
Four Yr. Course Alignment		
Postsecondary Credential		
Liberal Arts/ Sciences Requirements		
Industry Credential		
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies		

Advanced Manufacturing Industry 4.0 – Smart Manufacturing							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
7220	Principles of Industry 4.0 and Digital Manufacturing	4728	Robotics Design and Innovation	7100	Smart Manufacturing Systems	7222	Advanced Manufacturing - Industry 4.0 Capstone

Principles of Industry 4.0 and Digital Manufacturing		
Career Cluster	Advanced Manufacturing	
Program of Study	Industry 4.0 – Smart Manufacturing; Industrial Automation and Robotics; Industrial Maintenance Electrical; Industrial Maintenance Mechanical	
NLPS Sequence	A	
Course Code	7220	
Course Description	*Principles of Industry 4.0 introduces students to the Industrial Internet of Things (IIoT). Students will explore Industry 4.0 technologies such as artificial intelligence (AI), human-to-robot collaboration, big data, safety, electrical, sensors, digital integration, fluid power, robot operation, measurement, CAD, CNC, additive manufacturing, print reading, and technical mathematics. Students will complete hands-on labs, virtual simulations, projects, and critical thinking assignments to help prepare for SACA C-101 Certified Industry 4.0 Associate I - Basic Operations Certification Exam.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Counts as a directed elective or elective for all diplomas	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Industrial Arts 7-12, K-12 ● Standard Trade & Industrial: Manufacturing K-12	
Rules 46-47	● Industrial Technology K-12 ● Industrial Education K-12 ● Occupational Specialist I, II, or III: Engineering ● Standard Trade & Industrial: Engineering or Manufacturing 9-12 ● Occupational Specialist I, II or III: Manufacturing 9-12	
Rules 2002	● Technology Education with high school setting ● CTE: Trade & Industrial: Engineering or Manufacturing	

	● Workplace Specialist: Engineering or Manufacturing 9-12
REPA/REPA 3	● Technology Education 5-12 ● Workplace Specialist: Engineering 9-12 ● Workplace Specialist: Industrial Automation & Robotics ● CTE: Trade & Industrial Engineering or Manufacturing 5-12 ● Workplace Specialist: Advanced Manufacturing 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	SMDI 110: Introduction to Industrial Internet of Things
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	ITCC: CT Smart Manufacturing and Digital Integration (15.0405); TC Smart Manufacturing and Digital Integration (15.0405)
Liberal Arts/ Sciences Requirements	ITCC- MATH 137: Trigonometry with Analytic Geometry, IVYT 11X Student Success
Industry Credential	SACA C-101 Certified Industry 4.0 Associate I - Basic Operations, FANUC Certified Robot Operator - 1, C-102 Certified Industry 4.0 Associate - Advanced Operations, C-104 - Certified Industry 4.0 Associate IV -IIoT, Networking & Data Analytics, C-205 Sensor Logic Systems 1, C-213 Smart Sensor and Identification Systems 1, C-215 Robot System Operations 1, Certified Industry 4.0 Associate - Fundamentals
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7220 Principles of Industry 4.0 and Digital Manufacturing here.

Robotics Design and Innovation	
Career Cluster	Advanced Manufacturing
Program of Study	Industry 4.0 – Smart Manufacturing; Industrial Automation and Robotics; Industrial Maintenance Electrical; Industrial Maintenance Mechanical
NLPS Sequence	B
Course Code	4728
Course Description	*The Robotics Design and Innovation course introduces students to technological innovations that are revolutionizing modern manufacturing and logistic centers across global markets. Students will explore careers that are related to the fourth industrial revolution and will be introduced to the emerging technologies that make the manufacturing world ever changing. These technologies include: mechatronics, CAD/CAM, robots, programmable automation, cloud technologies, networking, and big data analytics. Students will design a part to be mass-produced using a process such as additive and subtractive manufacturing, while utilizing lean manufacturing concepts. The course will prepare students for the SACA, C-102 Certified Industry 4.0 Associate.*
Prerequisite(s)/	Principles of Industry 4.0 and Digital Manufacturing

Corequisite(s)		
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Counts as a quantitative reasoning course for CORE 40 diplomas	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Industrial Arts 7-12, K-12 ● Standard Trade & Industrial: Manufacturing K-12	
Rules 46-47	● Industrial Technology K-12 ● Industrial Education K-12 ● Occupational Specialist I, II, or III: Engineering ● Standard Trade & Industrial: Engineering or Manufacturing 9-12 ● Occupational Specialist I, II or III: Manufacturing 9-12	
Rules 2002	● Technology Education with high school setting ● CTE: Trade & Industrial: Engineering or Manufacturing ● Workplace Specialist: Engineering or Manufacturing 9-12	
REPA/REPA 3	● Technology Education 5-12 ● Workplace Specialist: Engineering 9-12 ● Workplace Specialist: Industrial Automation & Robotics ● CTE: Trade & Industrial Engineering or Manufacturing 5-12 ● Workplace Specialist: Advanced Manufacturing 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	SMDI 111: Technology in Smart Manufacturing and Digital Integration	
VU Course Alignment		
Four Yr. Course Alignment		
Postsecondary Credential	ITCC: CT Smart Manufacturing and Digital Integration (15.0405); TC Smart Manufacturing and Digital Integration (15.0405)	
Liberal Arts/ Sciences Requirements		
Industry Credential	SACA C-101 Certified Industry 4.0 Associate I - Basic Operations, FANUC Certified Robot Operator - 1, C-102 Certified Industry 4.0 Associate - Advanced Operations, C-104 - Certified Industry 4.0 Associate IV -IIoT, Networking & Data Analytics, C-205 Sensor Logic Systems 1, C-213 Smart Sensor and Identification Systems 1, C-215 Robot System Operations 1, Certified Industry 4.0 Associate - Fundamentals	
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 4728 Robotics Design and Innovation here.	

Smart Manufacturing Systems		
Career Cluster	Advanced Manufacturing	
Program of Study	Industry 4.0 – Smart Manufacturing	
NLPS Sequence	C	
Course Code	7100	
Course Description	*Smart Manufacturing Systems focuses on the electrical system that supports the Industry 4.0 manufacturing system and builds on skills learned in Principles of Industry 4.0 and Robotics Design and Innovation. Topics include Industry 4.0 technologies such as data analytics, cyber security, and smart sensors. Basic theory, operation, and programming of Programmable Logic Controllers (PLC) will be emphasized in this course along with how automation devices may be integrated with other machines. Students will work on a 4-6 student team to build a working prototype of an Industry 4.0 system. Highlights include: variable-frequency drives, Programming Logic Controller (PLC) troubleshooting, cyber security, smart sensors, and smart network communications.*	
Prerequisite(s)/ Corequisite(s)	Principles of Industry 4.0 and Digital Manufacturing; Robotics Design and Innovation	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Counts as a quantitative reasoning course for CORE 40 diplomas Counts as STEM-Focused credit under the new diploma	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	• Industrial Arts 7-12, K-12 • Standard Trade & Industrial: Manufacturing K-12	
Rules 46-47	• Industrial Technology K-12 • Industrial Education K-12 • Occupational Specialist I, II, or III: Engineering • Standard Trade & Industrial: Engineering or Manufacturing 9-12 • Occupational Specialist I, II or III: Manufacturing 9-12	
Rules 2002	• Technology Education with high school setting • CTE: Trade & Industrial: Engineering or Manufacturing • Workplace Specialist: Engineering or Manufacturing 9-12	
REPA/REPA 3	• Technology Education 5-12 • Workplace Specialist: Engineering 9-12 • Workplace Specialist: Industrial Automation & Robotics • CTE: Trade & Industrial Engineering or Manufacturing 5-12 • Workplace Specialist: Advanced Manufacturing 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	SMDI 130: Electrical Systems in Manufacturing; INDT 205: Programmable Automation Controls I	

VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	ITCC- CT Smart Manufacturing and Digital Integration (15.0405); TC Smart Manufacturing and Digital Integration (15.0405)
Liberal Arts/ Sciences Requirements	
Industry Credential	SACA C-101 Certified Industry 4.0 Associate I - Basic Operations, FANUC Certified Robot Operator - 1, C-102 Certified Industry 4.0 Associate - Advanced Operations, C-104 - Certified Industry 4.0 Associate IV -IIoT, Networking & Data Analytics, C-205 Sensor Logic Systems 1, C-213 Smart Sensor and Identification Systems 1, C-215 Robot System Operations 1, Certified Industry 4.0 Associate - Fundamentals
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7100 Smart Manufacturing Systems here.

Industry 4.0 - Smart Manufacturing Capstone		
Career Cluster	Advanced Manufacturing	
Program of Study	Industry 4.0 – Smart Manufacturing	
NLPS Sequence	D	
Course Code	7222	
Course Description	*Industry 4.0 - Smart Manufacturing Capstone introduces the basic theory, operation, and programming of industrial robots and their applications through simulations and hands-on laboratory activities. Multiple industry standard certifications in the field of robotics and automation will be available depending on the length of the course. As a capstone course, students are encouraged to participate in an intensive, embedded work-based learning experience.*	
Prerequisite(s)/ Corequisite(s)	Principles of Industry 4.0 and Digital Manufacturing; Robotics Design and Innovation; Smart Manufacturing Systems	
Credits	2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum	
Counts Toward	Counts as a quantitative reasoning course for CORE 40 diplomas	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level II
Bulletin 400	• Standard Trade & Industrial: Manufacturing K-12 • Industrial Arts K-12	
Rules 46-47	• Standard Trade & Industrial: Engineering or Manufacturing 9-12 • Occupational Specialist I, II or III: Industrial Automation 9-12 • Industrial Technology 9-12	

	● Industrial Education K-12
Rules 2002	● CTE: Trade & Industrial: Engineering or Manufacturing ● Technology Education with high school setting ● Workplace Specialist: Industrial Automation & Robotics
REPA/REPA 3	● CTE: Trade & Industrial Engineering or Manufacturing 5-12 ● Technology Education 5-12 ● Workplace Specialist: Industrial Automation & Robotics 9-12 ● Technology Education 5-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	ADMF 116: Industrial Robotics I; ADMF 206: Industrial Robotics II*; ADMF 205: Sensors in Manufacturing*
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	ITCC- CT Smart Manufacturing and Digital Integration (15.0405); TC Smart Manufacturing and Digital Integration (15.0405)
Liberal Arts/ Sciences Requirements	
Industry Credential	SACA C-101 Certified Industry 4.0 Associate I - Basic Operations, FANUC Certified Robot Operator - 1, C-102 Certified Industry 4.0 Associate - Advanced Operations, C-104 - Certified Industry 4.0 Associate IV -IIoT, Networking & Data Analytics, C-205 Sensor Logic Systems 1, C-213 Smart Sensor and Identification Systems 1, C-215 Robot System Operations 1, Certified Industry 4.0 Associate - Fundamentals
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7222 Industry 4.0 – Smart Manufacturing Capstone here.

Advanced Manufacturing Industrial Automation and Robotics							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
7108	Principles of Advanced Manufacturing	7103	Advanced Manufacturing Technology	7106	Mechatronics Systems	7224	Automation and Robotics Capstone
7220	Principles of Industry 4.0 and Digital Manufacturing	4728	Robotics Design and Innovation				

Principles of Advanced Manufacturing		
Career Cluster	Advanced Manufacturing	
Program of Study	Industrial Automation and Robotics, Industrial Maintenance – Electrical, Industrial Maintenance – Mechanical	
NLPS Sequence	A	
Course Code	7108	
Course Description	*Principles of Advanced Manufacturing includes classroom and laboratory experiences, which are focused on industrial technology and manufacturing trends. Covered topics include safety and impact, manufacturing essentials, lean manufacturing, design principles, and careers in advanced manufacturing. Students participate in hands-on projects and team activities to learn necessary skills while using the latest industry technologies. Work-Based Learning experiences and industry partnerships are highly encouraged for an authentic industry experience.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Standard Trade & Industrial: Manufacturing K-12 ● Standard Trade & Industrial: Industrial Repair & Maintenance K-12 ● Industrial ArtsK-12	
Rules 46-47	● Standard Trade & Industrial: Engineering or Manufacturing 9-12 ● Standard Trade & Industrial: Industrial Repair & Maintenance 9-12 ● Industrial Technology K-12	

	● Industrial Education K-12 ● Occupational Specialist I, II or III: Manufacturing 9-12 ● Occupational Specialist I, II or III: Industrial Automation 9-12 ● Occupational Specialist I, II or III: Industrial Repair & Maintenance 9-12
Rules 2002	● CTE: Trade & Industrial: Engineering or Manufacturing ● CTE: Trade & Industrial: Industrial Repair & Maintenance ● Workplace Specialist: Engineering or Manufacturing ● Technology Education with high school setting ● Workplace Specialist: Industrial Automation & Robotics ● Workplace Specialist: Industrial Repair & Maintenance
REPA/REPA 3	● CTE: Trade & Industrial Engineering or Manufacturing 5-12 ● CTE: Trade & Industrial: Industrial Automation & Robotics 5-12 ● CTE: Trade & Industrial: Industrial Repair & Maintenance 5-12 ● Technology Education 5-12 ● Workplace Specialist: Advanced Manufacturing 9-12 ● Workplace Specialist: Industrial Automation & Robotics 9-12 ● Workplace Specialist: Industrial Repair & Maintenance 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	ADMF 101: Key Principles of Advanced Manufacturing **OR** SMDI 110: Introduction to Industrial Internet of Things
VU Course Alignment	PMTD 110/110L (Lab): Manufacturing Processes; DRAF 140: Introduction to CAD
Four Yr. Course Alignment	
Postsecondary Credential	ITCC- TC Automation and Robotics Technology (15.0613) VU- Machining Fundamentals Certificate 8475, CPC; CG Machinery Repair Assistant (15.0406); CG Industrial Technology (15.0612)
Liberal Arts Sciences Requirements	ITCC- MATH 122: Applied Technical Mathematics; IVYT 113: Student Success in Technology
Industry Credential	C-201 Electrical Systems 1, Certified Production Technician (CPT) 4.0
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7108 Principles of Advanced Manufacturing here.

Principles of Industry 4.0 and Digital Manufacturing	
Career Cluster	Advanced Manufacturing
Program of Study	Industry 4.0 – Smart Manufacturing; Industrial Automation and Robotics; Industrial Maintenance Electrical; Industrial Maintenance Mechanical
NLPS Sequence	A
Course Code	7220
Course	*Principles of Industry 4.0 introduces students to the Industrial Internet of Things*

Description	*(IIoT). Students will explore Industry 4.0 technologies such as artificial intelligence (AI), human to robot collaboration, big data, safety, electrical, sensors, digital integration, fluid power, robot operation, measurement, CAD, CNC, additive manufacturing, print reading, and technical mathematics. Students will complete hands-on labs, virtual simulations, projects, and critical thinking assignments to help prepare for SACA C-101 Certified Industry 4.0 Associate I - Basic Operations certification exam.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Industrial Arts 7-12, K-12 ● Standard Trade & Industrial: Manufacturing K-12	
Rules 46-47	● Industrial Technology K-12 ● Industrial Education K-12 ● Occupational Specialist I, II, or III: Engineering ● Standard Trade & Industrial: Engineering or Manufacturing 9-12 ● Occupational Specialist I, II or III: Manufacturing 9-12	
Rules 2002	● Technology Education with high school setting ● CTE: Trade & Industrial: Engineering or Manufacturing ● Workplace Specialist: Engineering or Manufacturing 9-12	
REPA/REPA 3	● Technology Education 5-12 ● Workplace Specialist: Engineering 9-12 ● Workplace Specialist: Industrial Automation & Robotics ● CTE: Trade & Industrial Engineering or Manufacturing 5-12 ● Workplace Specialist: Advanced Manufacturing 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	SMDI 110: Introduction to Industrial Internet of Things	
VU Course Alignment		
Four Yr. Course Alignment		
Postsecondary Credential	ITCC- CT Smart Manufacturing and Digital Integration (15.0405); TC Smart Manufacturing and Digital Integration (15.0405)	
Liberal Arts/ Sciences Requirements	ITCC- MATH 137: Trigonometry with Analytic Geometry, IVYT 11X Student Success	
Industry	C-201 Electrical Systems 1, Certified Production Technician (CPT) 4.0, C-101	

Credential	Certified Industry 4.0 Associate - Basic Operations
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7220 Principles of Industry 4.0 and Digital Manufacturing here.

Advanced Manufacturing Technology		
Career Cluster	Advanced Manufacturing	
Program of Study	Industrial Automation and Robotics	
NLPS Sequence	B	
Course Code	7103	
Course Description	*Advanced Manufacturing Technology introduces students to a variety of manufacturing processes and procedures that are used in real-world manufacturing environments. The course covers key electrical principles—including current, voltage, resistance, power, inductance, capacitance, and transformers—as well as the basic principles of mechanical and fluid power. Additional course topics include, types of production, production materials, machining and tooling, manufacturing planning, production control, and product distribution. Students will be expected to understand the product life cycle from conception through distribution. This course also focuses on technologies used in production processes such as basic power systems, energy transfer systems, and machine operation. The course utilizes a combination of lecture, lab, online simulation, and programming to prepare students for Certified Production Technician Testing through Manufacturing Skill Standards Council (MSSC).*	
Prerequisite(s)/ Corequisite(s)	Principles of Advanced Manufacturing	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Counts as a quantitative reasoning course for CORE 40 diplomas	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Standard Trade & Industrial: Manufacturing K-12 ● Standard Trade & Industrial: Industrial Repair & Maintenance K-12 ● Industrial ArtsK-12	
Rules 46-47	● Standard Trade & Industrial: Engineering or Manufacturing 9-12 ● Standard Trade & Industrial: Industrial Repair & Maintenance 9-12 ● Industrial Technology K-12 ● Industrial Education K-12 ● Occupational Specialist I, II or III: Manufacturing 9-12 ● Occupational Specialist I, II or III: Industrial Automation 9-12 ● Occupational Specialist I, II or III: Industrial Repair & Maintenance 9-12	
Rules 2002	● CTE: Trade & Industrial: Engineering or Manufacturing	

	● CTE: Trade & Industrial: Industrial Repair & Maintenance ● Workplace Specialist: Engineering or Manufacturing ● Technology Education with high school setting ● Workplace Specialist: Industrial Automation & Robotics ● Workplace Specialist: Industrial Repair & Maintenance
REPA/REPA 3	● CTE: Trade & Industrial Engineering or Manufacturing 5-12 ● CTE: Trade & Industrial: Industrial Automation & Robotics 5-12 ● CTE: Trade & Industrial: Industrial Repair & Maintenance 5-12 ● Technology Education 5-12 ● Workplace Specialist: Advanced Manufacturing 9-12 ● Workplace Specialist: Industrial Automation & Robotics 9-12 ● Workplace Specialist: Industrial Repair & Maintenance 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	ADMF 102: Technology in Advanced Manufacturing **OR** SMDI 111: Technology in Smart Manufacturing and Digital Integration; INDT 113: Industrial Electrical I
VU Course Alignment	CIMT 100/L: Electronics for Automation/ Electronics for Automation Laboratory
Four Yr. Course Alignment	
Postsecondary Credential	ITCC - TC Automation and Robotics Technology (15.0613) VU – Advanced Manufacturing Robotics & Mechatronics 8484, CPC; CG Machinery Repair Assistant (15.0406); CG Industrial Technology (15.0612)
Liberal Arts/ Sciences Requirements	ITCC - MATH 122: Applied Technical Mathematics; IVYT 113: Student Success in Technology VU - ENGL 101: English Composition I, UCC Electives 3 hours
Industry Credential	MSSC Certified Production Technician; C-201 Electrical Systems 1, Certified Production Technician (CPT) 4.0, C-101 Certified Industry 4.0 Associate - Basic Operations
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7103 Advanced Manufacturing Technology here.

Robotics Design and Innovation	
Career Cluster	Advanced Manufacturing
Program of Study	Industry 4.0 – Smart Manufacturing; Industrial Automation and Robotics; Industrial Maintenance Electrical; Industrial Maintenance Mechanical
NLPS Sequence	B
Course Code	4728
Course Description	*The Robotics Design and Innovation course is designed to introduce students to technology that is revolutionizing modern manufacturing and logistic centers across global markets. Students will explore careers that are related to the fourth industrial revolution and be introduced to the emerging technologies that make the manufacturing world ever changing. These technologies include; mechatronics, CAD/CAM, robots, programmable automation, cloud technologies, networking, big*

	data and analytics. Students will design a part to be mass produced using processes such as additive and subtractive manufacturing, while utilizing lean manufacturing concepts. The course will prepare students for the SACA, C-102 Certified Industry 4.0 Associate
Prerequisite(s)/ Corequisite(s)	Principles of Industry 4.0 and Digital Manufacturing
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
Counts Toward	Counts as a quantitative reasoning course for CORE 40 diplomas
Dual Credit Status	X (PCL/CTE)
Additional Notes	
ADDITIONAL COURSE INFO	
Funding	High Value | Level I
Bulletin 400	● Industrial Arts 7-12, K-12 ● Standard Trade & Industrial: Manufacturing K-12
Rules 46-47	● Industrial Technology K-12 ● Industrial Education K-12 ● Occupational Specialist I, II, or III: Engineering ● Standard Trade & Industrial: Engineering or Manufacturing 9-12 ● Occupational Specialist I, II or III: Manufacturing 9-12
Rules 2002	● Technology Education with high school setting ● CTE: Trade & Industrial: Engineering or Manufacturing ● Workplace Specialist: Engineering or Manufacturing 9-12
REPA/REPA 3	● Technology Education 5-12 ● Workplace Specialist: Engineering 9-12 ● Workplace Specialist: Industrial Automation & Robotics ● CTE: Trade & Industrial Engineering or Manufacturing 5-12 ● Workplace Specialist: Advanced Manufacturing 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	SMDI 111: Technology in Smart Manufacturing and Digital Integration
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	ITCC- CT: Smart Manufacturing and Digital Integration (15.0405); TC: Smart Manufacturing and Digital Integration (15.0405)
Liberal Arts/ Sciences Requirements	
Industry Credential	C-201 Electrical Systems 1, Certified Production Technician (CPT) 4.0, C-101 Certified Industry 4.0 Associate - Basic Operations
CONTENT STANDARDS AND COMPETENCIES	

Course Competencies	Access competencies for 4728 Robotics Design and Innovation here.

Mechatronics Systems		
Career Cluster	Advanced Manufacturing	
Program of Study	Industrial Automation and Robotics	
NLPS Sequence	C	
Course Code	7106	
Course Description	*Mechatronics Systems covers the basic electrical and mechanical components and functions of a complex mechatronics system. Through a systems-based approach, students learn about the mechanical components that lead and support the flow of energy through a mechanical system. Emphasis is placed on the development of strategies for increasing efficiency and reducing wear and tear. After gaining an understanding of the complete system, students learn and apply troubleshooting strategies to identify, localize, and (where possible) correct malfunctions. Preventive maintenance of mechanical elements and electrical drives as well as safety issues within the system are also discussed.*	
Prerequisite(s)/ Corequisite(s)	Principles of Advanced Manufacturing **and** Advanced Manufacturing Technology **or** Principles of Industry 4.0 and Digital Manufacturing **and** Robotics Design and Innovation	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Standard Trade & Industrial: Manufacturing K-12 ● Standard Trade & Industrial: Industrial Repair & Maintenance K-12 ● Industrial Arts K-12	
Rules 46-47	● Standard Trade & Industrial: Engineering or Manufacturing 9-12 ● Standard Trade & Industrial: Industrial Repair & Maintenance 9-12 ● Industrial Technology K-12 ● Industrial Education K-12 ● Occupational Specialist I, II or III: Manufacturing 9-12 ● Occupational Specialist I, II or III: Industrial Automation 9-12 ● Occupational Specialist I, II or III: Industrial Repair & Maintenance 9-12	
Rules 2002	● CTE: Trade & Industrial: Engineering or Manufacturing ● CTE: Trade & Industrial: Industrial Repair & Maintenance ● Workplace Specialist: Engineering or Manufacturing ● Technology Education with high school setting ● Workplace Specialist: Industrial Automation & Robotics ● Workplace Specialist: Industrial Repair & Maintenance	

REPA/REPA 3	● CTE: Trade & Industrial Engineering or Manufacturing 5-12 ● CTE: Trade & Industrial: Industrial Automation & Robotics 5-12 ● CTE: Trade & Industrial: Industrial Repair & Maintenance 5-12 ● Technology Education 5-12 ● Workplace Specialist: Advanced Manufacturing 9-12 ● Workplace Specialist: Industrial Automation & Robotics 9-12 ● Workplace Specialist: Industrial Repair & Maintenance 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	ADMF 112: Mechanical Drives I; ADMF 122: Industrial Electrical II
VU Course Alignment	VU-EC - CIMT 175/L (Lab): Mechatronics/Mechatronics Laboratory
Four Yr. Course Alignment	
Postsecondary Credential	ITCC - TC Automation and Robotics Technology (15.0613) VU-EC - Advanced Manufacturing Robotics & Mechatronics 8484 CPC, CG Machinery Repair Assistant (15.0406)
Liberal Arts/ Sciences Requirements	ITCC - MATH 122: Applied Technical Mathematics; IVYT 113: Student Success in Technology
Industry Credential	Applied Industry 4.0/FESTO, C-201 Electrical Systems 1, Certified Production Technician (CPT) 4.0, C-101 Certified Industry 4.0 Associate - Basic Operations
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7106 Mechatronics Systems here.

Industrial Automation and Robotics Capstone	
Career Cluster	Advanced Manufacturing
Program of Study	Industrial Automation and Robotics
NLPS Sequence	D
Course Code	7224
Course Description	*The Industrial Automation and Robotics Capstone focuses on the installation, maintenance, and repair of industrial robots. Students will also learn the basics of pneumatic, electro-pneumatic and hydraulic control circuits as well as the basic theory, fundamentals of digital logic, and programming of programmable logic controllers (PLCs) in a complex mechatronic system. Students will learn to identify malfunctioning robots and to apply troubleshooting strategies to identify and localize problems caused by pneumatic and hydraulic control circuits and PLC hardware. Completing the capstone course will provide students the opportunity to earn a postsecondary certificate and will prepare students to take nationally recognized industry certification exams. Hands-on projects and team activities will allow students to apply learning on the latest industry technologies. Extended work-based learning experiences and industry partnerships are highly encouraged for an authentic industry experience.*

Prerequisite(s)/ Corequisite(s)	Principles of Advanced Manufacturing **and** Advanced Manufacturing Technology **or** Principles of Industry 4.0 and Digital Manufacturing **and** Robotics Design and Innovation; Mechatronics Systems
Credits	2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum
Counts Toward	Counts as a quantitative reasoning course for CORE 40 diplomas
Dual Credit Status	X (PCL/CTE)
Additional Notes	
ADDITIONAL COURSE INFO	
Funding	High Value | Level II
Bulletin 400	● Standard Trade & Industrial: Manufacturing K-12 ● Standard Trade & Industrial: Industrial Repair & Maintenance K-12 ● Industrial ArtsK-12
Rules 46-47	● Standard Trade & Industrial: Engineering or Manufacturing 9-12 ● Standard Trade & Industrial: Industrial Repair & Maintenance 9-12 ● Industrial Technology K-12 ● Industrial Education K-12 ● Occupational Specialist I, II or III: Manufacturing 9-12 ● Occupational Specialist I, II or III: Industrial Automation 9-12 ● Occupational Specialist I, II or III: Industrial Repair & Maintenance 9-12
Rules 2002	● CTE: Trade & Industrial: Engineering or Manufacturing ● CTE: Trade & Industrial: Industrial Repair & Maintenance ● Workplace Specialist: Engineering or Manufacturing ● Technology Education with high school setting ● Workplace Specialist: Industrial Automation & Robotics ● Workplace Specialist: Industrial Repair & Maintenance
REPA/REPA 3	● CTE: Trade & Industrial Engineering or Manufacturing 5-12 ● CTE: Trade & Industrial: Industrial Automation & Robotics 5-12 ● CTE: Trade & Industrial: Industrial Repair & Maintenance 5-12 ● Technology Education 5-12 ● Workplace Specialist: Advanced Manufacturing 9-12 ● Workplace Specialist: Industrial Automation & Robotics 9-12 ● Workplace Specialist: Industrial Repair & Maintenance 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	INDT 104: Fluid Power I; INDT 203: Machine Maintenance and Installation; ADMF 222: Fluid Power II; ADMF 202: Digital Fundamentals and Siemens Automation Controllers*; INDT 205: Programmable Automation Controls I
VU Course Alignment	CIMT 125/125L (Lab): Introduction to Robotics□ VU/EC – CIMT 140/L (Lab): Mechanical Drives□; CIMT 150/L (Lab): Electronic and Electrical Applications for Manufacturing□; CIMT 160/L (Lab): Fluid Power Systems□
Four Yr. Course	

Alignment	
Postsecondary Credential	ITCC -TC Automation and Robotics Technology (15.0613) VU/EC – Advanced Manufacturing Robotics & Mechatronics 8484, CPC; CG Machinery Repair Assistant (15.0406)
Liberal Arts/ Sciences Requirements	ITCC - MATH 122: Applied Technical Mathematics; IVYT 113: Student Success in Technology
Industry Credential	Applied PLC Technology II: Allen Bradley; Applied Robotics, C-201 Electrical Systems 1, Certified Production Technician (CPT) 4.0, C-101 Certified Industry 4.0 Associate - Basic Operations
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7224 Industrial Automation and Robotics here.

Advanced Manufacturing Industrial Maintenance Technician – Electrical							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
7108	Principles of Advanced Manufacturing	7103	Advanced Manufacturing Technology	7102	Industrial Electrical Fundamentals	7260	Industrial Electrical Capstone
7220	Principles of Industry 4.0 and Digital Manufacturing	4728	Robotics Design and Innovation				

Principles of Advanced Manufacturing		
Career Cluster	Advanced Manufacturing	
Program of Study	Industrial Automation and Robotics, Industrial Maintenance – Electrical, Industrial Maintenance – Mechanical	
NLPS Sequence	A	
Course Code	7108	
Course Description	*Principles of Advanced Manufacturing is a course that includes classroom and laboratory experiences in Industrial Technology and Manufacturing Trends. Domains include safety and impact, manufacturing essentials, lean manufacturing, design principles, and careers in advanced manufacturing. Hands-on projects and team activities will allow students to apply learning on the latest industry technologies. Work-based learning experiences and industry partnerships are highly encouraged for an authentic industry experience.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Standard Trade & Industrial: Manufacturing K-12 ● Standard Trade & Industrial: Industrial Repair & Maintenance K-12 ● Industrial ArtsK-12	
Rules 46-47	● Standard Trade & Industrial: Engineering or Manufacturing 9-12 ● Standard Trade & Industrial: Industrial Repair & Maintenance 9-12 ● Industrial Technology K-12	

	● Industrial Education K-12 ● Occupational Specialist I, II or III: Manufacturing 9-12 ● Occupational Specialist I, II or III: Industrial Automation 9-12 ● Occupational Specialist I, II or III: Industrial Repair & Maintenance 9-12
Rules 2002	● CTE: Trade & Industrial: Engineering or Manufacturing ● CTE: Trade & Industrial: Industrial Repair & Maintenance ● Workplace Specialist: Engineering or Manufacturing ● Technology Education with high school setting ● Workplace Specialist: Industrial Automation & Robotics ● Workplace Specialist: Industrial Repair & Maintenance
REPA/REPA 3	● CTE: Trade & Industrial Engineering or Manufacturing 5-12 ● CTE: Trade & Industrial: Industrial Automation & Robotics 5-12 ● CTE: Trade & Industrial: Industrial Repair & Maintenance 5-12 ● Technology Education 5-12 ● Workplace Specialist: Advanced Manufacturing 9-12 ● Workplace Specialist: Industrial Automation & Robotics 9-12 ● Workplace Specialist: Industrial Repair & Maintenance 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	ADMF 101: Key Principles of Advanced Manufacturing ***OR*** SMDI 110: Introduction to Industrial Internet of Things
VU Course Alignment	PMTD 110/L (Lab): Manufacturing Processes; DRAF 140: Introduction to CAD
Four Yr. Course Alignment	
Postsecondary Credential	ITCC - TC Automation and Robotics Technology (15.0613) VU – Machining Fundamentals Certificate 8475, CPC; CG Machinery Repair Assistant (15.0406); CG Industrial Technology (15.0612)
Liberal Arts/ Sciences Requirements	ITCC - MATH 122: Applied Technical Mathematics; IVYT 113: Student Success in Technology
Industry Credential	Industrial Technology Maintenance (ITM) – Level 1 – Electrical Systems, C-201 Electrical Systems 1, C-202 Electric Motor Control Systems 1, C-206 Electrical System Installation 1, Certified Production Technician (CPT) 4.0
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7108 Principles of Advanced Manufacturing here.

Principles of Industry 4.0 - Smart Manufacturing	
Career Cluster	Advanced Manufacturing
Program of Study	Industry 4.0 – Smart Manufacturing; Industrial Automation and Robitics; Industrial Maintenance Electrical; Industrial Maintenance Mechanical
NLPS Sequence	A
Course Code	7220

Course Description	*Principles of Industry 4.0 introduces students to the Industrial Internet of Things (IIoT). Students will explore Industry 4.0 technologies such as artificial intelligence (AI), human to robot collaboration, big data, safety, electrical, sensors, digital integration, fluid power, robot operation, measurement, CAD, CNC, additive manufacturing, print reading, and technical mathematics. Students will complete hands-on labs, virtual simulations, projects, and critical thinking assignments to help prepare for SACA C-101 Certified Industry 4.0 Associate I - Basic Operations certification exam.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Industrial Arts 7-12, K-12 ● Standard Trade & Industrial: Manufacturing K-12	
Rules 46-47	● Industrial Technology K-12 ● Industrial Education K-12 ● Occupational Specialist I, II, or III: Engineering ● Standard Trade & Industrial: Engineering or Manufacturing 9-12 ● Occupational Specialist I, II or III: Manufacturing 9-12	
Rules 2002	● Technology Education with high school setting ● CTE: Trade & Industrial: Engineering or Manufacturing ● Workplace Specialist: Engineering or Manufacturing 9-12	
REPA/REPA 3	● Technology Education 5-12 ● Workplace Specialist: Engineering 9-12 ● Workplace Specialist: Industrial Automation & Robotics ● CTE: Trade & Industrial Engineering or Manufacturing 5-12 ● Workplace Specialist: Advanced Manufacturing 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	SMDI 110: Introduction to Industrial Internet of Things	
VU Course Alignment		
Four Yr. Course Alignment		
Postsecondary Credential	ITCC: CT Smart Manufacturing and Digital Integration (15.0405); TC Smart Manufacturing and Digital Integration (15.0405)	
Liberal Arts/ Sciences Requirements	ITCC- MATH 137: Trigonometry with Analytic Geometry, IVYT 11X Student Success	

Industry Credential	Industrial Technology Maintenance (ITM) – Level 1 – Electrical Systems, C-101 Certified Industry 4.0 Associate - Basic Operations, C-201 Electrical Systems 1, C-202 Electric Motor Control Systems 1, C-206 Electrical System Installation 1, Certified Production Technician (CPT) 4.0
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7220 Principles of Industry 4.0 and Digital Manufacturing here.

Advanced Manufacturing Technology		
Career Cluster	Advanced Manufacturing	
Program of Study	Industrial Maintenance – Electrical, Industrial Maintenance – Mechanical	
NLPS Sequence	B	
Course Code	7103	
Course Description	*Advanced Manufacturing Technology introduces manufacturing processes and practices used in manufacturing environments. The course also covers key electrical principles, including current, voltage, resistance, power, inductance, capacitance, and transformers, along with basic mechanical and fluid power principles. Topics include, types of production, production materials, machining and tooling, manufacturing planning, production control, and product distribution will be covered. Students will be expected to understand the product life cycle from conception through distribution. This course also focuses on technologies used in production processes. Basic power systems, energy transfer systems, machine operation and control will be explored. This course will use lecture, lab, online simulation and programming to prepare students for Certified Production Technician Testing through Manufacturing Skill Standards Council (MSSC).*	
Prerequisite(s)/ Corequisite(s)	Principles of Advanced Manufacturing	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Counts as a quantitative reasoning course for CORE 40 diplomas	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Standard Trade & Industrial: Manufacturing K-12 ● Standard Trade & Industrial: Industrial Repair & Maintenance K-12 ● Industrial ArtsK-12	
Rules 46-47	● Standard Trade & Industrial: Engineering or Manufacturing 9-12 ● Standard Trade & Industrial: Industrial Repair & Maintenance 9-12 ● Industrial Technology K-12 ● Industrial Education K-12 ● Occupational Specialist I, II or III: Manufacturing 9-12 ● Occupational Specialist I, II or III: Industrial Automation 9-12	

	● Occupational Specialist I, II or III: Industrial Repair & Maintenance 9-12
Rules 2002	● CTE: Trade & Industrial: Engineering or Manufacturing ● CTE: Trade & Industrial: Industrial Repair & Maintenance ● Workplace Specialist: Engineering or Manufacturing ● Technology Education with high school setting ● Workplace Specialist: Industrial Automation & Robotics ● Workplace Specialist: Industrial Repair & Maintenance
REPA/REPA 3	● CTE: Trade & Industrial Engineering or Manufacturing 5-12 ● CTE: Trade & Industrial: Industrial Automation & Robotics 5-12 ● CTE: Trade & Industrial: Industrial Repair & Maintenance 5-12 ● Technology Education 5-12 ● Workplace Specialist: Advanced Manufacturing 9-12 ● Workplace Specialist: Industrial Automation & Robotics 9-12 ● Workplace Specialist: Industrial Repair & Maintenance 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	ADMF 102: Technology in Advanced Manufacturing ***OR*** SMDI 111: Technology in Smart Manufacturing and Digital Integration; INDT 113: Industrial Electrical I
VU Course Alignment	CIMT 100/L (Lab): Electronics for Automation
Four Yr. Course Alignment	ISU - MFG 2225; MET 130 ISU - Intro to Materials, Processes, and Testing; Introduction to Engineering Technology
Postsecondary Credential	ITCC - TC Automation and Robotics Technology (15.0613) VU – Advanced Manufacturing Robotics & Mechatronics 8484, CPC; CG Machinery Repair Assistant (15.0406); CPC Advanced Manufacturing Robotics & Mechatronics
Liberal Arts/ Sciences Requirements	ITCC - MATH 122: Applied Technical Mathematics; IVYT 113: Student Success in Technology VU - ENGL 101: English Composition I, UCC Electives 3 hours
Industry Credential	MSSC Certified Production Tech, Industrial Technology Maintenance (ITM) – Level 1 – Electrical Systems, C-101 Certified Industry 4.0 Associate - Basic Operations, C-201 Electrical Systems 1, C-202 Electric Motor Control Systems 1, C-206 Electrical System Installation 1, Certified Production Technician (CPT) 4.0
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7103 Advanced Manufacturing Technology here.

Robotics Design and Innovation	
Career Cluster	Advanced Manufacturing
Program of Study	Industry 4.0 – Smart Manufacturing; Industrial Automation and Robotics; Industrial Maintenance Electrical; Industrial Maintenance Mechanical
NLPS Sequence	B

Course Code	4728	
Course Description	*The Robotics Design and Innovation course is designed to introduce students to technology that is revolutionizing modern manufacturing and logistic centers across global markets. Students will explore careers that are related to the fourth industrial revolution and be introduced to the emerging technologies that make the manufacturing world ever changing. These technologies include; mechatronics, CAD/CAM, robots, programmable automation, cloud technologies, networking, big data and analytics. Students will design a part to be mass produced using processes such as additive and subtractive manufacturing, while utilizing lean manufacturing concepts. The course will prepare students for the SACA, C-102 Certified Industry 4.0 Associate*	
Prerequisite(s)/ Corequisite(s)	Principles of Industry 4.0 and Digital Manufacturing	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Counts as a quantitative reasoning course for CORE 40 diplomas	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Industrial Arts 7-12, K-12 ● Standard Trade & Industrial: Manufacturing K-12	
Rules 46-47	● Industrial Technology K-12 ● Industrial Education K-12 ● Occupational Specialist I, II, or III: Engineering ● Standard Trade & Industrial: Engineering or Manufacturing 9-12 ● Occupational Specialist I, II or III: Manufacturing 9-12	
Rules 2002	● Technology Education with high school setting ● CTE: Trade & Industrial: Engineering or Manufacturing ● Workplace Specialist: Engineering or Manufacturing 9-12	
REPA/REPA 3	● Technology Education 5-12 ● Workplace Specialist: Engineering 9-12 ● Workplace Specialist: Industrial Automation & Robotics ● CTE: Trade & Industrial Engineering or Manufacturing 5-12 ● Workplace Specialist: Advanced Manufacturing 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	SMDI 111: Technology in Smart Manufacturing and Digital Integration	
VU Course Alignment		
Four Yr. Course Alignment		
Postsecondary Credential	ITCC- CT: Smart Manufacturing and Digital Integration (15.0405); TC: Smart Manufacturing and Digital Integration (15.0405)	
Liberal Arts/		

Sciences Requirements	
Industry Credential	Industrial Technology Maintenance (ITM) – Level 1 – Electrical Systems, C-102 Certified Industry 4.0 Associate - Advanced Operations, C-201 Electrical Systems 1, C-202 Electric Motor Control Systems 1, C-206 Electrical System Installation 1, Certified Production Technician (CPT) 4.0
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 4728 Robotics Design and Innovation here.

Industrial Electrical Fundamentals		
Career Cluster	Advanced Manufacturing	
Program of Study	Industrial Maintenance – Electrical	
NLPS Sequence	C	
Course Code	7102	
Course Description	*The Industrial Electrical Fundamentals course will introduce students to the National Electric Code and its application in designing and installing electrical circuits, selecting wiring materials and devices, and choosing wiring methods. Students will also gain a general understanding of common types of electric motors.*	
Prerequisite(s)/ Corequisite(s)	Principles of Advanced Manufacturing **or** Principles of Industry 4.0 and Digital Manufacturing; Advanced Manufacturing Technology **or** Robotics Design and Innovation	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Standard Trade & Industrial: Manufacturing K-12 ● Standard Trade & Industrial: Industrial Repair & Maintenance K-12 ● Industrial Arts K-12 ● Standard Trade & Industrial: Building Trades K-12	
Rules 46-47	● Standard Trade & Industrial: Engineering or Manufacturing 9-12 ● Standard Trade & Industrial: Industrial Repair & Maintenance 9-12 ● Industrial Technology K-12 ● Industrial Education K-12 ● Standard Trade & Industrial: Building Trades 9-12 ● Occupational Specialist I, II or III: Building Trades 9-12 ● Occupational Specialist I, II or III: Manufacturing 9-12 ● Occupational Specialist I, II or III: Industrial Repair & Maintenance 9-12	
Rules 2002	● CTE: Trade & Industrial: Engineering or Manufacturing ● CTE: Trade & Industrial: Industrial Repair & Maintenance	

	● CTE: Trade & Industrial: Building Trades Technology ● Workplace Specialist: Industrial Repair & Maintenance ● Workplace Specialist: Engineering or Manufacturing ● Workplace Specialist: Industrial Technology or Industrial Electronics ● Technology Education with high school setting
REPA/REPA 3	● CTE: Trade & Industrial: Engineering or Manufacturing 5-12 ● CTE: Trade & Industrial: Industrial Repair & Maintenance 5-12 ● CTE: Trade & Industry: Electrician 5-12 ● Technology Education 5-12 ● Workplace Specialist: Industrial Repair & Maintenance 9-12 ● Workplace Specialist: Electrical 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	INDT 103: Motors and Motor Controls; INDT 125: Industrial Wiring Principles
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	ITCC - CT Industrial Electrical (46.0302); TC Industrial Electrical Technology (15.0612)
Liberal Arts/ Sciences Requirements	ITCC - MATH 122: Applied Technical Mathematics; IVYT 113: Student Success in Technology
Industry Credential	Industrial Technology Maintenance (ITM) – Level 1 – Electrical Systems, C-101 Certified Industry 4.0 Associate - Basic Operations, C-201 Electrical Systems 1, C-202 Electric Motor Control Systems 1, C-206 Electrical System Installation 1, Certified Production Technician (CPT) 4.0
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7102 Industrial Electrical Fundamentals here.

Industrial Electrical Capstone	
Career Cluster	Advanced Manufacturing
Program of Study	Industrial Maintenance – Electrical
NLPS Sequence	D
Course Code	7260
Course Description	*The Industrial Electrical Capstone is designed to provide an understanding of circuits using alternating current and the motor operation as well as the operation and programming of programmable logic controllers (PLC). The course will also examine the electrical components in a complex mechatronic system. This course will give each student a general understanding of common types of electric motors, extending from the small shaded pole fan motors to the large three-phase motors.*

	This course will use lectures, labs, online simulations and programming to prepare students for the C-207 Programmable Controller Systems 1 Certification through Smart Automation Certification Alliance (SACA).
Prerequisite(s)/ Corequisite(s)	Principles of Advanced Manufacturing; Advanced Manufacturing Technology; Industrial Electrical Fundamentals
Credits	2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum
Counts Toward	Counts as a quantitative reasoning course for CORE 40 diplomas
Dual Credit Status	X (PCL/CTE)
Additional Notes	
ADDITIONAL COURSE INFO	
Funding	High Value | Level II
Bulletin 400	● Standard Trade & Industrial: Manufacturing K-12 ● Standard Trade & Industrial: Industrial Repair & Maintenance K-12 ● Industrial Arts K-12 ● Standard Trade & Industrial: Building Trades K-12
Rules 46-47	● Standard Trade & Industrial: Engineering or Manufacturing 9-12 ● Standard Trade & Industrial: Industrial Repair & Maintenance 9-12 ● Industrial Technology K-12 ● Industrial Education K-12 ● Standard Trade & Industrial: Building Trades 9-12 ● Occupational Specialist I, II or III: Building Trades 9-12 ● Occupational Specialist I, II or III: Manufacturing 9-12 ● Occupational Specialist I, II or III: Industrial Repair & Maintenance 9-12
Rules 2002	● CTE: Trade & Industrial: Engineering or Manufacturing ● CTE: Trade & Industrial: Industrial Repair & Maintenance ● CTE: Trade & Industrial: Building Trades Technology ● Workplace Specialist: Industrial Repair & Maintenance ● Workplace Specialist: Engineering or Manufacturing ● Workplace Specialist: Industrial Technology or Industrial Electronics ● Technology Education with high school setting
REPA/REPA 3	● CTE: Trade & Industrial: Engineering or Manufacturing 5-12 ● CTE: Trade & Industrial: Industrial Repair & Maintenance 5-12 ● CTE: Trade & Industry: Electrician 5-12 ● Technology Education 5-12 ● Workplace Specialist: Industrial Repair & Maintenance 9-12 ● Workplace Specialist: Electrical 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	INDT 204: Electrical Circuits*; INDT 205: Programmable Automation Controls I; ADMF 122: Industrial Electrical II
VU Course Alignment	
Four Yr. Course Alignment	

Postsecondary Credential	ITCC - CT Industrial Electrical (46.0302); TC Industrial Electrical Technology (15.0612)
Liberal Arts/ Sciences Requirements	ITCC - MATH 122: Applied Technical Mathematics; IVYT 113: Student Success in Technology
Industry Credential	Associate Certified Electronics Technician (CET); C-207 Programmable Controller Systems 1 (SACA), Industrial Technology Maintenance (ITM) – Level 1 – Electrical Systems, C-101 Certified Industry 4.0 Associate - Basic Operations, C-201 Electrical Systems 1, C-202 Electric Motor Control Systems 1, C-206 Electrical System Installation 1, Certified Production Technician (CPT) 4.0
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7260 Industrial Electrical Capstone here.

Advanced Manufacturing Industrial Maintenance Technician – Mechanical							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
7108	Principles of Advanced Manufacturing	7103	Advanced Manufacturing Technology	7104	Industrial Maintenance Fundamentals	7261	Industrial Maintenance Capstone
7220	Principles of Industry 4.0 and Digital Manufacturing	4728	Robotics Design and Innovation				

Principles of Advanced Manufacturing		
Career Cluster	Advanced Manufacturing	
Program of Study	Industrial Automation and Robotics, Industrial Maintenance – Electrical, Industrial Maintenance – Mechanical	
NLPS Sequence	A	
Course Code	7108	
Course Description	*Principles of Advanced Manufacturing is a course that includes classroom and laboratory experiences in Industrial Technology and Manufacturing Trends. Domains include safety and impact, manufacturing essentials, lean manufacturing, design principles, and careers in advanced manufacturing. Hands-on projects and team activities will allow students to apply learning on the latest industry technologies. Work-based learning experiences and industry partnerships are highly encouraged for an authentic industry experience.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Standard Trade & Industrial: Manufacturing K-12 ● Standard Trade & Industrial: Industrial Repair & Maintenance K-12 ● Industrial ArtsK-12	
Rules 46-47	● Standard Trade & Industrial: Engineering or Manufacturing 9-12 ● Standard Trade & Industrial: Industrial Repair & Maintenance 9-12 ● Industrial Technology K-12	

	● Industrial Education K-12 ● Occupational Specialist I, II or III: Manufacturing 9-12 ● Occupational Specialist I, II or III: Industrial Automation 9-12 ● Occupational Specialist I, II or III: Industrial Repair & Maintenance 9-12
Rules 2002	● CTE: Trade & Industrial: Engineering or Manufacturing ● CTE: Trade & Industrial: Industrial Repair & Maintenance ● Workplace Specialist: Engineering or Manufacturing ● Technology Education with high school setting ● Workplace Specialist: Industrial Automation & Robotics ● Workplace Specialist: Industrial Repair & Maintenance
REPA/REPA 3	● CTE: Trade & Industrial Engineering or Manufacturing 5-12 ● CTE: Trade & Industrial: Industrial Automation & Robotics 5-12 ● CTE: Trade & Industrial: Industrial Repair & Maintenance 5-12 ● Technology Education 5-12 ● Workplace Specialist: Advanced Manufacturing 9-12 ● Workplace Specialist: Industrial Automation & Robotics 9-12 ● Workplace Specialist: Industrial Repair & Maintenance 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	ADMF 101: Key Principles of Advanced Manufacturing OR SMDI 110: Introduction to Industrial Internet of Things
VU Course Alignment	PMTD 110/L (Lab): Manufacturing Processes; DRAF 140: Introduction to CAD
Four Yr. Course Alignment	
Postsecondary Credential	ITCC - TC Automation and Robotics Technology (15.0613) VU - Machining Fundamentals Certificate 8475, CPC; CG Machinery Repair Assistant (15.0406); CG Industrial Technology (15.0612)
Liberal Arts/ Sciences Requirements	ITCC - MATH 122: Applied Technical Mathematics; IVYT 113: Student Success in Technology
Industry Credential	Industrial Technology Maintenance (ITM) – Level I – Electrical Systems, Applied Fluid Power- Maintenance and Troubleshooting/FESTO, C-201 Electrical Systems 1, C-210 Mechanical Power Systems I, Certified Production Technician (CPT) 4.0
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7108 Principles of Advanced Manufacturing here.

Principles of Industry 4.0 - Smart Manufacturing	
Career Cluster	Advanced Manufacturing
Program of Study	Industry 4.0 – Smart Manufacturing; Industrial Automation and Robotics; Industrial Maintenance Electrical; Industrial Maintenance Mechanical
NLPS Sequence	A
Course Code	7220

Course Description	*Principles of Industry 4.0 introduces students to the Industrial Internet of Things (IIoT). Students will explore Industry 4.0 technologies such as artificial intelligence (AI), human to robot collaboration, big data, safety, electrical, sensors, digital integration, fluid power, robot operation, measurement, CAD, CNC, additive manufacturing, print reading, and technical mathematics. Students will complete hands-on labs, virtual simulations, projects, and critical thinking assignments to help prepare for SACA C-101 Certified Industry 4.0 Associate I - Basic Operations certification exam.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Industrial Arts 7-12, K-12 ● Standard Trade & Industrial: Manufacturing K-12	
Rules 46-47	● Industrial Technology K-12 ● Industrial Education K-12 ● Occupational Specialist I, II, or III: Engineering ● Standard Trade & Industrial: Engineering or Manufacturing 9-12 ● Occupational Specialist I, II or III: Manufacturing 9-12	
Rules 2002	● Technology Education with high school setting ● CTE: Trade & Industrial: Engineering or Manufacturing ● Workplace Specialist: Engineering or Manufacturing 9-12	
REPA/REPA 3	● Technology Education 5-12 ● Workplace Specialist: Engineering 9-12 ● Workplace Specialist: Industrial Automation & Robotics ● CTE: Trade & Industrial Engineering or Manufacturing 5-12 ● Workplace Specialist: Advanced Manufacturing 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	SMDI 110: Introduction to Industrial Internet of Things	
VU Course Alignment		
Four Yr. Course Alignment		
Postsecondary Credential	ITCC- CT Smart Manufacturing and Digital Integration (15.0405); TC Smart Manufacturing and Digital Integration (15.0405)	
Liberal Arts/ Sciences Requirements	ITCC- MATH 137: Trigonometry with Analytic Geometry, IVYT 11X Student Success	

Industry Credential	SACA C-101 Certified Industry 4.0 Associate I - Basic Operations,Industrial Technology Maintenance (ITM) – Level I – Electrical Systems, Applied Fluid Power-Maintenance and Troubleshooting/FESTO, C-201 Electrical Systems 1, C-210 Mechanical Power Systems I, Certified Production Technician (CPT) 4.0
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7220 Principles of Industry 4.0 and Digital Manufacturing here.

Advanced Manufacturing Technology		
Career Cluster	Advanced Manufacturing	
Program of Study	Industrial Maintenance – Electrical, Industrial Maintenance – Mechanical	
NLPS Sequence	B	
Course Code	7103	
Course Description	*Advanced Manufacturing Technology introduces manufacturing processes and practices used in manufacturing environments. The course also covers key electrical principles, including current, voltage, resistance, power, inductance, capacitance, and transformers, along with basic mechanical and fluid power principles. Topics include, types of production, production materials, machining and tooling, manufacturing planning, production control, and product distribution will be covered. Students will be expected to understand the product life cycle from conception through distribution. This course also focuses on technologies used in production processes. Basic power systems, energy transfer systems, machine operation and control will be explored. This course will use lecture, lab, online simulation and programming to prepare students for Certified Production Technician Testing through Manufacturing Skill Standards Council (MSSC).*	
Prerequisite(s)/ Corequisite(s)	Principles of Advanced Manufacturing	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Counts as a quantitative reasoning course for CORE 40 diplomas	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Standard Trade & Industrial: Manufacturing K-12 ● Standard Trade & Industrial: Industrial Repair & Maintenance K-12 ● Industrial ArtsK-12	
Rules 46-47	● Standard Trade & Industrial: Engineering or Manufacturing 9-12 ● Standard Trade & Industrial: Industrial Repair & Maintenance 9-12 ● Industrial Technology K-12 ● Industrial Education K-12 ● Occupational Specialist I, II or III: Manufacturing 9-12 ● Occupational Specialist I, II or III: Industrial Automation 9-12	

	● Occupational Specialist I, II or III: Industrial Repair & Maintenance 9-12
Rules 2002	● CTE: Trade & Industrial: Engineering or Manufacturing ● CTE: Trade & Industrial: Industrial Repair & Maintenance ● Workplace Specialist: Engineering or Manufacturing ● Technology Education with high school setting ● Workplace Specialist: Industrial Automation & Robotics ● Workplace Specialist: Industrial Repair & Maintenance
REPA/REPA 3	● CTE: Trade & Industrial Engineering or Manufacturing 5-12 ● CTE: Trade & Industrial: Industrial Automation & Robotics 5-12 ● CTE: Trade & Industrial: Industrial Repair & Maintenance 5-12 ● Technology Education 5-12 ● Workplace Specialist: Advanced Manufacturing 9-12 ● Workplace Specialist: Industrial Automation & Robotics 9-12 ● Workplace Specialist: Industrial Repair & Maintenance 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	ADMF 102: Technology in Advanced Manufacturing OR SMDI 111: Technology in Smart Manufacturing and Digital Integration; INDT 113: Industrial Electrical I
VU Course Alignment	CIMT 100/L (Lab): Electronics for Automation
Four Yr. Course Alignment	ISU - MFG 2225; MET 130 ISU - Intro to Materials, Processes, and Testing; Introduction to Engineering Technology
Postsecondary Credential	ITCC - TC Automation and Robotics Technology (15.0613) VU – Advanced Manufacturing Robotics & Mechatronics 8484, CPC; CG Machinery Repair Assistant (15.0406); CG Industrial Technology (15.0612)
Liberal Arts/ Sciences Requirements	ITCC - MATH 122: Applied Technical Mathematics; IVYT 113: Student Success in Technology VU - ENGL 101: English Composition I, UCC Electives 3 hours
Industry Credential	MSSC Certified Production Tech, SACA C-101 Certified Industry 4.0 Associate I - Basic Operations,Industrial Technology Maintenance (ITM) – Level I – Electrical Systems, Applied Fluid Power- Maintenance and Troubleshooting/FESTO, C-201 Electrical Systems 1, C-210 Mechanical Power Systems I, Certified Production Technician (CPT) 4.0
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7103 Advanced Manufacturing Technology here.

Robotics Design and Innovation	
Career Cluster	Advanced Manufacturing
Program of Study	Industry 4.0 – Smart Manufacturing; Industrial Automation and Robotics; Industrial Maintenance Electrical; Industrial Maintenance Mechanical
NLPS Sequence	B
Course Code	4728

Course Description	*The Robotics Design and Innovation course is designed to introduce students to technology that is revolutionizing modern manufacturing and logistic centers across global markets. Students will explore careers that are related to the fourth industrial revolution and be introduced to the emerging technologies that make the manufacturing world ever changing. These technologies include; mechatronics, CAD/CAM, robots, programmable automation, cloud technologies, networking, big data and analytics. Students will design a part to be mass produced using processes such as additive and subtractive manufacturing, while utilizing lean manufacturing concepts. The course will prepare students for the SACA, C-102 Certified Industry 4.0 Associate*	
Prerequisite(s)/ Corequisite(s)	Principles of Industry 4.0 and Digital Manufacturing	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Counts as a quantitative reasoning course for CORE 40 diplomas	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Industrial Arts 7-12, K-12 ● Standard Trade & Industrial: Manufacturing K-12	
Rules 46-47	● Industrial Technology K-12 ● Industrial Education K-12 ● Occupational Specialist I, II, or III: Engineering ● Standard Trade & Industrial: Engineering or Manufacturing 9-12 ● Occupational Specialist I, II or III: Manufacturing 9-12	
Rules 2002	● Technology Education with high school setting ● CTE: Trade & Industrial: Engineering or Manufacturing ● Workplace Specialist: Engineering or Manufacturing 9-12	
REPA/REPA 3	● Technology Education 5-12 ● Workplace Specialist: Engineering 9-12 ● Workplace Specialist: Industrial Automation & Robotics ● CTE: Trade & Industrial Engineering or Manufacturing 5-12 ● Workplace Specialist: Advanced Manufacturing 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	SMDI 111: Technology in Smart Manufacturing and Digital Integration	
VU Course Alignment		
Four Yr. Course Alignment		
Postsecondary Credential	ITCC- CT: Smart Manufacturing and Digital Integration (15.0405); TC: Smart Manufacturing and Digital Integration (15.0405)	
Liberal Arts/		

Sciences Requirements	
Industry Credential	SACA C-102 Certified Industry 4.0 Associate - Advanced Operations Certification, MSSC Certified Production Tech, SACA C-101 Certified Industry 4.0 Associate I - Basic Operations,Industrial Technology Maintenance (ITM) – Level I – Electrical Systems, Applied Fluid Power- Maintenance and Troubleshooting/FESTO, C-201 Electrical Systems 1, C-210 Mechanical Power Systems I, Certified Production Technician (CPT) 4.0
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 4728 Robotics Design and Innovation here.

Industrial Maintenance Fundamentals		
Career Cluster	Advanced Manufacturing	
Program of Study	Industrial Maintenance – Mechanical	
NLPS Sequence	C	
Course Code	7104	
Course Description	*Industrial Maintenance Fundamentals introduces students to fundamental Welding and Machining skills. Students will be introduced to basic skills in welding, cutting and brazing, and machine tooling that are applicable in a wide variety of trade professions. Specifically, students will learn safe practices in oxy-fuel and Arc welding processes along with experience in using turning, milling, and grinding applications.*	
Prerequisite(s)/ Corequisite(s)	Principles of Advanced Manufacturing **or** Principles of Industry 4.0 and Digital Manufacturing; Advanced Manufacturing Technology **or** Robotics Design and Innovation	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	• Standard Trade & Industrial: Industrial Repair & Maintenance K-12 • Industrial Arts K-12	
Rules 46-47	• Standard Trade & Industrial: Industrial Repair & Maintenance 9-12 • Occupational Specialist I, II or III: Industrial Repair & Maintenance 9-12 • Industrial Technology 9-12 • Industrial Education K-12	
Rules 2002	• CTE: Trade & Industrial: Industrial Repair & Maintenance • Workplace Specialist: Industrial Repair & Maintenance • Technology Education	

REPA/REPA 3	● CTE: Trade & Industrial: Industrial Repair & Maintenance 5-12 ● Workplace Specialist: Industrial Repair & Maintenance 9-12 ● Technology Education 5-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	INDT 114: Introductory Welding; MTTC 101: Introduction to Machining
VU Course Alignment	WELD 160: General Welding VU/EC: PMTD 117: Fixturing & Production Processing; PMTD 112: Advanced Machine Tools II; WELD 101: Oxy-Acetylene Welding
Four Yr. Course Alignment	
Postsecondary Credential	ITCC - CT Industrial Mechanical (47.0303), TC Industrial Mechanical Technology (47.0303) VU - Advanced Manufacturing Robotics & Mechatronics CPC; Welding Technology Certificate 8542 CPC.; CG Machinery Repair Assistant
Liberal Arts/ Sciences Requirements	ITCC- MATH 122: Applied Technical Mathematics; IVYT 113: Student Success in Technology
Industry Credential	Applied Mechanical Systems/FESTO, SACA C-102 Certified Industry 4.0 Associate - Advanced Operations Certification, MSSC Certified Production Tech, SACA C-101 Certified Industry 4.0 Associate I - Basic Operations,Industrial Technology Maintenance (ITM) – Level I – Electrical Systems, Applied Fluid Power- Maintenance and Troubleshooting/FESTO, C-201 Electrical Systems 1, C-210 Mechanical Power Systems I, Certified Production Technician (CPT) 4.0
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7104 Industrial Maintenance Fundamentals here.

Industrial Maintenance Capstone	
Career Cluster	Advanced Manufacturing
Program of Study	Industrial Maintenance – Mechanical
NLPS Sequence	D
Course Code	7261
Course Description	*The Industrial Maintenance Capstone examines the procedures for the removal, repair, and installation of machine components. The methods of installation, lubrication practices, and maintenance procedures for industrial machinery are analyzed. Additionally the course may cover the mechanical components and electrical drives in a complex mechatronic system. By understanding the inner workings of the complete system, students will learn and apply troubleshooting strategies to identify, localize and (where possible) to correct malfunctions. Preventive maintenance of mechanical elements and electrical drives as well as safety issues within the system will be discussed. This course will use lecture, lab, online simulation and programming to prepare students for C-210 Mechanical Power Systems I Certification through Smart Automation Certification Alliance*

	(SACA).
Prerequisite(s)/ Corequisite(s)	Principles of Advanced Manufacturing; Advanced Manufacturing Technology; Industrial Maintenance Fundamentals
Credits	2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum
Counts Toward	Counts as a quantitative reasoning course for CORE 40 diplomas
Dual Credit Status	X (PCL/CTE)
Additional Notes	
ADDITIONAL COURSE INFO	
Funding	High Value | Level II
Bulletin 400	● Standard Trade & Industrial: Industrial Repair & Maintenance K-12 ● Industrial Arts K-12
Rules 46-47	● Standard Trade & Industrial: Industrial Repair & Maintenance 9-12 ● Occupational Specialist I, II or III: Industrial Repair & Maintenance 9-12 ● Industrial Technology 9-12 ● Industrial Education K-12
Rules 2002	● CTE: Trade & Industrial: Industrial Repair & Maintenance ● Workplace Specialist: Industrial Repair & Maintenance ● Technology Education
REPA/REPA 3	● CTE: Trade & Industrial: Industrial Repair & Maintenance 5-12 ● Workplace Specialist: Industrial Repair & Maintenance 9-12 ● Technology Education 5-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	INDT 203: Machine Maintenance and Installation; ADMF 112: Mechanical Drives I; ADMF 222: Fluid Power II
VU Course Alignment	VU-EC - CIMT 140/140L (Lab): Mechanical Drives□; CIMT 150/150L (Lab): Electronic and Electrical Applications for Manufacturing□; CIMT 175/175L (Lab): Mechatronics□
Four Yr. Course Alignment	
Postsecondary Credential	ITCC – TC Automation and Robotics Technology (15.0613) VU-EC - Advanced Manufacturing Robotics & Mechatronics 8484 CPC, CG Machinery Repair Assistant (15.0406)
Liberal Arts/ Sciences Requirements	ITCC - MATH 122: Applied Technical Mathematics; IVYT 113: Student Success in Technology
Industry Credential	Applied Mechanical Systems/FESTO, SACA C-102 Certified Industry 4.0 Associate - Advanced Operations Certification, MSSC Certified Production Tech, SACA C-101 Certified Industry 4.0 Associate I - Basic Operations,Industrial Technology Maintenance (ITM) – Level I – Electrical Systems, Applied Fluid Power- Maintenance and Troubleshooting/FESTO, C-201 Electrical Systems 1, C-210 Mechanical Power Systems I, Certified Production Technician (CPT) 4.0

CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7261 Industrial Maintenance Capstone here.

Advanced Manufacturing Precision Machining							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
7109	Principles of Precision Machining	7105	Precision Machining Fundamentals	7107	Advanced Precision Machining	7219	Precision Machining Capstone

Principles of Precision Machining		
Career Cluster	Advanced Manufacturing	
Program of Study	Precision Machining	
NLPS Sequence	A	
Course Code	7109	
Course Description	*Principles of Precision Machining provides students with a basic understanding of the processes used to produce industrial goods. Classroom instruction and labs will focus on shop safety, measurement, layout, blueprint reading, shop math, metallurgy, the use of basic hand tools, milling, turning, grinding, and sawing operations. This course prepares the student for the optional National Institute for Metalworking Skills (NIMS) Measurement, Materials, & Safety Certification, which may be required for college dual credit.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level I
Bulletin 400	• Standard Trade & Industrial: Machine Shop K-12 • Industrial Arts 7-12	
Rules 46-47	• Standard Trade & Industrial: Machine Shop 9-12 • Occupational Specialist I, II or III: Machine Shop 9-12 • Industrial Education K-12 • Industrial Technology K-12	
Rules 2002	• CTE: Trade & Industrial: Precision Machine Technology • Workplace Specialist: Precision Machine Technology • Technology Education with high school setting	
REPA/REPA 3	• CTE: Trade & Industrial Precision Machine Technology 5-12 • Workplace Specialist: Precision Machining 9-12	

	● Technology Education 5-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	MTTC 101: Introduction to Machining; MTTC 106: Print Interpretation
VU Course Alignment	PMTD 110/L (Lab): Manufacturing Processes/Manufacturing Processes Laboratory; PMTD 105: Understanding Industrial Blueprints
Four Yr. Course Alignment	
Postsecondary Credential	ITCC - CT Machine Tool Technology (48.0503), TC Machine Tool Technology (48.0503) VU - Machining Fundamentals Certificate 8475, CPC; CG Metalworking Technology (48.0501)
Liberal Arts/ Sciences Requirements	ITCC - MATH 122: Applied Technical Mathematics; IVYT 113: Student Success in Technology VU - ENGL 101: English Composition I, UCC Electives 12 hours
Industry Credential	NIMS Measurement, Materials & Safety; NIMS Milling I; NIMS Grinding I; NIMS Machining Level I- CNC Mill Operations
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7109 Principles of Precision Machining here.

Precision Machining Fundamentals	
Career Cluster	Advanced Manufacturing
Program of Study	Precision Machining
NLPS Sequence	B
Course Code	7105
Course Description	*Precision Machining Fundamentals will build a foundation in conventional milling and turning. Students will be instructed in the classroom on topics of shop safety, theory, industrial terminology, and calculations. Lab work will consist of the setup and operation of vertical and/or horizontal milling machines and engine lathes. This course prepares the student for the optional National Institute for Metalworking Skills (NIMS) Milling I Certification, which may be required for college dual credit.*
Prerequisite(s)/ Corequisite(s)	Principles of Precision Machining
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
Counts Toward	Counts as a quantitative reasoning course for CORE 40 diplomas
Dual Credit Status	X (PCL/CTE)
Additional Notes	It is recommended that Precision Machining program of study be taught in a 2-3 period block of time. VU dual credit requires that Precision Machining Fundamentals and Advanced Precision Machining be completed concurrently

ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level I
Bulletin 400	● Standard Trade & Industrial: Machine Shop K-12 ● Industrial Arts 7-12	
Rules 46-47	● Standard Trade & Industrial: Machine Shop 9-12 ● Occupational Specialist I, II or III: Machine Shop 9-12 ● Industrial Education K-12 ● Industrial Technology K-12	
Rules 2002	● CTE: Trade & Industrial: Precision Machine Technology ● Workplace Specialist: Precision Machine Technology ● Technology Education with high school setting	
REPA/REPA 3	● CTE: Trade & Industrial Precision Machine Technology 5-12 ● Workplace Specialist: Precision Machining 9-12 ● Technology Education 5-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	MTTC 102: Turning Processes I; MTTC 103: Milling Processes I	
VU Course Alignment	PMTD 120: General Machines VU/EC: PMTD 111: Advanced Machine Tools I ^	
Four Yr. Course Alignment		
Postsecondary Credential	ITCC - CT Machine Tool Technology (48.0503), TC Machine Tool Technology (48.0503) VU – Machining Fundamentals Certificate 8475, CPC; CG Metalworking Technology (48.0501)	
Liberal Arts/ Sciences Requirements	ITCC - MATH 122: Applied Technical Mathematics; IVYT 113: Student Success in Technology VU - ENGL 101: English Composition I, UCC Electives 12 hours	
Industry Credential	NIMS Measurement, Materials & Safety; NIMS Milling I; NIMS Grinding I; NIMS Machining Level I- CNC Mill Operations	
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 7105 Precision Machining Fundamentals here.	

Advanced Precision Machining	
Career Cluster	Advanced Manufacturing
Program of Study	Precision Machining
NLPS Sequence	C
Course Code	7107
Course Description	*Advanced Precision Machining builds upon the Turning and Milling processes learned in Precision Machining Fundamentals and builds a foundation in*

	abrasive-process machines. Students will be instructed in the classroom on topics of shop safety, theory, industrial terminology, and calculations associated with abrasives. Lab work will consist of the setup and operation of bench grinders and surface grinders. Additionally students will be introduced to Computerized Numeric Controlled (CNC) setup, operations and programming. This course prepares the student for the optional National Institute for Metalworking Skills (NIMS) Grinding I Certification, which may be required for college dual credit.
Prerequisite(s)/ Corequisite(s)	Principles of Precision Machining; Precision Machining Fundamentals
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
Counts Toward	Counts as a quantitative reasoning course for CORE 40 diplomas Counts as STEM-Focused credit for the new diplomas
Dual Credit Status	X (PCL/CTE)
Additional Notes	It is recommended that Precision Machining program of study be taught in a 2-3 period block of time. VU dual credit requires that Precision Machining Fundamentals and Advanced Precision Machining be completed concurrently
ADDITIONAL COURSE INFO	
Funding	Moderate Value | Level I
Bulletin 400	● Standard Trade & Industrial: Machine Shop K-12 ● Industrial Arts 7-12
Rules 46-47	● Standard Trade & Industrial: Machine Shop 9-12 ● Occupational Specialist I, II or III: Machine Shop 9-12 ● Industrial Education K-12 ● Industrial Technology K-12
Rules 2002	● CTE: Trade & Industrial: Precision Machine Technology ● Workplace Specialist: Precision Machine Technology ● Technology Education with high school setting
REPA/REPA 3	● CTE: Trade & Industrial Precision Machine Technology 5-12 ● Workplace Specialist: Precision Machining 9-12 ● Technology Education 5-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	MTTC 105: Abrasive Processes I; MTTC 110: Turning and Milling Processes
VU Course Alignment	PMTD 120: General Machines□ VU/EC: PMTD 118: Machining Fundamentals III ^; PMTD 112: Advanced Machine Tools II ^
Four Yr. Course Alignment	
Postsecondary Credential	ITCC - CT Machine Tool Technology, TC Machine Tool Technology (48.0503) VU – Machining Fundamentals Certificate 8475, CPC; CG Metalworking Technology (48.0501)
Liberal Arts/ Sciences	ITCC - MATH 122: Applied Technical Mathematics; IVYT 113: Student Success in Technology

Requirements	VU - ENGL 101: English Composition I, UCC Electives 12 hours
Industry Credential	NIMS Measurement, Materials & Safety; NIMS Milling I; NIMS Grinding I; NIMS Machining Level I- CNC Mill Operations
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7107 Advanced Precision Machining here.

Precision Machining Capstone		
Career Cluster	Advanced Manufacturing	
Program of Study	Precision Machining	
NLPS Sequence	D	
Course Code	7219	
Course Description	*The Precision Machining Capstone is an in-depth study of skills learned in Precision Machining I, with a stronger focus on CNC setup/operation/programming. Students will be introduced to two axis CNC lathe programming and three axis CNC milling machine programming. Develops the theory of programming in the classroom with applications of the program accomplished on industry-type machines. Studies terminology of coordinates, cutter paths, angle cutting, and linear and circular interpolation. Classroom activities will concentrate on precision set-up and inspection work, as well as machine shop calculations. Students will develop skills in advanced machining and measuring parts involving tighter tolerances and more complex geometry. Throughout the course there will be a continued focus on workplace safety.*	
Prerequisite(s)/ Corequisite(s)	Principles of Precision Machining; Precision Machining Fundamentals; Advanced Precision Machining	
Credits	2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum	
Counts Toward	Counts as a quantitative reasoning course for CORE 40 diplomas Counts as STEM-Focused credit for the new diplomas	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level II
Bulletin 400	● Standard Trade & Industrial: Machine Shop K-12 ● Industrial Arts 7-12	
Rules 46-47	● Standard Trade & Industrial: Machine Shop 9-12 ● Occupational Specialist I, II or III: Machine Shop 9-12 ● Industrial Education K-12 ● Industrial Technology K-12	
Rules 2002	● CTE: Trade & Industrial: Precision Machine Technology ● Workplace Specialist: Precision Machine Technology ● Technology Education with high school setting	

REPA/REPA 3	● CTE: Trade & Industrial Precision Machine Technology 5-12 ● Workplace Specialist: Precision Machining 9-12 ● Technology Education 5-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	MTTC 107: CNC Setup and Operations I; MTTC 208: CNC Mill Programming; MTTC 209: CNC Lathe Programming
VU Course Alignment	VU/EC - PMTD 215: CNC Set Up and Operations□; PMTD 116: Introduction to CNC Programming□; PMTD 125: CNC Programming and Operations I ^
Four Yr. Course Alignment	
Postsecondary Credential	ITCC - CT Machine Tool Technology (48.0503), TC Machine Tool Technology (48.0503) VU – Machining Fundamentals Certificate 8475, CPC; CG Metalworking Technology (48.0501)
Liberal Arts/ Sciences Requirements	ITCC - MATH 122: Applied Technical Mathematics; IVYT 113: Student Success in Technology VU - ENGL 101: English Composition I, UCC Electives 12 hours
Industry Credential	NIMS Measurement, Materials & Safety; NIMS Milling I; NIMS Grinding I; NIMS Machining Level I- CNC Mill Operations
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7219 Precision Machining Capstone here.

Advanced Manufacturing Welding Technology							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
7110	Principles of Welding Technology	7111	Shielded Metal Arc Welding	7101	Gas Welding Processes	7226	Welding Technology Capstone

Principles of Welding Technology		
Career Cluster	Advanced Manufacturing	
Program of Study	Welding Technology	
NLPS Sequence	A	
Course Code	7110	
Course Description	*The Principles of Welding Technology course includes classroom and laboratory experiences that develop a variety of skills in oxy-fuel cutting and basic welding. This course is designed for individuals who intend to make a career as a Welder, Technician, Designer, Researcher, or Engineer. Emphasis is placed on safety at all times. OSHA standards and guidelines endorsed by the American Welding Society (AWS) are used. Instructional activities emphasize properties of metals, safety issues, blueprint reading, electrical principles, welding symbols, and mechanical drawing through projects and exercises that teach students how to weld and be prepared for postsecondary and career success.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	• Standard Trade & Industrial: Welding & Cutting K-12	
Rules 46-47	• Standard Trade & Industrial: Welding & Cutting 9-12 • Occupational Specialist I, II or III: Welding & Cutting 9-1	
Rules 2002	• CTE: Trade & Industrial: Welding Technology • Workplace Specialist: Welding Technology	
REPA/REPA 3	• CTE: Trade & Industrial Welding 5-12 • Workplace Specialist: Welding 9-12	

POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	WELD 100: Welding Fundamentals
VU Course Alignment	WELD 160: General Welding; WELD 107: Industrial Blueprint Reading for Welding VU/EC: WELD 108: CNC Plasma Arc Cutting ^ ; WELD 165: Advanced Welding ^
Four Yr. Course Alignment	
Postsecondary Credential	ITCC- CT Structural Welding (48.0508); TC Welding Technology (48.0508) VU- Welding Technology Certificate 8452, CPC; CG Welding Technology (48.0508)
Liberal Arts/ Sciences Requirements	ITCC - MATH 122: Applied Technical Mathematics; IVYT 113: Student Success in Technology VU - ENGL 101: English Composition I; MATH 100-level or higher; UCC Social Science or Speech Elective
Industry Credential	AWS Sense Core; AWS SENSE: Entry Level Welder
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7110 Principles of Welding Technology here.

Shielded Metal Arc Welding		
Career Cluster	Advanced Manufacturing	
Program of Study	Welding Technology	
NLPS Sequence	B	
Course Code	7111	
Course Description	*Shielded Metal Arc Welding involves the theory and application of the Shielded Metal Arc Welding process. Process theory will include basic electricity, power sources, electrode selection, and all aspects pertaining to equipment operation and maintenance. Laboratory welds will be performed in basic weld joints with a variety of electrodes in the flat, horizontal and vertical positions. Emphasis will be placed on developing the basic skills necessary to comply with AWS industry standards.*	
Prerequisite(s)/ Corequisite(s)	Principles of Welding Technology	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Standard Trade & Industrial: Welding & Cutting K-12	

Rules 46-47	● Standard Trade & Industrial: Welding & Cutting 9-12 ● Occupational Specialist I, II or III: Welding & Cutting 9-1
Rules 2002	● CTE: Trade & Industrial: Welding Technology ● Workplace Specialist: Welding Technology
REPA/REPA 3	● CTE: Trade & Industrial Welding 5-12 ● Workplace Specialist: Welding 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	WELD 108: Shielded Metal Arc Welding I; WELD 206: Advanced Shielded Metal Arc Welding
VU Course Alignment	WELD 102: Shielded Metal Arc Welding I
Four Yr. Course Alignment	
Postsecondary Credential	ITCC - CT Structural Welding (48.0508); TC Welding Technology (48.0508) VU- Welding Technology Certificate 8542, CPC; CG Welding Technology (48.0508)
Liberal Arts/ Sciences Requirements	ITCC - MATH 122: Applied Technical Mathematics; IVYT 113: Student Success in Technology VU - ENGL 101: English Composition I; MATH 100-level or higher; UCC Social Science or Speech Elective
Industry Credential	AWS SMAW Certified; AWS Certified Welder; NC3 Introduction Shielded Metal Arc Welding (SMAW)
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7111 Shielded Metal Arc Welding here.

Gas Welding Processes	
Career Cluster	Advanced Manufacturing
Program of Study	Welding Technology
NLPS Sequence	C
Course Code	7101
Course Description	*Gas Welding Processes is designed to cover the operation of Gas Metal Arc Welding (MIG) equipment. This will include all settings, adjustments and maintenance needed to weld with a wire feed system. Instruction on both short-arc and spray-arc transfer methods will be covered. Tee, lap, and open groove joints will be done in all positions with solid, fluxcore, and aluminum wire. Test plates will be made for progress evaluation. Schools may choose to offer the course as a comprehensive MIG Welding course or a combination of introductory MIG and TIG Welding operations.*
Prerequisite(s)/ Corequisite(s)	Principles of Welding Technology
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
Counts Toward	

Dual Credit Status	X (PCL/CTE)	
Additional Notes	Schools may choose to cover both introductory MIG and TIG Welding. This configuration is available for dual credit through ITCC.	
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Standard Trade & Industrial: Welding & Cutting K-12	
Rules 46-47	● Standard Trade & Industrial: Welding & Cutting 9-12 ● Occupational Specialist I, II or III: Welding & Cutting 9-1	
Rules 2002	● CTE: Trade & Industrial: Welding Technology ● Workplace Specialist: Welding Technology	
REPA/REPA 3	● CTE: Trade & Industrial Welding 5-12 ● Workplace Specialist: Welding 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	WELD 207: Gas Metal Arc (MIG) Welding; WELD 272: Advanced Gas Metal (MIG) Welding II	
VU Course Alignment	WELD 103: Gas Metal Arc Welding	
Four Yr. Course Alignment		
Postsecondary Credential	ITCC - CT Structural Welding (48.0508); TC Welding Technology (48.0508) VU - Welding Technology Certificate 8542, CPC; CG Welding Technology (48.0508)	
Liberal Arts/ Sciences Requirements	ITCC - MATH 122: Applied Technical Mathematics; IVYT 113: Student Success in Technology VU - ENGL 101: English Composition I; MATH 100-level or higher; UCC Social Science or Speech Elective	
Industry Credential	AWS MIG, AWS Sense Entry Level Welder; AWS SENSE: Advanced Level Welder; NC3 Introduction Gas Tungsten Arc Welding (GTAW); AWS - GTAW Certified	
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 7101 Gas Welding Processes here.	

Welding Technology Capstone	
Career Cluster	Advanced Manufacturing
Program of Study	Welding Technology
NLPS Sequence	D
Course Code	7226
Course Description	*The Welding Technology Capstone course builds upon the knowledge and skills developed in Welding Fundamentals, Shielded Metal Arc Welding, and Gas Metal Arc Welding by developing advanced welding skills in Gas Tungsten Arc Welding (TIG), Pipe Welding, and Fabrication. As a capstone course, students should have the opportunity to apply their knowledge and use skills through an intensive*

	work-based learning experience.
Prerequisite(s)/ Corequisite(s)	Principles of Welding Technology; Shielded Metal Arc Welding; Gas Welding Processes
Credits	2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum
Counts Toward	
Dual Credit Status	X (PCL/CTE)
Additional Notes	
ADDITIONAL COURSE INFO	
Funding	High Value | Level II
Bulletin 400	● Standard Trade & Industrial: Welding & Cutting K-12
Rules 46-47	● Standard Trade & Industrial: Welding & Cutting 9-12 ● Occupational Specialist I, II or III: Welding & Cutting 9-1
Rules 2002	● CTE: Trade & Industrial: Welding Technology ● Workplace Specialist: Welding Technology
REPA/REPA 3	● CTE: Trade & Industrial Welding 5-12 ● Workplace Specialist: Welding 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	WELD 208: Gas Tungsten Arc (TIG) Welding; WELD 273: Advanced Gas Tungsten Arc Welding II; WELD 203: Pipe Welding I*; WELD 210: Welding Fabrication I*
VU Course Alignment	VU-EC - WELD 105: Shielded Metal Arc Welding II□; WELD 106: Welding Certification Review□
Four Yr. Course Alignment	
Postsecondary Credential	ITCC - CT Structural Welding (48.0508); TC Welding Technology (48.0508) VU-EC - Welding Technology Certificate 8452 CPC, CG Welding Technology (48.0508)
Liberal Arts/ Sciences Requirements	ITCC- MATH 122: Applied Technical Mathematics; IVYT 113: Student Success in Technology VU - ENGL 101: English Composition I; MATH 100-level or higher; UCC Social Science or Speech Elective
Industry Credential	AWS - GMAW Certified, AWS - GTAW Certified; AWS - SMAW Certified; AWS - FCAW Certified; AWS SENSE: Advanced Level Welder; AWS SENSE: Entry Level Welder; NC3 Introduction Gas Metal Arc Welding (GMAW); NC3 Introduction Gas Metal Tungsten Arc Welding (GTAW); NC3 Introduction Shielded Metal Arc Welding (SMAW)
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7226 Welding Technology Capstone here.

Agriculture

Introduction to Agriculture, Food, and Natural Resources		
Career Cluster	Agriculture	
Program of Study		
NLPS Sequence	Introductory	
Course Code	5056	
Course Description	*Introduction to Agriculture, Food, and Natural Resources is a two semester course that is highly recommended as a prerequisite to and as a foundation for all other agricultural classes. Through hands-on learning activities, students are encouraged to investigate areas of agriculture. Students are introduced to the following areas of agriculture: animal science, plant and soil science, food science, horticultural science, agricultural business management, natural resources, agriculture power, structure, and technology, careers in agriculture, leadership, and supervised agricultural experience. An activity- and project-based approach is used along with team building to enhance the effectiveness of the student-learning activities.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	1 or 2 semester course, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status		
Additional Notes	This course qualifies for funding at the 8th grade level When offered as applied, 2 units maximum; counts as an employability applied unit for alternate diploma	
ADDITIONAL COURSE INFO		
Funding	Introductory	Available for 8th grade
Bulletin 400	● Vocational Agriculture K-12	
Rules 46-47	● Any Agribusiness License 9- 12 ● Any Standard Agriculture license ● Occupational Specialist I, II, or III in related course approved for a CTE pathway with a balance of all Agriculture relatable subject matter	
Rules 2002	● CTE: Agriculture with high school setting ● Workplace Specialist I or II in related course approved for a CTE pathway with a balance of all Agriculture relatable subject matter	
REPA/REPA 3	● CTE: Agriculture 9-12 ● Workplace Specialist I or II in related course approved for a CTE pathway with a balance of all Agriculture relatable subject matter	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment		

VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/ Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 5056 Introduction to Agriculture, Food, and Natural Resources here.

Supervised Agriculture Experience (SAE)	
Career Cluster	Agriculture
Program of Study	
NLPS Sequence	
Course Code	5228
Course Description	*The Supervised Agricultural Experience (SAE) is designed to provide students with opportunities to gain experience in the agricultural field(s) in which they are interested. Students will apply knowledge learned in the classroom, laboratory, and other training sites to real-life situations with a standards-based learning plan. Students work closely with their agriculture teacher(s), parents, and/or employers to get the most out of their SAE program. This course can be offered each year as well as during the summer session. Curriculum content and competencies need to be varied so that school year and summer session experiences are not duplicative.*
Prerequisite(s)/ Corequisite(s)	None
Credits	1 semester course, 1 credit per semester, 8 credits maximum
Counts Toward	
Dual Credit Status	
Additional Notes	Curriculum content and standards-based plan for learning should not be duplicated when this course is taken for multiple semesters.
ADDITIONAL COURSE INFO	
Funding	
Bulletin 400	● Vocational Agriculture K-12 ● Occupational Specialist in related course approved for an Agriculture pathway
Rules 46-47	● Any Standard Agriculture license ● Occupational Specialist in related course approved for an Agriculture pathway
Rules 2002	● CTE: Agriculture with high school setting

	● Workplace Specialist in related course approved for an Agriculture pathway
REPA/REPA 3	● CTE: Agriculture 5-12 ● Workplace Specialist in related course approved for an Agriculture pathway
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/ Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 5228 Supervised Agriculture Experience (SAE) here.

Advanced Career & Technical Education, College Credit: Agriculture	
Career Cluster	Agriculture
Program of Study	
NLPS Sequence	
Course Code	6130
Course Description	*Advanced Career and Technical Education, College Credit is a course title covering any CTE advanced course offered for credit by an accredited post-secondary institution through an adjunct agreement with a secondary school. The intent of this course is to allow students to earn college credit for courses with content that goes beyond that currently approved for high school credit. This course may be used for any dual enrollment course, including a joint program of study involving a postsecondary partnership.*
Prerequisite(s)/ Corequisite(s)	None
Credits	1 semester course, up to 3 credits per semester, may be offered for successive semesters up to 12 credits
Counts Toward	
Dual Credit Status	X
Additional Notes	A student should earn at least 3 postsecondary credits for each high school credit. Schools must have an approved Nonstandard Course Waiver on file to be eligible for CTE Funding.

ADDITIONAL COURSE INFO		
Funding	Pilot	
Bulletin 400	• Vocational Agriculture K-12 • Occupational Specialist in related course approved for an Agriculture pathway	
Rules 46-47	• Any Standard Agriculture license • Occupational Specialist in related course approved for an Agriculture pathway	
Rules 2002	• CTE: Agriculture with high school setting • Workplace Specialist in related course approved for an Agriculture pathway	
REPA/REPA 3	• CTE: Agriculture 5-12 • Workplace Specialist in related course approved for an Agriculture pathway	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment		
VU Course Alignment		
Four Yr. Course Alignment		
Postsecondary Credential		
Liberal Arts/ Sciences Requirements		
Industry Credential		
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	*Competencies dependent on enrolled postsecondary coursework.*	

Agriculture: Special Topics	
Career Cluster	Agriculture
Program of Study	
NLPS Sequence	
Course Code	6150
Course Description	*Agriculture: Special Topics is an extended-learning experience designed to address the advancement and specialization of careers within a specific career cluster through the provision of a specialized course for a specific workforce in the school's region. The learning experience is at a qualified site, and is designed to give the student the opportunity to learn and practice technical skills while working under the direction of the appropriately licensed professional. Throughout the course, students will focus on learning about employment opportunities and obtaining the knowledge, skills and attitudes essential for success in specific occupations.*

	Course standards and curriculum must be tailored to the specific profession, preparing students to advance in this career field, and where applicable, provide students with opportunities for certification or dual credit. Participation in a related CTSO encourages the development of leadership, communication and career related skills, and opportunities for community service.
Prerequisite(s)/ Corequisite(s)	None
Credits	1 semester course, up to 3 credits per semester, may be offered for successive semesters up to 12 credits
Counts Toward	
Dual Credit Status	X
Additional Notes	Schools must have an approved Nonstandard Course Waiver on file to be eligible for CTE Funding.
ADDITIONAL COURSE INFO	
Funding	Pilot
Bulletin 400	● Vocational Agriculture K-12 ● Occupational Specialist in related course approved for an Agriculture pathway
Rules 46-47	● Any Standard Agriculture license ● Occupational Specialist in related course approved for an Agriculture pathway
Rules 2002	● CTE: Agriculture with high school setting ● Workplace Specialist in related course approved for an Agriculture pathway
REPA/REPA 3	● CTE: Agriculture 5-12 ● Workplace Specialist in related course approved for an Agriculture pathway
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/ Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	

Agriculture Ag Mechanical and Engineering							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
7117	Principles of Agriculture	5088	Agriculture Power, Structure and Technology	7112	Agriculture Structures Fabrication and Design	7228	Agriculture Mechanization and Technology Capstone

Principles of Agriculture		
Career Cluster	Agriculture	
Program of Study	Ag Mechanical and Engineering, Agri-Science – Plants or Animals, Horticulture, Landscaping, Natural Resources, Precision Agriculture	
NLPS Sequence	A	
Course Code	7117	
Course Description	*Principles of Agriculture exposes students to the diversity of career options found within the agricultural industry and to other agribusiness concepts. Students will develop an understanding of the role of agriculture in the United States and globally. Students will explore Agriculture, Food, and Natural Resource (AFNR) systems related to the production of food, fiber and fuel and the associated health, safety and environmental management systems. Topics covered in the course range from animals, plants, food, natural resources, ag power, structures and technology, and agribusiness. Participation in FFA and Supervised Agricultural Experiences (SAE) will be an integral part of this course in order to develop leadership and career ready skills.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level I
Bulletin 400	● Vocational Agriculture K-12	
Rules 46-47	● Any Agribusiness License 9-12 ● Any Standard Agriculture license ● Occupational Specialist I, II, or III in related course approved for a CTE pathway with a balance of all Agriculture relatable subject matter	
Rules 2002	● CTE: Agriculture with high school setting ● Workplace Specialist: Agriculture Education in Agribusiness Management ● Workplace Specialist I or II in related course approved for a CTE pathway with a	

	balance of all Agriculture relatable subject matter
REPA/REPA 3	● CTE: Agriculture 9-12 ● Workplace Specialist: Agribusiness 9-12 ● Workplace Specialist I or II in related course approved for a CTE pathway with a balance of all Agriculture relatable subject matter
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	AGRI 100: Introduction to Agriculture; AGRI 102: Agricultural Business and Farm Management
VU Course Alignment	AGBS 101: Introduction to Agribusiness Management
Four Yr. Course Alignment	
Postsecondary Credential	ITCC - CT Urban Horticulture (1.0601); CT Landscaping Technician (1.0605); TC Precision Agriculture Specialist (1.0201) VU - Agribusiness Certificate, CPC; CG Agribusiness (1.0101)
Liberal Arts/ Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7117 Principles of Agriculture here.

Agriculture Power, Structure, and Technology	
Career Cluster	Agriculture
Program of Study	Ag Mechanical and Engineering
NLPS Sequence	B
Course Code	5088
Course Description	*Agriculture Power, Structure and Technology is a lab-intensive course in which students develop an understanding of the basic principles of tool selection, operation, maintenance, and management of agricultural equipment in concert with the utilization of technology. Topics covered include: safety, problem-solving/troubleshooting, electricity, plumbing, concrete, carpentry, metal technology, engines, emerging technologies, leadership development, supervised agricultural experience, and career opportunities in the area of agriculture power, structure, and technology.*
Prerequisite(s)/ Corequisite(s)	Principles of Agriculture
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
Counts Toward	

Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Vocational Agriculture K-12	
Rules 46-47	● Any Agribusiness License 9-12 ● Any Standard Agriculture license ● Any Occupational Specialist I, II, or III in Agriculture 9-12	
Rules 2002	● CTE: Agriculture with high school setting ● Workplace Specialist: Agriculture Education in Agriculture Mechanics	
REPA/REPA 3	● CTE: Agriculture 5-12 ● Workplace Specialist: Power, Structure & Technology 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	AGRI 106: Agriculture Mechanization; AGRI 128: Agricultural Safety	
VU Course Alignment		
Four Yr. Course Alignment		
Postsecondary Credential		
Liberal Arts/ Sciences Requirements		
Industry Credential	AWS Certified Welder; AWS Entry Level Welder	
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 5088 Agriculture Power, Structure, and Technology here.	

Agriculture Structures Fabrication and Design	
Career Cluster	Agriculture
Program of Study	Ag Mechanical and Engineering
NLPS Sequence	C
Course Code	7112
Course Description	*Agricultural Structures: Fabrication and Design focuses on metal work and agricultural structures. This course allows students to develop skills in welding and metalworking, construction, fabrication, machine components and design while incorporating the engineering design process. Students will also cover safety topics for each area while demonstrating appropriate health and safety standards.*
Prerequisite(s)/	Principles of Agriculture

Corequisite(s)		
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Counts as a quantitative reasoning course for CORE 40 diplomas Counts as STEM-Focused credit for new diploma	
Dual Credit Status	X	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Vocational Agriculture K-12	
Rules 46-47	● Any Agribusiness License 9-12 ● Any Standard Agriculture license ● Any Occupational Specialist I, II, or III in Agriculture 9-12	
Rules 2002	● CTE: Agriculture with high school setting ● Workplace Specialist: Agriculture Education in Agriculture Mechanics	
REPA/REPA 3	● CTE: Agriculture 5-12 ● Workplace Specialist: Power, Structure & Technology 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment		
VU Course Alignment		
Four Yr. Course Alignment		
Postsecondary Credential		
Liberal Arts/ Sciences Requirements		
Industry Credential	AWS Certified Welder; AWS Entry Level Welder	
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 7112 Agriculture Structures Fabrication and Design here.	

Agriculture Mechanization and Technology Capstone	
Career Cluster	Agriculture
Program of Study	Ag Mechanical and Engineering
NLPS Sequence	D
Course Code	7228
Course Description	*The Agriculture Mechanization and Technology Capstone builds upon the knowledge and skills developed in the Principles, Ag Power, Structures and*

	Technology, Agricultural Structures Fabrication and Design courses by developing advanced skills that students can apply to the field. Students enrolled in this course will participate in lab activities involving agricultural equipment such as fueled power engines, electrical motors, pneumatic and hydraulic systems, etc. Students will be instructed on the operation, maintenance, repair, engineering and design of the agricultural mechanics and technology systems. As a capstone course, students should have the opportunity to apply their knowledge and use skills through an intensive work-based learning experience.
Prerequisite(s)/ Corequisite(s)	Principles of Agriculture; Ag Power, Structures and Technology; Agriculture Structures: Fabrication and Design
Credits	2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits max
Counts Toward	Counts as a quantitative reasoning course for CORE 40 diplomas Counts as STEM-Focused credit for new diploma
Dual Credit Status	X
Additional Notes	
ADDITIONAL COURSE INFO	
Funding	High Value | Level II
Bulletin 400	● Vocational Agriculture K-12
Rules 46-47	● Any Agribusiness License 9-12 ● Any Standard Agriculture license ● Any Occupational Specialist I, II, or III in Agriculture 9-12
Rules 2002	● CTE: Agriculture with high school setting ● Workplace Specialist: Agriculture Education in Agriculture Mechanics
REPA/REPA 3	● CTE: Agriculture 5-12 ● Workplace Specialist: Power, Structure & Technology 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/ Sciences Requirements	
Industry Credential	Remote Pilot (FAA Part 107); AWS Certified Welder; AWS Entry Level Welder
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7228 Agriculture Mechanization and Technology Capstone here.

Agriculture Agri-Science – Plants or Animals							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
7117	Principles of Agriculture	5008	Animal Science	5102	Food Science	7262	Agricultural Research Capstone
		5170	Plant and Soil Science	5070	Advanced Life Science, Animals (L)	7230	Agriculture Biotechnology
				5074	Advanced Life Science, Plants and Soils (L)		
				5072	Advanced Life Science: Foods		

Principles of Agriculture		
Career Cluster	Agriculture	
Program of Study	Ag Mechanical and Engineering, Agri-Science – Plants or Animals, Horticulture, Landscaping, Natural Resources, Precision Agriculture	
NLPS Sequence	A	
Course Code	7117	
Course Description	*Principles of Agriculture is a two-semester course that will cover the diversity of the agricultural industry and agribusiness concepts. Students will develop an understanding of the role of agriculture in the United States and globally. Students will explore Agriculture, Food, and Natural Resource (AFNR) systems related to the production of food, fiber and fuel and the associated health, safety and environmental management systems. Topics covered in the course range from animals, plants, food, natural resources, ag power, structures and technology, and agribusiness. Participation in FFA and Supervised Agricultural Experiences (SAE) will be an integral part of this course in order to develop leadership and career ready skills.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level I

Bulletin 400	● Vocational Agriculture K-12
Rules 46-47	● Any Agribusiness License 9-12 ● Any Standard Agriculture license ● Occupational Specialist I, II, or III in related course approved for a CTE pathway with a balance of all Agriculture relatable subject matter
Rules 2002	● CTE: Agriculture with high school setting ● Workplace Specialist: Agriculture Education in Agribusiness Management ● Workplace Specialist I or II in related course approved for a CTE pathway with a balance of all Agriculture relatable subject matter
REPA/REPA 3	● CTE: Agriculture 9-12 ● Workplace Specialist: Agribusiness 9-12 ● Workplace Specialist I or II in related course approved for a CTE pathway with a balance of all Agriculture relatable subject matter
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	AGRI 100: Introduction to Agriculture; AGRI 102: Agricultural Business and Farm Management
VU Course Alignment	AGBS 101: Introduction to Agribusiness Management
Four Yr. Course Alignment	
Postsecondary Credential	ITCC - CT Urban Horticulture (1.0601), CT Landscaping Technician (1.0605), TC Precision Agriculture Specialist (1.0201) VU - CG Agribusiness (1.0101), CPC Agribusiness Certificate (1.0101)
Liberal Arts/ Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7117 Principles of Agriculture here.

Animal Science	
Career Cluster	Agriculture
Program of Study	Agri-Science – Plants or Animals
NLPS Sequence	B
Course Code	5008
Course Description	*Animal Science provides students with an overview of the animal agriculture industry. Students participate in a variety of activities and laboratory work including real and simulated animal science experiences and projects. All areas that the students study may be applied to both large and small animals. Topics to be covered in the course include: history and trends in animal agriculture, laws and*

	practices relating to animal agriculture, comparative anatomy and physiology of animals, biosecurity threats and interventions relating to animal and human safety, nutrition, reproduction, careers, leadership, and supervised agricultural experiences relating to animal agriculture.	
Prerequisite(s)/ Corequisite(s)	Principles of Agriculture	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Fulfills a science course requirement for CORE 40 diplomas Counts as STEM-Focused credit for new diploma	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Less than Moderate Value	Level I
Bulletin 400	● Vocational Agriculture K-12	
Rules 46-47	● Any Agribusiness License 9-12 ● Any Standard Agriculture license ● Any Occupational Specialist I, II, or III in Agriculture 9-12	
Rules 2002	● CTE: Agriculture with high school setting ● Workplace Specialist: Agriculture Education in Animal Science	
REPA/REPA 3	● CTE: Agriculture 5-12 ● Workplace Specialist: Animal Science 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	AGRI 103: Animal Science	
VU Course Alignment		
Four Yr. Course Alignment		
Postsecondary Credential		
Liberal Arts/ Sciences Requirements		
Industry Credential		
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 5008 Animal Science here.	

Plant and Soil Science		
Career Cluster	Agriculture	
Program of Study	Agri-Science – Plants or Animals	
NLPS Sequence	B	
Course Code	5170	
Course Description	*Plant and Soil Science a two semester course that provides students with opportunities to participate in a variety of activities including laboratory and field work. Coursework includes hands-on learning activities that encourage students to investigate areas of plant and soil science. Students are introduced to the following areas of plant and soil science: plant growth, reproduction and propagation, photosynthesis and respiration, diseases and pests of plants and their management, biotechnology, the basic components and types of soil, soil tillage, and conservation.*	
Prerequisite(s)/ Corequisite(s)	Principles of Agriculture	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Fulfills a science course requirement for CORE 40 diplomas Counts as STEM-Focused credit for new diploma	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Less than Moderate Value	Level I
Bulletin 400	• Vocational Agriculture K-12	
Rules 46-47	• Any Agribusiness License 9-12 • Any Standard Agriculture license • Any Occupational Specialist I, II, or III in Agriculture 9-12	
Rules 2002	• CTE: Agriculture with high school setting • Workplace Specialist: Agriculture Education in Plant & Soil Science	
REPA/REPA 3	• CTE: Agriculture 5-12 • Workplace Specialist: Plant & Soil Science 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	AGRI 105: Plant and Soil Science; AGRI 117: Soil Science	
VU Course Alignment		
Four Yr. Course Alignment		
Postsecondary Credential		
Liberal Arts/ Sciences		

Requirements	
Industry Credential	BASF Plant Science
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 5170 Plant and Soil Science here.

Advanced Life Science, Plants and Soils (L)		
Career Cluster	Agriculture	
Program of Study	Agri-Science – Plants or Animals	
NLPS Sequence	C	
Course Code	5074	
Course Description	*Advanced Life Science: Plants and Soils provides students with opportunities to participate in a variety of activities including laboratory work. Students study concepts, principles, and theories associated with plants and soils. Knowledge gained enables them to better understand the workings of agricultural and horticultural practices. They recognize how plants are classified, grow, function, and reproduce. Students explore plant genetics and the use of plants by humans. They examine plant evolution and the role of plants in ecology. Students investigate, through laboratories and fieldwork, how plants function and how soil influences plant life.*	
Prerequisite(s)/ Corequisite(s)	Principles of Agriculture	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Fulfills a science requirement for CORE 40 diplomas Counts as a quantitative reasoning course for CORE 40 diplomas Counts as Science Credit for new diploma Counts as STEM-Focused credit for new diploma	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Less than Moderate Value	Level I
Bulletin 400	● Vocational Agriculture K-12 ● Science/Biology 9-12 ● Workplace Specialist: Agriculture Education in Plant & Soil Science	
Rules 46-47	● Vocational Agriculture K-12 ● Any Standard Agriculture license ● Biology 9-12 ● Workplace Specialist: Agriculture Education in Plant & Soil Science	
Rules 2002	● CTE: Agriculture with high school setting ● Life Science with high school setting	

	● Workplace Specialist: Agriculture Education in Plant & Soil Science
REPA/REPA 3	● CTE: Agriculture 5-12 ● Life Science 5-12 ● Workplace Specialist: Agriculture Education in Plant & Soil Science
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	AGRI 109: Advanced Plant and Soil Science
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/ Sciences Requirements	
Industry Credential	BASF Plant Science
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 5074 Advanced Life Science, Plants and Soils (L) here.

Advanced Life Science: Foods	
Career Cluster	Agriculture
Program of Study	Agri-Science – Plants or Animals
NLPS Sequence	C
Course Code	5072
Course Description	*Advanced Life Science: Foods provides students with opportunities to participate in a variety of activities including laboratory work. This is a standards-based, interdisciplinary science course that integrates biology, chemistry, and microbiology in the context of foods and the global food industry. Students enrolled in this course formulate, design, and carry out food-base laboratory and field investigations as an essential course component. Students understand how biology, chemistry, and physics principles apply to the composition of foods, the nutrition of foods, food and food product development, food processing, food safety and sanitation, food packaging, and food storage. Students completing this course will be able to apply the principles of scientific inquiry to solve problems related to biology, physics, and chemistry in the context of highly advanced industry applications of foods.*
Prerequisite(s)/ Corequisite(s)	Principles of Agriculture
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
Counts Toward	Fulfills a science requirement for CORE 40 diplomas

	Counts as a quantitative reasoning course for CORE 40 diplomas Counts as Science Credit for new diploma Counts as STEM-Focused credit for new diploma
Dual Credit Status	X (PCL/CTE)
Additional Notes	
ADDITIONAL COURSE INFO	
Funding	Less than Moderate Value | Level I
Bulletin 400	● Vocational Agriculture K-12 ● Any Home Economics K-12 ● Workplace Specialist: Agriculture Education in Food Science
Rules 46-47	● Vocational Agriculture K-12 ● Any Standard Agriculture license ● Consumer Homemaking Education K-12 ● Occupational Education (FACS) K-12 ● Workplace Specialist: Agriculture Education in Food Science
Rules 2002	● CTE: Agriculture with high school setting ● CTE: Family & Consumer Sciences with high school setting ● Workplace Specialist: Agriculture Education in Food Science
REPA/REPA 3	● CTE: Agriculture 5-12 ● CTE: Family and Consumer Sciences 5-12 ● Workplace Specialist: Agriculture Education in Food Science
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	AGRI 108: Advanced Food Science
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/ Sciences Requirements	
Industry Credential	AMSA Food Safety & Science, National Pork Board - PQA+, National Pork Board - TQA, Elanco Fundamentals of Animal Science Certification
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 5072 Advanced Life Science: Foods here.

Advanced Life Science, Animals (L)	
Career Cluster	Agriculture
Program of Study	Agri-Science – Plants or Animals; Veterinary Science

NLPS Sequence	C; B	
Course Code	5070	
Course Description	*Advanced Life Science: Animals provides students with opportunities to participate in a variety of activities including laboratory work. Students will explore concepts related to history and trends in animal agriculture as related to animal welfare, husbandry, diseases and parasites, laws and practices relating to handling, housing, environmental impact, global sustainable practices of animal agriculture, genetics, breeding practices, biotechnology uses, and comparative knowledge of anatomy and physiology of animals used in animal agriculture.*	
Prerequisite(s)/ Corequisite(s)	Principles of Agriculture; or Principles of Veterinary Science	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Fulfills a science requirement for CORE 40 diplomas Counts as a quantitative reasoning course for CORE 40 diplomas Counts as Science Credit for new diploma Counts as STEM-Focused credit for new diploma	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Less than Moderate Value	Level I
Bulletin 400	● Vocational Agriculture K-12 ● Science/Biology 9-12 ● Workplace Specialist: Agriculture Education in Animal Science	
Rules 46-47	● Vocational Agriculture K-12 ● Any Standard Agriculture license ● Biology 9-12 ● Any Occupational Specialist I, II, or III: Agriculture 9-12 ● Workplace Specialist: Agriculture Education in Animal Science	
Rules 2002	● CTE: Agriculture with high school setting ● Life Science with high school setting ● Workplace Specialist: Veterinary ● Workplace Specialist: Agriculture Education in Animal Science	
REPA/REPA 3	● CTE: Agriculture 5-12 ● Life Science 5-12 ● Workplace Specialist: Veterinary ● Workplace Specialist: Agriculture Education in Animal Science	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	AGRI 107: Advanced Animal Science	
VU Course Alignment		
Four Yr. Course Alignment		

Postsecondary Credential	
Liberal Arts/ Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 5070 Advanced Life Science, Animal (L) here.

Food Science		
Career Cluster	Agriculture	
Program of Study	Agri-Science – Plants or Animals	
NLPS Sequence	C	
Course Code	5102	
Course Description	*Food Science provides students with an overview of food science and the role it plays in the securing of a safe, nutritious, and adequate food supply. A project-based approach is utilized in this course, along with laboratory, team building, and problem solving activities to enhance student learning. Students are introduced to the following areas of food science: food processing, food chemistry and physics, nutrition, food microbiology, preservation, packaging and labeling, food commodities, food regulations, issues, and careers in the food science industry.*	
Prerequisite(s)/ Corequisite(s)	Principles of Agriculture	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Less than Moderate Value	Level I
Bulletin 400	● Vocational Agriculture K-12 ● Any Home Economics K-12	
Rules 46-47	● Any Agribusiness License 9-12 ● Any Standard Agriculture license ● Any Occupational Specialist I, II, or III in Agriculture 9-12 ● Consumer Homemaking Education K-12	
Rules 2002	● CTE: Agriculture with high school setting ● Workplace Specialist: Agriculture Education in Food Science ● CTE: Family & Consumer Sciences with high school setting	
REPA/REPA 3	● CTE: Agriculture 5-12	

	● Workplace Specialist: Food Science 9-12 ● CTE: Family & Consumer Sciences 5-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	AGRI 104: Food Science
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/ Sciences Requirements	
Industry Credential	AMSA Food Safety & Science, National Pork Board - PQA+, National Pork Board - TQA, Elanco Fundamentals of Animal Science Certification
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 5102 Food Science here.

Agriculture Biotechnology Capstone	
Career Cluster	Agriculture
Program of Study	Agri-Science – Plants or Animals
NLPS Sequence	D
Course Code	7230
Course Description	*The Ag Biotechnology Capstone concentrates on the applications of biotechnology in the agricultural industry. Students enrolled in this course will apply the use of living organisms to solve problems or make useful products. Students will become familiar with laboratory procedures such as cell/tissue culture, micropropagation, electrophoresis, etc. Students enrolled in this course will be required to use data and scientific techniques to solve problems concerning living organisms and will demonstrate competence in the application of principles and techniques for the development, application and management of biotechnology within the agriculture industry. As a capstone course, students should have the opportunity to apply their knowledge and use skills through an intensive work-based learning experience.*
Prerequisite(s)/ Corequisite(s)	Agriscience Concentrator Sequence
Credits	2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits max
Counts Toward	Fulfills a science requirement for CORE 40 diplomas
Dual Credit Status	X
Additional Notes	
ADDITIONAL COURSE INFO	

Funding	Moderate Value	Level II
Bulletin 400	● Vocational Agriculture K-12 ● Science/Biology 9-12	
Rules 46-47	● Vocational Agriculture K-12 ● Any Standard Agriculture license ● Biology 9-12	
Rules 2002	● CTE: Agriculture with high school setting ● Life Science with high school setting	
REPA/REPA 3	● CTE: Agriculture 5-12 ● Life Science 5-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment		
VU Course Alignment		
Four Yr. Course Alignment		
Postsecondary Credential		
Liberal Arts/ Sciences Requirements		
Industry Credential		
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 7230 Agriculture Biotechnology Capstone here.	

Agricultural Research Capstone	
Career Cluster	Agriculture
Program of Study	Agri-Science – Plants or Animals; Ag Mechanical and Engineering
NLPS Sequence	D
Course Code	7262
Course Description	*The Agricultural Research Capstone includes extended laboratory, field, and literature investigations in one or more specialized agricultural science disciplines, such as animal, plant, food, natural resources, biotechnology, engineering, etc. Students enrolled in this course will apply scientific applications, concepts, principles, and design processes to solve complex, real-world issues in agriculture. Students will become familiar with laboratory procedures used in an educational, research, or industrial setting. Students will complete an end-of-course project and presentation, such as a scientific research paper, agriscience fair project, or some other suitable presentation of their findings. This course can be used as a capstone*

	experience for any agriculture pathway.
Prerequisite(s)/ Corequisite(s)	Any Agriculture Concentrator Sequence
Credits	2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits max
Counts Toward	Counts as a quantitative reasoning course for CORE 40 diplomas Counts as STEM-Focused credit for new diploma
Dual Credit Status	X
Additional Notes	
ADDITIONAL COURSE INFO	
Funding	Less than Moderate Value | Level II
Bulletin 400	● Vocational Agriculture K-12 ● Science/Biology 9-12
Rules 46-47	● Vocational Agriculture K-12 ● Any Standard Agriculture license ● Biology 9-12
Rules 2002	● CTE: Agriculture with high school setting ● Life Science with high school setting
REPA/REPA 3	● CTE: Agriculture 5-12 ● Life Science 5-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/ Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7262 Agricultural Research Capstone here.

Agriculture Horticulture							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
7117	Principles of Agriculture	5132	Horticultural Science - NLPS	7114	Greenhouse and Soilless Production	7232	Horticulture Capstone

Principles of Agriculture		
Career Cluster	Agriculture	
Program of Study	Ag Mechanical and Engineering, Agri-Science – Plants or Animals, Horticulture, Landscaping, Natural Resources, Precision Agriculture	
NLPS Sequence	A	
Course Code	7117	
Course Description	*Principles of Agriculture is a two-semester course that will cover the diversity of the agricultural industry and agribusiness concepts. Students will develop an understanding of the role of agriculture in the United States and globally. Students will explore Agriculture, Food, and Natural Resource (AFNR) systems related to the production of food, fiber and fuel and the associated health, safety and environmental management systems. Topics covered in the course range from animals, plants, food, natural resources, ag power, structures and technology, and agribusiness. Participation in FFA and Supervised Agricultural Experiences (SAE) will be an integral part of this course in order to develop leadership and career ready skills.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level I
Bulletin 400	● Vocational Agriculture K-12	
Rules 46-47	● Any Agribusiness License 9-12 ● Any Standard Agriculture license ● Occupational Specialist I, II, or III in related course approved for a CTE pathway with a balance of all Agriculture relatable subject matter	
Rules 2002	● CTE: Agriculture with high school setting	

	● Workplace Specialist: Agriculture Education in Agribusiness Management ● Workplace Specialist I or II in related course approved for a CTE pathway with a balance of all Agriculture relatable subject matter
REPA/REPA 3	● CTE: Agriculture 9-12 ● Workplace Specialist: Agribusiness 9-12 ● Workplace Specialist I or II in related course approved for a CTE pathway with a balance of all Agriculture relatable subject matter
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	AGRI 100: Introduction to Agriculture; AGRI 102: Agricultural Business and Farm Management
VU Course Alignment	AGBS 101: Introduction to Agribusiness Management
Four Yr. Course Alignment	
Postsecondary Credential	ITCC - CT Urban Horticulture (1.0601), CT Landscaping Technician (1.0605), TC Precision Agriculture Specialist (1.0201) VU - CG Agribusiness (1.0101), CPC Agribusiness Certificate (1.0101)
Liberal Arts/ Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7117 Principles of Agriculture here.

Horticultural Science	
Career Cluster	Agriculture
Program of Study	Horticulture
NLPS Sequence	B
Course Code	5132
Course Description	*Horticulture Science provides students with a background in the field of horticulture. Coursework includes hands-on activities that encourage students to investigate areas of horticulture as it relates to the biology and technology involved in the production, processing, and marketing of horticultural plants and products. Students are introduced to the following areas of horticulture science: reproduction and propagation of plants, plant growth, growth-media, management practices for field and greenhouse production, marketing concepts, production of plants of local interest, greenhouse management, floral design, and pest management. Students participate in a variety of activities including extensive laboratory work usually in a school greenhouse.*
Prerequisite(s)/	Principles of Agriculture

Corequisite(s)		
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level I
Bulletin 400	● Vocational Agriculture K-12	
Rules 46-47	● Standard Ornamental Horticulture License 9-12 ● Any Standard Agriculture license ● Occupational Specialist I, II, or III: Ornamental Horticulture 9-12 ● Agribusiness Horticulture 9-12	
Rules 2002	● CTE: Agriculture with high school setting ● Workplace Specialist: Agriculture Education in Horticultural Science	
REPA/REPA 3	● CTE: Agriculture 5-12 ● Workplace Specialist: Horticultural Science 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	AGRI 116: Survey of Horticulture; AGRI 117: Soil Science	
VU Course Alignment	HORT 105: Introduction to Landscape Horticulture	
Four Yr. Course Alignment		
Postsecondary Credential	ITCC - CT Urban Horticulture (1.0601) VU - A.S. Horticulture Technology (01.0601)	
Liberal Arts/ Sciences Requirements		
Industry Credential	Indiana Accredited Horticulturist Certification	
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 5132 Horticulture Science here.	

Greenhouse and Soilless Production	
Career Cluster	Agriculture
Program of Study	Horticulture
NLPS Sequence	C
Course Code	7114

Course Description	*Greenhouse and Soilless Production provides an overview of structural designs and uses of enclosed structures (greenhouses) to grow various plants and food. The course will focus on discussing different types of enclosed structures, management systems, and growing systems used to produce plants and food. The course will also present an overview of soilless growing systems such as hydroponics, aquaponics, aeroponics and fogponics. Students will utilize the school greenhouse as part of this course.*	
Prerequisite(s)/ Corequisite(s)	Principles of Agriculture	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level I
Bulletin 400	● Vocational Agriculture K-12	
Rules 46-47	● Standard Ornamental Horticulture License 9-12 ● Any Standard Agriculture license ● Occupational Specialist I, II, or III: Ornamental Horticulture 9-12 ● Agribusiness Horticulture 9-12	
Rules 2002	● CTE: Agriculture with high school setting ● Workplace Specialist: Agriculture Education in Horticultural Science	
REPA/REPA 3	● CTE: Agriculture 5-12 ● Workplace Specialist: Horticultural Science 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	AGRI 175: Introduction to Greenhouse Management; AGRI 129: Alternative Growing Methods	
VU Course Alignment	HORT 165: Greenhouse Management and Hydroponics	
Four Yr. Course Alignment		
Postsecondary Credential	ITCC - CT Urban Horticulture (1.0601) VU - CPC Horticultural Science, A.S. Horticulture Technology (01.0601)	
Liberal Arts/ Sciences Requirements		
Industry Credential	Indiana Accredited Horticulturist Certification	
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 7114 Greenhouse and Soilless Production here.	

Horticulture Capstone		
Career Cluster	Agriculture	
Program of Study	Horticulture	
NLPS Sequence	D	
Course Code	7232	
Course Description	*The Horticulture Capstone builds upon the knowledge and skills developed in the Principles, Horticultural Science, and Greenhouse and Soilless Production courses by developing advanced skills that students can apply to the field. As a capstone course, students should have the opportunity to apply their knowledge and use skills through an intensive work-based learning experience.*	
Prerequisite(s)/ Corequisite(s)	Principles of Agriculture; Horticultural Science; Greenhouse and Soilless Production	
Credits	2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits max	
Counts Toward	Fulfills a science requirement for CORE 40 diplomas Counts as STEM-Focused credit for new diploma	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level II
Bulletin 400	● Vocational Agriculture K-12	
Rules 46-47	● Standard Ornamental Horticulture License 9-12 ● Any Standard Agriculture license ● Occupational Specialist I, II, or III: Ornamental Horticulture 9-12 ● Agribusiness Horticulture 9-12	
Rules 2002	● CTE: Agriculture with high school setting ● Workplace Specialist: Agriculture Education in Horticultural Science	
REPA/REPA 3	● CTE: Agriculture 5-12 ● Workplace Specialist: Horticultural Science 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	AGRI 130: Introduction to Vegetable Production; AGRI 176: Urban Food & Agriculture	
VU Course Alignment	HORT 215: Urban Food Production	
Four Yr. Course Alignment		
Postsecondary Credential	ITCC - CT Urban Horticulture (1.0601), TC Precision Agriculture Specialist (1.0201) VU - A.S. Horticulture Technology (01.0601)	
Liberal Arts/ Sciences Requirements		

Industry Credential	Indiana Accredited Horticulturist Certification
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7232 Horticulture Capstone here.

Agriculture Landscaping							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
7117	Principles of Agriculture	5132	Horticultural Science	7115	Landscape and Turf Management	7234	Landscape Management Capstone

Principles of Agriculture		
Career Cluster	Agriculture	
Program of Study	Ag Mechanical and Engineering, Agri-Science – Plants or Animals, Horticulture, Landscaping, Natural Resources, Precision Agriculture	
NLPS Sequence	A	
Course Code	7117	
Course Description	*Principles of Agriculture is a two-semester course that will cover the diversity of the agricultural industry and agribusiness concepts. Students will develop an understanding of the role of agriculture in the United States and globally. Students will explore Agriculture, Food, and Natural Resource (AFNR) systems related to the production of food, fiber and fuel and the associated health, safety and environmental management systems. Topics covered in the course range from animals, plants, food, natural resources, ag power, structures and technology, and agribusiness. Participation in FFA and Supervised Agricultural Experiences (SAE) will be an integral part of this course in order to develop leadership and career ready skills.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level I
Bulletin 400	● Vocational Agriculture K-12	
Rules 46-47	● Any Agribusiness License 9-12 ● Any Standard Agriculture license ● Occupational Specialist I, II, or III in related course approved for a CTE pathway with a balance of all Agriculture relatable subject matter	
Rules 2002	● CTE: Agriculture with high school setting	

	● Workplace Specialist: Agriculture Education in Agribusiness Management ● Workplace Specialist I or II in related course approved for a CTE pathway with a balance of all Agriculture relatable subject matter
REPA/REPA 3	● CTE: Agriculture 9-12 ● Workplace Specialist: Agribusiness 9-12 ● Workplace Specialist I or II in related course approved for a CTE pathway with a balance of all Agriculture relatable subject matter
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	AGRI 100: Introduction to Agriculture; AGRI 102: Agricultural Business and Farm Management
VU Course Alignment	AGBS 101: Introduction to Agribusiness Management
Four Yr. Course Alignment	
Postsecondary Credential	ITCC - CT Urban Horticulture (1.0601), CT Landscaping Technician (1.0605), TC Precision Agriculture Specialist (1.0201) VU - CG Agribusiness (1.0101), CPC Agribusiness Certificate (1.0101)
Liberal Arts/ Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7117 Principles of Agriculture here.

Horticultural Science	
Career Cluster	Agriculture
Program of Study	Landscaping
NLPS Sequence	B
Course Code	5132
Course Description	*Horticulture Science is a two semester course that provides students with a background in the field of horticulture. Coursework includes hands-on activities that encourage students to investigate areas of horticulture as it relates to the biology and technology involved in the production, processing, and marketing of horticultural plants and products. Students are introduced to the following areas of horticulture science: reproduction and propagation of plants, plant growth, growth-media, management practices for field and greenhouse production, marketing concepts, production of plants of local interest, greenhouse management, floral design, and pest management. Students participate in a variety of activities including extensive laboratory work usually in a school greenhouse.*
Prerequisite(s)/	Principles of Agriculture

Corequisite(s)		
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level I
Bulletin 400	● Vocational Agriculture K-12	
Rules 46-47	● Standard Ornamental Horticulture License 9-12 ● Any Standard Agriculture license ● Occupational Specialist I, II, or III: Ornamental Horticulture 9-12 ● Agribusiness Horticulture 9-12	
Rules 2002	● CTE: Agriculture with high school setting ● Workplace Specialist: Agriculture Education in Horticultural Science	
REPA/REPA 3	● CTE: Agriculture 5-12 ● Workplace Specialist: Horticultural Science 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	AGRI 116: Survey of Horticulture; AGRI 117: Soil Science	
VU Course Alignment	HORT 105: Introduction to Landscape Horticulture	
Four Yr. Course Alignment		
Postsecondary Credential	ITCC - CT Urban Horticulture (1.0601) VU - A.S. Horticulture Technology (01.0601)	
Liberal Arts/ Sciences Requirements		
Industry Credential	Indiana Accredited Horticulturist Certification	
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 5132 Horticulture Science here.	

Landscape and Turf Management	
Career Cluster	Agriculture
Program of Study	Landscaping
NLPS Sequence	C
Course Code	7115

Course Description	*Landscape and Turf Management provides students with an overview of the many career opportunities in the diverse field of landscape and turf management. Students are introduced to the procedures used in the planning and design of a landscape using current technology practices, the principles and procedures involved with landscape construction, the determination of maintenance schedules, communications, and management skills necessary in landscaping operations, and the care and use of equipment utilized by landscapers. Upon completion of the program, students have the opportunity to become Indiana Landscape Industry Certified through a state approved program.*
Prerequisite(s)/ Corequisite(s)	Principles of Agriculture
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
Counts Toward	Counts as a quantitative reasoning course for CORE 40 diplomas Counts as STEM-Focused credit for new diploma
Dual Credit Status	X (PCL/CTE)
Additional Notes	

ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level I
Bulletin 400	● Vocational Agriculture K-12	
Rules 46-47	● Any Agribusiness License 9-12 ● Any Standard Agriculture license ● Any Occupational Specialist I, II, or III in Agriculture 9-12	
Rules 2002	● CTE: Agriculture with high school setting ● Workplace Specialist: Agriculture Education in Landscape Management ● Workplace Specialist: Ornamental Horticulture	
REPA/REPA 3	● CTE: Agriculture 5-12 ● Workplace Specialist: Landscape Management 9-12 ● Workplace Specialist: Ornamental Horticulture 9-12	

POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	AGRI 164: Landscape Design I; AGRI 165: Turf Science
VU Course Alignment	HORT 205: Landscaping I - Landscape Design
Four Yr. Course Alignment	
Postsecondary Credential	ITCC - CT Landscape Technician (1.0605) VU - A.S. Horticulture Technology (01.0601)
Liberal Arts/ Sciences Requirements	
Industry Credential	

CONTENT STANDARDS AND COMPETENCIES

Course Competencies	Access competencies for 7115 Landscape and Turf Management here.

Landscape Management Capstone		
Career Cluster	Agriculture	
Program of Study	Landscaping	
NLPS Sequence	D	
Course Code	7234	
Course Description	*The Landscape Capstone course builds upon the knowledge and skills developed in the Principles, Horticultural Science and Landscape and Turf Management courses by developing advanced skills that students can apply to the field. As a capstone course, students should have the opportunity to apply their knowledge and use skills through an intensive work-based learning experience.*	
Prerequisite(s)/ Corequisite(s)	Principles of Agriculture; Horticultural Science; Landscape and Turf Management	
Credits	2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits max	
Counts Toward	Counts as a quantitative reasoning course for CORE 40 diplomas Counts as STEM-Focused credit for new diploma	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level II
Bulletin 400	● Vocational Agriculture K-12	
Rules 46-47	● Any Agribusiness License 9-12 ● Any Standard Agriculture license ● Any Occupational Specialist I, II, or III in Agriculture 9-12	
Rules 2002	● CTE: Agriculture with high school setting ● Workplace Specialist: Agriculture Education in Landscape Management ● Workplace Specialist: Ornamental Horticulture	
REPA/REPA 3	● CTE: Agriculture 5-12 ● Workplace Specialist: Landscape Management 9-12 ● Workplace Specialist: Ornamental Horticulture 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	AGRI 261: Herbaceous Landscape Plants*; AGRI 262: Woody Landscape Plants*	
VU Course Alignment	HORT 255: Landscaping II - Landscape Management and Construction	
Four Yr. Course Alignment		
Postsecondary Credential	ITCC - CT Landscape Technician (1.0605) VU - A.S. Horticulture Technology (01.0601)	

Liberal Arts/ Sciences Requirements	
Industry Credential	Indiana Accredited Horticulturist Certification
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7234 Landscape Management Capstone here.

Agriculture Precision Agriculture							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
7117	Principles of Agriculture	7116	Precision Agriculture	7113	Crop Management	7236	Precision Agriculture Capstone
						7238	Agribusiness Capstone

Principles of Agriculture		
Career Cluster	Agriculture	
Program of Study	Ag Mechanical and Engineering, Agri-Science – Plants or Animals, Horticulture, Landscaping, Natural Resources, Precision Agriculture	
NLPS Sequence	A	
Course Code	7117	
Course Description	*Principles of Agriculture is a two-semester course that will cover the diversity of the agricultural industry and agribusiness concepts. Students will develop an understanding of the role of agriculture in the United States and globally. Students will explore Agriculture, Food, and Natural Resource (AFNR) systems related to the production of food, fiber and fuel and the associated health, safety and environmental management systems. Topics covered in the course range from animals, plants, food, natural resources, ag power, structures and technology, and agribusiness. Participation in FFA and Supervised Agricultural Experiences (SAE) will be an integral part of this course in order to develop leadership and career ready skills.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level I
Bulletin 400	● Vocational Agriculture K-12	
Rules 46-47	● Any Agribusiness License 9-12 ● Any Standard Agriculture license ● Occupational Specialist I, II, or III in related course approved for a CTE	

	pathway with a balance of all Agriculture relatable subject matter
Rules 2002	● CTE: Agriculture with high school setting ● Workplace Specialist: Agriculture Education in Agribusiness Management ● Workplace Specialist I or II in related course approved for a CTE pathway with a balance of all Agriculture relatable subject matter
REPA/REPA 3	● CTE: Agriculture 9-12 ● Workplace Specialist: Agribusiness 9-12 ● Workplace Specialist I or II in related course approved for a CTE pathway with a balance of all Agriculture relatable subject matter
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	AGRI 100: Introduction to Agriculture; AGRI 102: Agricultural Business and Farm Management
VU Course Alignment	AGBS 101: Introduction to Agribusiness Management
Four Yr. Course Alignment	
Postsecondary Credential	ITCC - CT Urban Horticulture (1.0601), CT Landscaping Technician (1.0605), TC Precision Agriculture Specialist (1.0201) VU - CG Agribusiness (1.0101), CPC Agribusiness Certificate (1.0101)
Liberal Arts/ Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7117 Principles of Agriculture here.

Precision Agriculture	
Career Cluster	Agriculture
Program of Study	Precision Agriculture
NLPS Sequence	B
Course Code	7116
Course Description	*Precision Agriculture describes the purpose and concepts of precision agriculture and precision farming through classroom and lab-based instruction. It involves understanding and operation of the various precision agriculture tools including GPS, GIS, and VRT. Students will learn how to collect data, analyze data and use the information to make decisions. Students will gain an understanding of the justifications that demonstrate the economic and environmental benefits of precision agriculture. The Precision Agriculture course also incorporates the use of UAVs. Students will demonstrate UAV competency and handling in order to achieve the Part 107 UAS certification.*

Prerequisite(s)/ Corequisite(s)	Principles of Agriculture	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level I
Bulletin 400	● Vocational Agriculture K-12	
Rules 46-47	● Any Agribusiness License 9-12 ● Any Standard Agriculture license ● Occupational Specialist I, II, or III in related course approved for a CTE pathway with a balance of all Agriculture relatable subject matter	
Rules 2002	● CTE: Agriculture with high school setting ● Workplace Specialist I or II in related course approved for a CTE pathway with a balance of all Agriculture relatable subject matter	
REPA/REPA 3	● CTE: Agriculture 9-12 ● Workplace Specialist: Plant & Soil Science 9-12 ● Workplace Specialist I or II in related course approved for a CTE pathway with a balance of all Agriculture relatable subject matter	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	PAET 100: Introduction to Precision Agriculture; PAET 107: Unmanned Aerial Vehicles in Precision Agriculture; PAET 122: Precision Agriculture GPS/GIS; PAET 280: CO-OP Internship	
VU Course Alignment	VU-EC - AGBS 260: Introduction to Precision Ag□; AGBS 240: Drones/UAS (Unmanned Aircraft Systems)□	
Four Yr. Course Alignment		
Postsecondary Credential	ITCC - TC Precision Agriculture Specialist (1.0201) VU-EC – Agribusiness Certificate CPC, CG Agribusiness (1.0101)	
Liberal Arts/ Sciences Requirements	ITCC - MATH 122: Applied Technical Mathematics; COMM 104: Workplace Communications, IVYT 113: Student Success in Technology VU - ENGL 101: English Composition I, COMM 143: Speech, COMP 201: Computers in Business, MATH 102: College Algebra, MATH 103: Quantitative Reasoning, or MATT 109: Business Math, Social Science Elective (3)	
Industry Credential	Remote Pilot (FAA Part 107)	
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 7116 Precision Agriculture here.	

Crop Management		
Career Cluster	Agriculture	
Program of Study	Precision Agriculture	
NLPS Sequence	C	
Course Code	7113	
Course Description	*Crop Management will provide an understanding of plant nutrient requirements and how to provide for those needs to achieve efficient crop production through classroom and lab-based instruction. Students will understand proper fertilizer materials, application methods and techniques. Instruction on soil analysis by demonstrating proper soil testing techniques which will be used to create fertility plans for proposed crops. Integrated pest management and the evaluation of various pest controls with minimal impact on the environment will also be an emphasis of the course.*	
Prerequisite(s)/ Corequisite(s)	Principles of Agriculture	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Fulfills a science requirement for CORE 40 diplomas Counts as STEM-Focused credit for new diploma	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level I
Bulletin 400	● Vocational Agriculture K-12	
Rules 46-47	● Any Agribusiness License 9-12 ● Any Standard Agriculture license ● Any Occupational Specialist I, II, or III in Agriculture 9-12	
Rules 2002	● CTE: Agriculture with high school setting ● Workplace Specialist: Agriculture Education in Plant & Soil Science	
REPA/REPA 3	● CTE: Agriculture 5-12 ● Workplace Specialist: Plant & Soil Science 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	AGRI 117: Soil Science; AGRI 217: Soil Fertility	
VU Course Alignment	AGBS 110: Integrated Pest Management VU-EC - AGBS 254: Nutrient Management	
Four Yr. Course Alignment		
Postsecondary Credential	ITCC - TC Precision Agriculture Specialist (1.0201) VU/EC – Agribusiness Certificate CPC, CG Agribusiness (1.0101)	
Liberal Arts/ Sciences Requirements	ITCC - MATH 122: Applied Technical Mathematics; COMM 104: Workplace Communications, IVYT: 113 Student Success in Technology VU - ENGL 101: English Composition I, COMM 143: Speech, COMP 201:	

	Computers in Business, MATH 102: College Algebra, MATH 103: Quantitative Reasoning, or MATT 109: Business Math, Social Science Elective (3)
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7113 Crop Management here.

Precision Agriculture Capstone		
Career Cluster	Agriculture	
Program of Study	Precision Agriculture	
NLPS Sequence	D	
Course Code	7236	
Course Description	*The Precision Agriculture Capstone builds upon the knowledge and skills developed in the Principles, Precision Agriculture and Crop Management by developing advanced skills that students can apply to the field. As a capstone course, students should have the opportunity to apply their knowledge and use skills through an intensive work-based learning experience.*	
Prerequisite(s)/ Corequisite(s)	Principles of Agriculture; Precision Agriculture; Crop Management	
Credits	2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits max	
Counts Toward		
Dual Credit Status	X	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level II
Bulletin 400	● Vocational Agriculture K-12	
Rules 46-47	● Any Agribusiness License 9-12 ● Any Standard Agriculture license ● Occupational Specialist I, II, or III in related course approved for a CTE pathway with a balance of all Agriculture relatable subject matter	
Rules 2002	● CTE: Agriculture with high school setting ● Workplace Specialist I or II in related course approved for a CTE pathway with a balance of all Agriculture relatable subject matter	
REPA/REPA 3	● CTE: Agriculture 9-12 ● Workplace Specialist: Plant & Soil Science 9-12 ● Workplace Specialist I or II in related course approved for a CTE pathway with a balance of all Agriculture relatable subject matter	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course	AGRI 111: Introduction to Crop Production*; PAET 201: GPS Guidance Systems*;	

Alignment	PAET 202: Application Control*; PAET 222: Precision Agriculture Applications of Geographic Information Systems*; PAET 280: CO-OP Internship*
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	ITCC - TC Precision Agriculture Specialist (1.0201)
Liberal Arts/ Sciences Requirements	ITCC - MATH 122: Applied Technical Mathematics, COMM 104: Workplace Communications, IVYT 113: Student Success in Technology
Industry Credential	Remote Pilot (FAA Part 107)
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7236 Precision Agriculture Capstone here.

Agribusiness Capstone		
Career Cluster	Agriculture	
Program of Study	Precision Agriculture	
NLPS Sequence	D	
Course Code	7238	
Course Description	*The Agribusiness Management Capstone introduces students to the principles of agribusiness management and leadership from a local and global perspective, with the utilization of technology. The course helps students build a strong knowledge base of the agribusiness industry as they study agribusiness types, communications, agricultural law, leadership, teamwork, ethics, and agricultural economics. Additionally, students will understand the role of selling in the agricultural economy, stressing the points and terminology necessary in today's agriculture. Students will demonstrate principles and techniques for planning, development, application and management of agribusiness systems through project-based learning and supervised agriculture experience (work-based learning) programs.*	
Prerequisite(s)/ Corequisite(s)	Any Agriculture Concentrator Sequence	
Credits	2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits max	
Counts Toward	Counts as a quantitative reasoning course for CORE 40 diplomas Counts as STEM-Focused for new diploma	
Dual Credit Status	X (PCL/CTE)	
Additional Notes	*This course can be used as a capstone experience for any agriculture pathway.*	
ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level II

Bulletin 400	● Vocational Agriculture K-12
Rules 46-47	● Any Agribusiness License 9-12 ● Any Standard Agriculture license ● Any Occupational Specialist I, II, or III in Agriculture 9-12
Rules 2002	● CTE: Agriculture with high school setting ● Workplace Specialist: Agriculture Education in Agribusiness Management
REPA/REPA 3	● CTE: Agriculture 5-12 ● Workplace Specialist: Agribusiness 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	AGBS 152: Agricultural Sales*; AGBS 130: Agribusiness Leadership and Development
Four Yr. Course Alignment	
Postsecondary Credential	VU - Agribusiness Certificate, CPC; CG Agribusiness (1.0101)
Liberal Arts/ Sciences Requirements	VU - ENGL 101: English Composition I, COMM 143: Speech, COMP 201: Computers in Business, MATH 102: College Algebra, MATH 103: Quantitative Reasoning, or MATT 109: Business Math, Social Science Elective (3)
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7238 Agribusiness Capstone here.

Agriculture Veterinary Science							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
7280	Principles of Veterinary Science	7281	Veterinary Science	5070	Advanced Life Sciences, Animals	7282	Veterinary Science Capstone

Principles of Veterinary Science		
Career Cluster	Agriculture	
Program of Study	Veterinary Science	
NLPS Sequence	A	
Course Code	7280	
Course Description	*Principles of Veterinary Science provides students with an overview of the small and large animal veterinary industry which includes companion, food, and exotic animals. Principles of Veterinary Science provides students with an overview of common veterinary careers, including: veterinary assistant, veterinary technician, and veterinarian. Students will learn the foundational knowledge necessary for a career working with either large or small animals. Students will also begin developing practical lab skills and an understanding of common veterinary office practices.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level I
Bulletin 400	● No license available	
Rules 46-47	● No license available	
Rules 2002	● Workplace Specialist: Veterinary ● CTE: Agriculture with Veterinary Experience	
REPA/REPA 3	● Workplace Specialist: Veterinary 9-12 ● CTE: Agriculture with Veterinary Experience	
POSTSECONDARY AND CREDENTIAL INFORMATION		

ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/ Sciences Requirements	
Industry Credential	NAVTA - Certified Veterinary Assistant, TVMA - Certified Veterinary Assistant (CVA), Elanco Veterinary Medical Applications Certification, American Allied Health - Veterinary Assistant
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7280 Principles of Veterinary Science here.

Veterinary Science		
Career Cluster	Agriculture	
Program of Study	Veterinary Science	
NLPS Sequence	B	
Course Code	7281	
Course Description	*Veterinary Science provides students with opportunities to participate in a variety of activities including laboratory work. Students will explore concepts including medical terminology, laboratory procedures, clinical examination procedures, and the principles of animal diseases. Students will be introduced to issues associated with working in a veterinary clinic, veterinary clinic management, and veterinary law and ethics.*	
Prerequisite(s)/ Corequisite(s)	Principles of Veterinary Science	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level I
Bulletin 400	● No license available	
Rules 46-47	● No license available	
Rules 2002	● Workplace Specialist: Veterinary	

	● CTE: Agriculture with Veterinary Experience
REPA/REPA 3	● Workplace Specialist: Veterinary 9-12 ● CTE: Agriculture with Veterinary Experience
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/ Sciences Requirements	
Industry Credential	NAVTA - Certified Veterinary Assistant, TVMA - Certified Veterinary Assistant (CVA), Elanco Veterinary Medical Applications Certification, American Allied Health - Veterinary Assistant
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7281 Veterinary Science here.

Advanced Life Science, Animals (L)	
Career Cluster	Agriculture
Program of Study	Agriscience; Veterinary Science
NLPS Sequence	C; B
Course Code	5070
Course Description	*Advanced Life Science: Animals is a two-semester course that provides students with opportunities to participate in a variety of activities including laboratory work. Students will explore concepts related to history and trends in animal agriculture as related to animal welfare, husbandry, diseases and parasites, laws and practices relating to handling, housing, environmental impact, global sustainable practices of animal agriculture, genetics, breeding practices, biotechnology uses, and comparative knowledge of anatomy and physiology of animals used in animal agriculture.*
Prerequisite(s)/ Corequisite(s)	Principles of Agriculture; or Principles of Veterinary Science
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
Counts Toward	Fulfills a science requirement for CORE 40 diplomas Counts as a quantitative reasoning course for CORE 40 diplomas Counts as STEM-Focused credit for new diploma Counts as Science Credit for new diploma

Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Less than Moderate Value	Level I
Bulletin 400	● Vocational Agriculture K-12 ● Science/Biology 9-12 ● Workplace Specialist: Agriculture Education in Animal Science	
Rules 46-47	● Vocational Agriculture K-12 ● Any Standard Agriculture license ● Biology 9-12 ● Any Occupational Specialist I, II, or III: Agriculture 9-12 ● Workplace Specialist: Agriculture Education in Animal Science	
Rules 2002	● CTE: Agriculture with high school setting ● Life Science with high school setting ● Workplace Specialist: Veterinary ● Workplace Specialist: Agriculture Education in Animal Science	
REPA/REPA 3	● CTE: Agriculture 5-12 ● Life Science 5-12 ● Workplace Specialist: Veterinary ● Workplace Specialist: Agriculture Education in Animal Science	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	AGRI 107: Advanced Animal Science	
VU Course Alignment		
Four Yr. Course Alignment		
Postsecondary Credential		
Liberal Arts/ Sciences Requirements		
Industry Credential		
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 5070 Advanced Life Science, Animal (L) here.	

Veterinary Science Capstone		
Career Cluster	Agriculture	
Program of Study	Veterinary Science	
NLPS Sequence	D	
Course Code	7282	
Course Description	*The Veterinary Science Capstone builds upon the knowledge and skills developed in the animal and veterinary courses by developing advanced skills that students can apply to the field. As a capstone course, students should have the opportunity to apply their knowledge and use skills through an intensive work-based learning experience. Students should explore concepts related to pharmacy and pharmacology, medical math, animal nursing, radiology and ultrasound imaging, and surgical preparation and assisting.*	
Prerequisite(s)/ Corequisite(s)	Principles of Veterinary Science; Advanced Life Science: Animals; Veterinary Science	
Credits	2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum	
Counts Toward		
Dual Credit Status	X	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level II
Bulletin 400	● No license available	
Rules 46-47	● No license available	
Rules 2002	● Workplace Specialist: Veterinary ● CTE: Agriculture with Veterinary Experience	
REPA/REPA 3	● Workplace Specialist: Veterinary 9-12 ● CTE: Agriculture with Veterinary Experience	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment		
VU Course Alignment		
Four Yr. Course Alignment		
Postsecondary Credential		
Liberal Arts/ Sciences Requirements		
Industry Credential	NAVTA - Certified Veterinary Assistant, TVMA - Certified Veterinary Assistant (CVA), Elanco Veterinary Medical Applications Certification, American Allied Health -	

	Veterinary Assistant
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7282 Veterinary Science Capstone here.

Agriculture Water Systems							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
7381	Principles of Public Water Systems	7382	Water Systems Fundamentals (Treatment)	7383	Advanced Water Systems (Distribution and Storage)	7384	Water Systems Capstone

Principles of Public Water Systems		
Career Cluster	Agriculture	
Program of Study	Water Systems	
NLPS Sequence	A	
Course Code	7381	
Course Description	*Principles of Public Water Systems provides students with an understanding of the implementation and management of water systems at the local, state, and federal levels. Students learn about the economic and environmental factors associated with operating a public water distribution system, including the rules, regulations and safety requirements therein.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Less Than Moderate Value	Level I
Bulletin 400	● Industrial Arts K-12	
Rules 46-47	● Industrial Technology 9-12 ● Industrial Education K-12 ● Occupational Specialist I, II or III in related course approved for a CTE pathway	
Rules 2002	● Technology Education ● Workplace Specialist I or II in related course approved for a CTE pathway	
REPA/REPA 3	● Technology Education ● CTE: T&I: Public Water System Technician ● Workplace Specialist: Public Water System Technician	
POSTSECONDARY AND CREDENTIAL INFORMATION		

ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/ Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7381 Principles of Public Water Systems here.

Water Systems Fundamentals (Treatment)		
Career Cluster	Agriculture	
Program of Study	Water Systems	
NLPS Sequence	B	
Course Code	7382	
Course Description	*Water Systems Fundamentals provides an overview of water distribution systems, specialized treatment processes, disinfection procedures, and general water system maintenance. Additional topics covered include organizational management, regulatory compliance, health and safety programs, and personal and professional skills.*	
Prerequisite(s)/ Corequisite(s)	Principles of Public Water Systems	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Less than Moderate Value	Level I
Bulletin 400	● Industrial Arts K-12	
Rules 46-47	● Industrial Technology 9-12 ● Industrial Education K-12 ● Occupational Specialist I, II or III in related course approved for a CTE pathway	
Rules 2002	● Technology Education	

	● Workplace Specialist I or II in related course approved for a CTE pathway
REPA/REPA 3	● Technology Education ● CTE: T&I: Public Water System Technician ● Workplace Specialist: Public Water System Technician
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/ Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7382 Water Systems Fundamentals (Treatment) here.

Advanced Water Systems (Distribution and Storage)		
Career Cluster	Agriculture	
Program of Study	Water Systems	
NLPS Sequence	C	
Course Code	7383	
Course Description	*Advanced Water Systems focuses on the practical application of concepts learned in previous courses and preparation for the certification exam. Additionally, students will study the National Incident Management System (NIMS), which helps to ensure that all organizations work together to prevent, protect against, mitigate, respond to, and recover from the effects of incidents impacting the water supply.*	
Prerequisite(s)/ Corequisite(s)	Principles of Public Water Systems, Water System Fundamentals	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Less than Moderate Value	Level I

Bulletin 400	● Industrial Arts K-12
Rules 46-47	● Industrial Technology 9-12 ● Industrial Education K-12 ● Occupational Specialist I, II or III in related course approved for a CTE pathway
Rules 2002	● Technology Education ● Workplace Specialist I or II in related course approved for a CTE pathway
REPA/REPA 3	● Technology Education ● CTE: T&I: Public Water System Technician ● Workplace Specialist: Public Water System Technician
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/ Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7383 Advanced Water Systems (Distribution and Storage) here.

Water Systems Capstone	
Career Cluster	Agriculture
Program of Study	Water Systems
NLPS Sequence	D
Course Code	7384
Course Description	*The Water Systems Capstone focuses on higher-level concepts that operators may be exposed to as they advance in their chosen careers. Course topics may include asset management, risk assessment and emergency response training, instrumentation (SCADA & GIS), water audits, construction inspection, and/or water plant administration.*
Prerequisite(s)/ Corequisite(s)	Principles of Public Water Systems; Water Systems Fundamentals; Advanced Water Systems
Credits	2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum

Counts Toward		
Dual Credit Status	X	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Less than Moderate Value	Level II
Bulletin 400	● Industrial Arts K-12	
Rules 46-47	● Industrial Technology 9-12 ● Industrial Education K-12 ● Occupational Specialist I, II or III in related course approved for a CTE pathway	
Rules 2002	● Technology Education ● Workplace Specialist I or II in related course approved for a CTE pathway	
REPA/REPA 3	● Technology Education ● CTE: T&I: Public Water System Technician ● Workplace Specialist: Public Water System Technician	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment		
VU Course Alignment		
Four Yr. Course Alignment		
Postsecondary Credential		
Liberal Arts/ Sciences Requirements		
Industry Credential		
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 7384 Water Systems Capstone here.	

Arts, Entertainment, & Design

Arts, Entertainment, & Design: Special Topics	
Career Cluster	Arts, Entertainment, & Design
Program of Study	
NLPS Sequence	
Course Code	4576
Course Description	*Arts, Entertainment, & Design: Special Topics is an extended learning experience designed to address the advancement and specialization of careers within the career cluster through the provision of a specialized course for a specific workforce in the school's region. The learning experience is at a qualified site, and is designed to give the student the opportunity to learn and practice technical skills while working under the direction of the appropriately licensed professional. Throughout the course, students will focus on learning about employment opportunities and obtaining the knowledge, skills and attitudes essential for success in specific occupations. Course standards and curriculum must be tailored to the specific profession, preparing students to advance in this career field, and where applicable, provide students with opportunities for certification or dual credit. Participation in a related CTSO encourages the development of leadership, communication and career related skills, and opportunities for community service.*
Prerequisite(s)/ Corequisite(s)	None
Credits	1 semester course, up to 3 credits per semester, May be offered for successive semesters up to 12 credits
Counts Toward	
Dual Credit Status	X
Additional Notes	Schools must have an approved Nonstandard Course Waiver on file to be eligible for CTE Funding.
ADDITIONAL COURSE INFO	
Funding	Pilot
Bulletin 400	● Industrial Arts 7-12, K12 ● Appropriate Vocational License
Rules 46-47	● Industrial Technology K-12 ● Industrial Education K-12 ● Appropriate Vocational license ● Occupational Specialist in related course approved for a CTE pathway
Rules 2002	● Technology Education with high school setting ● Appropriate CTE License with high school setting ● Workplace Specialist in related course approved for a CTE pathway

REPA/REPA 3	● Technology Education 5-12 ● Appropriate CTE License 5-12 ● Workplace Specialist in related course
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/ Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	

Introduction to Communications	
Career Cluster	Arts, Entertainment, & Design
Program of Study	
NLPS Sequence	Introductory
Course Code	4790
Course Description	*Introduction to Communications is a course designed to provide a foundational knowledge of identifying and using modern communication to exchange messages and information. This course explores the application of the tools, materials, and techniques used to design, produce, use, and assess systems of communication. Students will produce graphic and electronic media as they apply communication technologies. This course will also explore the various technical processes used to link ideas and people through the use of electronic and graphic media. Major goals of this course include an overview of communication technology; the way it has evolved, how messages are designed and produced, and how people may profit from creating information services and products. Students will explore mass media communication processes including radio and television broadcasting, publishing and printing activities, telecommunication networks, recording services, computer and data processing networks, and other related systems. Students will use the design process to solve design projects in each communication area.*
Prerequisite(s)/ Corequisite(s)	None
Credits	1 or 2 semester course, 1 credit per semester, 2 credits maximum

Counts Toward	
Dual Credit Status	
Additional Notes	
ADDITIONAL COURSE INFO	
Funding	Introductory
Bulletin 400	● Industrial Arts 7-12, K12 ● English 7-12 and work experience in communications/media\ ● Journalism 7-12
Rules 46-47	● Industrial Technology K-12 ● Industrial Education K-12 ● Occupational Specialist I, II or III in related course approved for a CTE pathway ● English 9-12 and work experience in communications/media ● Journalism 9-12
Rules 2002	● Technology Education with high school setting ● Workplace Specialist I or II in related course approved for a CTE pathway ● Language Arts with high school setting and work experience in communications/media ● Journalism with high school setting
REPA/REPA 3	● Technology Education 5-12 ● Workplace Specialist I or II in related course approved for a CTE pathway ● Journalism 5-12 ● Language Arts 5-12 and work experience in communications/media
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/ Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 4790 Introduction to Communication here.

Design Fundamentals	
Career Cluster	Arts, Entertainment, & Design
Program of Study	
NLPS Sequence	Introductory
Course Code	4834
Course Description	*Design Fundamentals introduces students to fundamental design theory. Investigations into design theory and color dynamics will provide experiences in applying design theory, ideas and creative problem solving in the area of communication technology. Student learning experiences encompass art history, art criticism, aesthetics, and production, which lead to the creation of portfolio-quality works. Students reflect upon and refine their work; explore cultural and historical connections; analyze, interpret, theorize, and make informed judgments about artwork and the nature of art in areas of communication; relate art to other disciplines and discover opportunities for integration; and incorporate literacy and presentational skills.*
Prerequisite(s)/ Corequisite(s)	None
Credits	1 or 2 semester course, 1 credit per semester, 2 credits maximum
Counts Toward	Fulfills a Fine Arts requirement for the Core 40 Academic Honors Diploma
Dual Credit Status	X
Additional Notes	
ADDITIONAL COURSE INFO	
Funding	Introductory
Bulletin 400	● Industrial Arts 7-12, K12 ● Arts & Crafts 7-12, K-12 ● Any Home Economics K-12
Rules 46-47	● Industrial Technology K-12 ● Industrial Education K-12 ● Visual Arts 9-12 ● Occupational Education (FACS) 9-12 ● Occupational Specialist: Business IT: Interactive Media 9-12
Rules 2002	● Technology Education with high school setting ● CTE: FACS with high school setting ● Fine Arts: Visual Arts with high school setting ● Workplace Specialist: Interactive Media 9-12 ● Workplace Specialist: Radio and TV 9-12
REPA/REPA 3	● Technology Education 5-12 ● CTE: FACS 5-12 ● Fine Arts: Visual Arts 5-12 ● Workplace Specialist: Interactive Media 9-12 ● Workplace Specialist: Radio & TV 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	

ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/ Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 4834 Design Fundamentals here.

Advanced Career & Technical Education, College Credit: Arts, Entertainment, and Design	
Career Cluster	Arts, Entertainment, & Design
Program of Study	
NLPS Sequence	
Course Code	6134
Course Description	*Advanced Career and Technical Education, College Credit is a course title covering any CTE advanced course offered for credit by an accredited postsecondary institution through an adjunct agreement with a secondary school. The intent of this course is to allow students to earn college credit for courses with content that goes beyond that currently approved for high school credit. This course may be used for any dual enrollment course, including a joint program of study involving a postsecondary partnership.*
Prerequisite(s)/ Corequisite(s)	None
Credits	1 semester course, up to 3 credits per semester, May be offered for successive semesters up to 12 credits
Counts Toward	
Dual Credit Status	X
Additional Notes	A student should earn at least 3 postsecondary credits for each high school credit. Schools must have an approved Nonstandard Course Waiver on file to be eligible for CTE Funding.
ADDITIONAL COURSE INFO	
Funding	Pilot
Bulletin 400	● Industrial Arts 7-12, K12 ● Appropriate Vocational License

Rules 46-47	● Industrial Technology K-12 ● Industrial Education K-12 ● Appropriate Vocational license ● Occupational Specialist in related course approved for a CTE pathway
Rules 2002	● Technology Education with high school setting ● Appropriate CTE License with high school setting ● Workplace Specialist in related course approved for a CTE pathway
REPA/REPA 3	● Technology Education 5-12 ● Appropriate CTE License 5-12 ● Workplace Specialist in related cou
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/ Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	

Arts, Entertainment, & Design Digital Design							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
7140	Principles of Digital Design	7141	Digital Design Graphics	7136	Professional Photography and Videography	7246	Digital Design Capstone
				5550	Graphic Design and Layout		
				7138	Interactive Media Design		

Principles of Digital Design		
Career Cluster	Arts, Entertainment, & Design	
Program of Study	Digital Design	
NLPS Sequence	A	
Course Code	7140	
Course Description	*Principles of Digital Design introduces students to fundamental design theory. Investigations into design theory and color dynamics will provide experiences in applying design theory, ideas and creative problem solving, critical peer evaluation, and presentation skills. Students will have the opportunity to apply the design theory through an understanding of basic photographic theory and technique. Topics will include image capture, processing, various output methods, and light.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level I
Bulletin 400	● Business Education with Vocational Business Endorsement 7-12	
Rules 46-47	● Business Education with Vocational Business Endorsement 9-12 ● Occupational Specialist: Business IT: Interactive Media 9-12	
Rules 2002	● CTE: Business Services & Technology with high school setting ● Workplace Specialist: Business IT: Interactive Media ● CTE: Trade & Industrial: 3D Computer Animation & Visualization ● Business with high school setting	

	● Workplace Specialist: 3D Computer Animation & Visualization ● Workplace Specialist: Interactive Media ● Workplace Specialist: Graphic Imaging Technology ● CTE: Trade & Industrial Photography 5-12 ● Workplace Specialist: Commercial Photography 9-12
REPA/REPA 3	● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● CTE: Trade & Industrial: 3D Computer Animation & Visualization 5-12 ● CTE: Trade & Industrial Graphic Arts 5-12 ● CTE: Trade & Industrial: Graphic Imaging Technology 5-12 ● Workplace Specialist: Interactive Media 9-12 ● Business 5-12 ● Workplace Specialist: Graphic Imaging Technology 9-12 ● Workplace Specialist: Graphic Design & Layout 9-12 ● Workplace Specialist: 3D Computer Animation & Visualization 9-12 ● CTE: Trade & Industrial Photography 5-12 ● Workplace Specialist: Commercial Photography 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	VISC 101: Design Fundamentals, PHOT 104: Photography I
VU Course Alignment	ARTT 111: Visual Design
Four Yr. Course Alignment	
Postsecondary Credential	ITCC: CT Visual Communications, TC Visual Communications (50.0401) VU: A.S. Graphic Design (50.0499)
Liberal Arts/ Sciences Requirements	ITCC - ENGL 111: English Composition, IVYT 111: Student Success Elective, ARTH 101: Survey of Art and Culture I, ARTH 102: Survey of Art and Culture II, or ARTH 105: History of Design
Industry Credential	Certiport: Adobe Certified Professional – InDesign, Adobe Certified Professional – Illustrator, Adobe Certified Professional – Photoshop,
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7140 Principles of Digital Design here.

Digital Design Graphics	
Career Cluster	Arts, Entertainment, & Design
Program of Study	Digital Design
NLPS Sequence	B
Course Code	7141
Course Description	*Digital Design Graphics will help students to understand and create the most common types of computer graphics used in visual communications. Skills are developed through work with professional vector-based and page layout software used in the industry. Additionally, students will be introduced to a full range of*

	image input technology and manipulation including conventional photography, digital imaging, and computer scanners. Students will learn to communicate concepts and ideas through various imaging devices.	
Prerequisite(s)/ Corequisite(s)	Principles of Digital Design	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level I
Bulletin 400	● Business Education with Vocational Business Endorsement 7-12	
Rules 46-47	● Business Education with Vocational Business Endorsement 9-12 ● Occupational Specialist: Business IT: Interactive Media 9-12	
Rules 2002	● CTE: Business Services & Technology with high school setting ● Workplace Specialist: Business IT: Interactive Media ● CTE: Trade & Industrial: 3D Computer Animation & Visualization ● Business with high school setting ● Workplace Specialist: 3D Computer Animation & Visualization ● Workplace Specialist: Interactive Media ● Workplace Specialist: Graphic Imaging Technology ● CTE: Trade & Industrial Photography 5-12 ● Workplace Specialist: Commercial Photography 9-12	
REPA/REPA 3	● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● CTE: Trade & Industrial: 3D Computer Animation & Visualization 5-12 ● CTE: Trade & Industrial Graphic Arts 5-12 ● CTE: Trade & Industrial: Graphic Imaging Technology 5-12 ● Workplace Specialist: Interactive Media 9-12 ● Business 5-12 ● Workplace Specialist: Graphic Imaging Technology 9-12 ● Workplace Specialist: Graphic Design & Layout 9-12 ● Workplace Specialist: 3D Computer Animation & Visualization 9-12 ● CTE: Trade & Industrial Photography 5-12 ● Workplace Specialist: Commercial Photography 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	VISC 102: Raster Graphics; VISC 115: Vector Graphics and Publication Design I	
VU Course Alignment	DESN 120: Computer Illustration□, DESN 140: Computer Imaging□ VU/EC – DESN 115: Illustration I ^	
Four Yr. Course Alignment	BSU - GCM 184: Graphics: Computer Applications PFW - AD 10502: Digital Imaging	

	PNW - AD 32800: Visual Communication Design I
Postsecondary Credential	ITCC: CT Visual Communications, TC Visual Communications (50.0401) VU: Graphic Production Certificate, CPC; A.S. Graphic Design (50.0499) PFW: B.A. Fine Arts (50.0701) BSU: B.A./B.S. Graphic Arts Management (50.0402) PNW: BA in Communication: Visual Communication Design (9.0101)
Liberal Arts/ Sciences Requirements	ITCC - ENGL 111: English Composition, IVYT 111: Student Success Elective, ARTH 101: Survey of Art and Culture I, ARTH 102: Survey of Art and Culture II, or ARTH 105: History of Design
Industry Credential	Certiport: Adobe Certified Professional – InDesign, Adobe Certified Professional – Illustrator, Adobe Certified Professional – Photoshop,
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7141 Digital Design Graphics here.

Graphic Design and Layout		
Career Cluster	Arts, Entertainment, & Design	
Program of Study	Digital Design	
NLPS Sequence	C	
Course Code	5550	
Course Description	*Graphic Design and Layout teaches design process and the proper and creative use of type as a means to develop effective communications for global, corporate and social application. Students will create samples for a portfolio, which may include elements or comprehensive projects in logo, stationery, posters, newspaper, magazine, billboard, and interface design.*	
Prerequisite(s)/ Corequisite(s)	Principles of Digital Design; Digital Design Graphics	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level I
Bulletin 400	● Business Education with Vocational Business Endorsement 7-12 ● Standard Trade & Industrial: Commercial Art K-12 ● Standard Trade & Industrial: Graphic Arts ● Printing K-12	
Rules 46-47	● Business Education with Vocational Business Endorsement 9-12 ● Occupational Specialist: Business IT: Interactive Media 9-12 ● Standard Trade & Industrial: Commercial Art 9-12 ● Occupational Specialist I, II or III: Commercial Art 9-12	

	● Standard Trade & Industrial: Graphic Arts 9-12 ● Occupational Specialist I, II or III: Graphic Arts 9-12 ● Trade & Industrial: Printing 9-12 ● Occupational Specialist I, II or III: Printing 9-12
Rules 2002	● CTE: Business Services & Technology with high school setting ● Workplace Specialist: Business IT: Interactive Media ● CTE: Trade & Industrial: Commercial Art & Graphic Design ● Workplace Specialist: Commercial Art & Graphic Design ● CTE: Trade & Industrial: Graphic Imaging Technology ● Workplace Specialist: Graphic Imaging Technology ● Workplace Specialist: Interactive Media
REPA/REPA 3	● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● CTE: Trade & Industrial Graphic Arts 5-12 ● CTE: Trade & Industrial: Graphic Imaging Technology 5-12 ● Workplace Specialist: Graphic Design & Layout 9-12 ● Workplace Specialist: Graphic Imaging Technology 9-12 ● Workplace Specialist: Interactive Media 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	VISC 113: Typography, VISC 114: Graphic Design I
VU Course Alignment	DESN 155: Computer Page Layout
Four Yr. Course Alignment	
Postsecondary Credential	ITCC: CT Visual Communications, TC Visual Communications (50.0401) VU: A.S. Graphic Design (50.0499)
Liberal Arts/ Sciences Requirements	ITCC - ENGL 111: English Composition, IVYT 1XX Student Success Elective, ARTH 101: Survey of Art and Culture I, ARTH 102: Survey of Art and Culture II, or ARTH 105: History of Design
Industry Credential	Certiport: Adobe Certified Professional – InDesign, Adobe Certified Professional – Illustrator, Adobe Certified Professional – Photoshop,
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 5550 Graphic Design and Layout here.

Interactive Media Design	
Career Cluster	Arts, Entertainment, & Design
Program of Study	Digital Design
NLPS Sequence	C
Course Code	7138
Course Description	*Interactive Media Design focuses on the tools, strategies, and techniques for interactive design and emerging technologies, like web and social media. Students*

	will learn the basics of planning, shooting, editing and post-producing video and sound. Additionally, students will explore the process of integrating text, graphics, audio and video for effective communication of information.
Prerequisite(s)/ Corequisite(s)	Principles of Digital Design; Digital Design Graphics
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
Counts Toward	
Dual Credit Status	X (PCL/CTE)
Additional Notes	
ADDITIONAL COURSE INFO	
Funding	Moderate Value | Level I
Bulletin 400	● Business Education with Vocational Business Endorsement 7-12
Rules 46-47	● Business Education with Vocational Business Endorsement 9-12 ● Occupational Specialist: Business IT: Interactive Media 9-12
Rules 2002	● CTE: Business Services & Technology with high school setting ● Workplace Specialist: Business IT: Interactive Media ● CTE: Trade & Industrial: 3D Computer Animation & Visualization ● Business with high school setting ● Workplace Specialist: 3D Computer Animation & Visualization ● Workplace Specialist: Interactive Media ● Workplace Specialist: Graphic Imaging Technology
REPA/REPA 3	● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● CTE: Trade & Industrial: 3D Computer Animation & Visualization 5-12 ● CTE: Trade & Industrial Graphic Arts 5-12 ● CTE: Trade & Industrial: Graphic Imaging Technology 5-12 ● Workplace Specialist: Interactive Media 9-12 ● Business 5-12 ● Workplace Specialist: Graphic Imaging Technology 9-12 ● Workplace Specialist: Graphic Design & Layout 9-12 ● Workplace Specialist: 3D Computer Animation & Visualization 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	VISC 110: Web & Social Media, VISC 105: Video and Sound
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	ITCC: CT Visual Communications, TC Visual Communications (50.0401)
Liberal Arts/ Sciences Requirements	ITCC - ENGL 111: English Composition, IVYT 1XX Student Success Elective, ARTH 101: Survey of Art and Culture I, ARTH 102: Survey of Art and Culture II, or ARTH 105: History of Design

Industry Credential	Certiport: Adobe Certified Professional – InDesign, Adobe Certified Professional – Illustrator, Adobe Certified Professional – Photoshop,
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7138 Interactive Media Design here.

Professional Photography & Videography		
Career Cluster	Arts, Entertainment, & Design	
Program of Study	Digital Design	
NLPS Sequence	C	
Course Code	7136	
Course Description	*Professional Photography & Videography further develops advanced camera skills and photographic vision. The course introduces special techniques and digital processes while refining printing and processing skills. It will also emphasize good composition and the use of photography as a communication tool. Students will also learn the basics of planning, shooting, editing and post-producing video and sound.*	
Prerequisite(s)/ Corequisite(s)	Principles of Digital Design; Digital Design Graphics	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level I
Bulletin 400	● Standard Trade & Industrial: Commercial Photography K-12	
Rules 46-47	● Standard Trade & Industrial: Commercial Photography 9-12 ● Occupational Specialist I, II or III: Commercial Photography 9-12	
Rules 2002	● CTE: Trade & Industrial: Commercial Photography ● Workplace Specialist: Commercial Photography	
REPA/REPA 3	● CTE: Trade & Industrial Photography 5-12 ● Workplace Specialist: Commercial Photography 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	PHOT 107: Photography II, VISC 105: Video and Sound	
VU Course Alignment		
Four Yr. Course Alignment	BSU - GCM 286: Graphics: Fundamentals of Photography	

Postsecondary Credential	ITCC: CT Visual Communications, TC Visual Communications (50.0401) BSU: B.A./B.S. Graphic Arts Management (50.0401)
Liberal Arts/ Sciences Requirements	ITCC - ENGL 111: English Composition, IVYT 1XX Student Success Elective, ARTH 101: Survey of Art and Culture I, ARTH 102: Survey of Art and Culture II, or ARTH 105: History of Design
Industry Credential	Certiport: Adobe Certified Professional – InDesign, Adobe Certified Professional – Illustrator, Adobe Certified Professional – Photoshop,
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7136 Professional Photography & Videography here.

Digital Design Capstone		
Career Cluster	Arts, Entertainment, & Design	
Program of Study	Digital Design	
NLPS Sequence	D	
Course Code	7246	
Course Description	*The Digital Design Capstone course provides students the opportunity to dive deeper into advanced concepts of Visual Communication including user experience/user interface design, video production editing, animation and/or web design. Depending on the length of the course, students may focus their efforts on one area or explore multiple aspects.*	
Prerequisite(s)/ Corequisite(s)	Digital Design Concentrator Sequence	
Credits	2 semester course, 2 semester required, 1-3 credits per semester, 6 credits max	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level II
Bulletin 400	● Business Education with Vocational Business Endorsement 7-12	
Rules 46-47	● Business Education with Vocational Business Endorsement 9-12 ● Occupational Specialist: Business IT: Interactive Media 9-12	
Rules 2002	● CTE: Business Services & Technology with high school setting ● Workplace Specialist: Business IT: Interactive Media ● CTE: Trade & Industrial: 3D Computer Animation & Visualization ● Business with high school setting ● Workplace Specialist: 3D Computer Animation & Visualization ● Workplace Specialist: Interactive Media ● Workplace Specialist: Graphic Imaging Technology ● CTE: Trade & Industrial Photography 5-12 ● Workplace Specialist: Commercial Photography 9-12	

REPA/REPA 3	● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● CTE: Trade & Industrial: 3D Computer Animation & Visualization 5-12 ● CTE: Trade & Industrial Graphic Arts 5-12 ● CTE: Trade & Industrial: Graphic Imaging Technology 5-12 ● Workplace Specialist: Interactive Media 9-12 ● Business 5-12 ● Workplace Specialist: Graphic Imaging Technology 9-12 ● Workplace Specialist: Graphic Design & Layout 9-12 ● Workplace Specialist: 3D Computer Animation & Visualization 9-12 ● CTE: Trade & Industrial Photography 5-12 ● Workplace Specialist: Commercial Photography 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	VIDT 210: Production Editing I, VISC 104: Experience/Interface (UX/UI) I*, VISC 200: Motion Graphics*, VISC 209: 3D Animation I*, VISC 210: Web Design I*
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	ITCC: CT Visual Communications, TC Visual Communications (50.0401)
Liberal Arts/ Sciences Requirements	ITCC - ENGL 111: English Composition, IVYT 1XX Student Success Elective, ARTH 101: Survey of Art and Culture I, ARTH 102: Survey of Art and Culture II, or ARTH 105: History of Design
Industry Credential	Certiport: Adobe Certified Professional – InDesign, Adobe Certified Professional – Illustrator, Adobe Certified Professional – Photoshop,
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7246 Digital Design Capstone here.

Arts, Entertainment, & Design Fashion and Textiles							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
7301	Principles of Fashion Textile	7302	Textiles, Apparel, and Merchandising	7303	Advanced Textiles	7304	Fashion Textiles Capstone

Principles of Fashion and Textiles		
Career Cluster	Arts, Entertainment, & Design	
Program of Study	Fashion & Textile	
NLPS Sequence	A	
Course Code	7301	
Course Description	*Principles of Fashion and Textiles prepares students for occupations and higher education programs of study related to the entire spectrum of careers in the fashion industry. This course builds a foundation that prepares students for all aspects of the fashion creation process. Major topics include: Basic clothing construction techniques, pattern alterations, and use of commercial patterns.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Less than Moderate Value	Level I
Bulletin 400	● Any Home Economics K-12	
Rules 46-47	● Consumer Homemaking Education 9-12 ● Occupational Education (FACS) 9-12 ● Occupational Specialist I, II or III in related course approved for a CTE pathway	
Rules 2002	● CTE: Family & Consumer Sciences with high school setting ● Workplace Specialist I or II in related course approved for a CTE pathway	
REPA/REPA 3	● CTE: Family & Consumer Sciences 5-12 ● Workplace Specialist I or II in related course approved for a CTE pathway	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment		

VU Course Alignment	
Four Yr. Course Alignment	BSU - FASH 102: Fashion Studio 1
Postsecondary Credential	BSU: B.A./B.S. in Fashion Industry Studies (52.1902)
Liberal Arts/ Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7301 Principles of Fashion and Textiles here.

Textiles, Apparel, and Merchandising		
Career Cluster	Arts, Entertainment, & Design	
Program of Study	Fashion & Textile	
NLPS Sequence	B	
Course Code	7302	
Course Description	*Textiles, Apparel, and Merchandising provides a comprehensive overview of the textiles, apparel and merchandising industry specific to fashion related goods including the nature of fashion, raw materials and production, designers, retailers, and supporting services.*	
Prerequisite(s)/ Corequisite(s)	Principles of Fashion and Textiles	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Less than Moderate Value	Level I
Bulletin 400	● Any Home Economics K-12	
Rules 46-47	● Consumer Homemaking Education 9-12 ● Occupational Education (FACS) 9-12 ● Occupational Specialist I, II or III in related course approved for a CTE pathway	
Rules 2002	● CTE: Family & Consumer Sciences with high school setting ● Workplace Specialist I or II in related course approved for a CTE pathway	
REPA/REPA 3	● CTE: Family & Consumer Sciences 5-12	

	● Workplace Specialist I or II in related course approved for a CTE pathway
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	BSU - FASH 100: Introduction to the Fashion Industry
Postsecondary Credential	BSU: B.A./B.S. in Fashion Industry Studies (52.1902)
Liberal Arts/ Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7302 Textiles, Apparel, and Merchandising here.

Advanced Textiles		
Career Cluster	Arts, Entertainment, & Design	
Program of Study	Fashion & Textile	
NLPS Sequence	C	
Course Code	7303	
Course Description	*Advanced Textiles will focus on the study of textiles concerning fiber, yarn, fabric construction, and finishes which affect the selection, use, and care of textiles.*	
Prerequisite(s)/ Corequisite(s)	Principles of Fashion and Textiles; Textiles, Apparel, and Merchandising	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Less than Moderate Value	Level I
Bulletin 400	● Any Home Economics K-12	
Rules 46-47	● Consumer Homemaking Education 9-12 ● Occupational Education (FACS) 9-12 ● Occupational Specialist I, II or III in related course approved for a CTE pathway	
Rules 2002	● CTE: Family & Consumer Sciences with high school setting	

	● Workplace Specialist I or II in related course approved for a CTE pathway
REPA/REPA 3	● CTE: Family & Consumer Sciences 5-12 ● Workplace Specialist I or II in related course approved for a CTE pathway
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	BSU - FASH 130: Fashion Fabrics and Analysis
Postsecondary Credential	BSU: B.A./B.S. in Fashion Industry Studies (52.1902)
Liberal Arts/ Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7303 Advanced Textiles here.

Fashion and Textiles Capstone		
Career Cluster	Arts, Entertainment, & Design	
Program of Study	Fashion & Textile	
NLPS Sequence	D	
Course Code	7304	
Course Description	*Fashion Textile Capstone studies the evolution of Western dress from ancient times to the twentieth century. Emphasis on representative style and change over time. Additionally, this course will focus on the Identification of physical features which affect apparel quality. Analysis of ready-to-wear apparel to identify features which produce desirable aesthetic and functional performance is also covered.*	
Prerequisite(s)/ Corequisite(s)	Principles of Fashion and Textiles; Textiles, Apparel, and Merchandising; Advanced Textiles	
Credits	2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes	This course has been removed from funding and is anticipated to be phased out following the end of the 2025-2026 school year.	
ADDITIONAL COURSE INFO		
Funding	Less than Moderate Value	Level II

Bulletin 400	● Any Home Economics K-12
Rules 46-47	● Consumer Homemaking Education 9-12 ● Occupational Education (FACS) 9-12 ● Occupational Specialist I, II or III in related course approved for a CTE pathway
Rules 2002	● CTE: Family & Consumer Sciences with high school setting ● Workplace Specialist I or II in related course approved for a CTE pathway
REPA/REPA 3	● CTE: Family & Consumer Sciences 5-12 ● Workplace Specialist I or II in related course approved for a CTE pathway
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	BSU – FASH 260: History of Fashion
Postsecondary Credential	BSU: B.A./B.S. in Fashion Industry Studies (52.1902)
Liberal Arts/ Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7304 Fashion and Textiles Capstone here.

Arts, Entertainment, & Design Interior Design							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
7132	Principles of Interior Design	7127	Interior Design Fundamentals	7128	Materials, Finishes and Design	7248	Interior Design Capstone

Principles of Interior Design		
Career Cluster	Arts, Entertainment, & Design	
Program of Study	Interior Design	
NLPS Sequence	A	
Course Code	7132	
Course Description	*Principles of Interior Design introduces students to fundamental design theory and color dynamics as applied to compositional design. Investigations into design theory and color dynamics will provide experiences in applying design theory to three-dimensional concepts, human factors and the psychology and social influences of space. These experiences will develop student's skills in creative problem solving, peer evaluation, and presentation skills.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Less than Moderate Value	Level I
Bulletin 400	● Vocational Home Economics K-12 ● Standard Trade & Industrial: Building Trades K-12 ● Industrial Arts 7-12, K-12	
Rules 46-47	● Occupational Education (FACS) 9-12 ● Occupational Specialist I, II or III: Institutional & Home Management 9-12 ● Standard Trade & Industrial: Building Trades 9-12 ● Occupational Specialist I, II or III: Building Trades 9-12 ● Industrial Technology K-12 ● Industrial Education K-12	
Rules 2002	● CTE: Family & Consumer Sciences with high school setting ● Workplace Specialist: Housing Occupations ● CTE: Trade & Industrial: Building Trades Technology	

	● Workplace Specialist: Building Trades Technology ● Technology Education
REPA/REPA 3	● CTE: Family & Consumer Sciences 5-12 ● CTE: Trade & Industrial Building Trades 5-12 ● CTE: Trade & Industrial: Interior Design 5-12 ● Workplace Specialist: Interior Design & Housing 9-12 ● Workplace Specialist: Building Trades/Construction 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	VISC 101: Fundamentals of Design, EDSN 101: Design Fundamentals
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	ITCC: TC Interior Design (50.0408)
Liberal Arts/ Sciences Requirements	ITCC - General Education Core Elective (3), IVYT 113: Student Success in Technology
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7132 Principles of Interior Design here.

Interior Design Fundamentals	
Career Cluster	Arts, Entertainment, & Design
Program of Study	Interior Design
NLPS Sequence	B
Course Code	7127
Course Description	*Interior Design Fundamentals provides students with an overview of the field of interior (environmental) design, including an understanding of fundamental construction knowledge and skills needed in the field. Exercises include small scale space analysis and functional planning based on user needs, furniture arrangement and selection, materials and finishes considerations and presentation techniques. Students will also learn basics regarding building practices, building structures, residential construction techniques, building materials and plan reading. Includes building codes, sustainable design practices, and the preparation of site and construction plans, elevations, sections, three-dimensional drawings details and hand renderings as they relate to construction and presentation drawings.*
Prerequisite(s)/ Corequisite(s)	Principles of Interior Design
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits

	maximum
Counts Toward	
Dual Credit Status	X (PCL/CTE)
Additional Notes	
ADDITIONAL COURSE INFO	
Funding	Less than Moderate Value | Level I
Bulletin 400	● Vocational Home Economics K-12 ● Standard Trade & Industrial: Building Trades K-12 ● Industrial Arts 7-12, K-12
Rules 46-47	● Occupational Education (FACS) 9-12 ● Occupational Specialist I, II or III: Institutional & Home Management 9-12 ● Standard Trade & Industrial: Building Trades 9-12 ● Occupational Specialist I, II or III: Building Trades 9-12 ● Industrial Technology K-12 ● Industrial Education K-12
Rules 2002	● CTE: Family & Consumer Sciences with high school setting ● Workplace Specialist: Housing Occupations ● CTE: Trade & Industrial: Building Trades Technology ● Workplace Specialist: Building Trades Technology ● Technology Education
REPA/REPA 3	● CTE: Family & Consumer Sciences 5-12 ● CTE: Trade & Industrial Building Trades 5-12 ● CTE: Trade & Industrial: Interior Design 5-12 ● Workplace Specialist: Interior Design & Housing 9-12 ● Workplace Specialist: Building Trades/Construction 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	EDSN 103: Introduction to Environmental Design, EDSN 107: Design and Construction Graphics
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	ITCC: TC Interior Design (50.0408)
Liberal Arts/ Sciences Requirements	ITCC - General Education Core Elective (3), IVYT 113 Student Success in Technology
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7127 Interior Design Fundamentals here.

Materials, Finishes, and Design		
Career Cluster	Arts, Entertainment, & Design	
Program of Study	Interior Design	
NLPS Sequence	C	
Course Code	7128	
Course Description	*Materials, Finishes, and Design examines the physical properties and characteristics of furniture, materials, finishes, and architectural detailing. The course includes an intensive study of textiles, including fiber sources, identification and classification to finish and sustainable qualities. Students will apply textile knowledge to interior textile fabrications including window treatments, upholstery, carpet and wall coverings. Content addresses environmental issues and problems in specifying, estimating, and installing these materials.*	
Prerequisite(s)/ Corequisite(s)	Principles of Interior Design; Interior Design Fundamentals	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Less than Moderate Value	Level I
Bulletin 400	• Vocational Home Economics K-12 • Standard Trade & Industrial: Building Trades K-12 • Industrial Arts 7-12, K-12	
Rules 46-47	• Occupational Education (FACS) 9-12 • Occupational Specialist I, II or III: Institutional & Home Management 9-12 • Standard Trade & Industrial: Building Trades 9-12 • Occupational Specialist I, II or III: Building Trades 9-12 • Industrial Technology K-12 • Industrial Education K-12	
Rules 2002	• CTE: Family & Consumer Sciences with high school setting • Workplace Specialist: Housing Occupations • CTE: Trade & Industrial: Building Trades Technology • Workplace Specialist: Building Trades Technology • Technology Education	
REPA/REPA 3	• CTE: Family & Consumer Sciences 5-12 • CTE: Trade & Industrial Building Trades 5-12 • CTE: Trade & Industrial: Interior Design 5-12 • Workplace Specialist: Interior Design & Housing 9-12 • Workplace Specialist: Building Trades/Construction 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course	EDSN 104: Textiles for Interiors, EDSN 201: Materials and Finishes	

Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	ITCC: TC Interior Design (50.0408)
Liberal Arts/ Sciences Requirements	ITCC - General Education Core Elective (3), IVYT 113: Student Success in Technology
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7128 Materials, Finishes, and Design here.

Interior Design Capstone		
Career Cluster	Arts, Entertainment, & Design	
Program of Study	Interior Design	
NLPS Sequence	D	
Course Code	7248	
Course Description	*The Interior Design Capstone course is designed to provide students a chance to extend their knowledge and skills through additional course work and a work-based learning experience.*	
Prerequisite(s)/ Corequisite(s)	Principles of Interior Design; Interior Design Fundamentals; Materials, Finishes, and Design	
Credits	2 semester course, 2 semester required, 1-3 credits per semester, 6 credits max	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Less than Moderate Value	Level II
Bulletin 400	● Vocational Home Economics K-12 ● Standard Trade & Industrial: Building Trades K-12 ● Industrial Arts 7-12, K-12	
Rules 46-47	● Occupational Education (FACS) 9-12 ● Occupational Specialist I, II or III: Institutional & Home Management 9-12 ● Standard Trade & Industrial: Building Trades 9-12 ● Occupational Specialist I, II or III: Building Trades 9-12 ● Industrial Technology K-12 ● Industrial Education K-12	

Rules 2002	● CTE: Family & Consumer Sciences with high school setting ● Workplace Specialist: Housing Occupations ● CTE: Trade & Industrial: Building Trades Technology ● Workplace Specialist: Building Trades Technology ● Technology Education
REPA/REPA 3	● CTE: Family & Consumer Sciences 5-12 ● CTE: Trade & Industrial Building Trades 5-12 ● CTE: Trade & Industrial: Interior Design 5-12 ● Workplace Specialist: Interior Design & Housing 9-12 ● Workplace Specialist: Building Trades/Construction 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	EDSN 108: Environmental Design Planning, EDSN 115: Basic CAD for Environmental Designs
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	ITCC: TC Interior Design (50.0408)
Liberal Arts/ Sciences Requirements	ITCC - General Education Core Elective (3), IVYT 113: Student Success in Technology
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7248 Interior Design Capstone here.

Arts, Entertainment, & Design Radio and Television							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
7139	Principles of Broadcasting	7306	Audio and Video Production Essentials	7307	Mass Media Production	7308	Radio & TV Broadcasting Capstone

Principles of Broadcasting		
Career Cluster	Arts, Entertainment, & Design	
Program of Study	Radio and TV	
NLPS Sequence	A	
Course Code	7139	
Course Description	*The purpose of the Principles of Broadcasting course is to provide entry-level fundamental skills for students who wish to seek or pursue opportunities in the field of broadcasting or mass media. Students will explore the technical aspects of audio and sound design for radio production and distribution, as well as, the technical aspects of video production and distribution.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Less than Moderate Value	Level I
Bulletin 400	● Radio & Television 9-12 ● Industrial Arts 7-12, K-12 ● English 7-12 and work experience in communications/media ● Journalism 7-12	
Rules 46-47	● Radio & Television 9-12 ● Occupational Specialist: Marketing: Radio & Television 9-12 ● Industrial Technology K-12 ● Industrial Education K-12 ● English 9-12 and work experience in communications/media ● Journalism 9-12	
Rules 2002	● Workplace Specialist: Marketing: Radio/TV/ Telecommunications ● Technology Education with high school setting ● Language Arts with high school setting and work experience in	

	communications/media ● Journalism with high school setting
REPA/REPA 3	● Workplace Specialist: Radio & TV 9-12 ● Technology Education 5-12 ● Journalism 5-12 ● Language Arts 5-12 and work experience in communications/media ● Workplace Specialist: Interactive Media 9-12 ● CTE: Trade & Industrial: Interactive Media 5-12 ● CTE: Trade & Industrial: Radio & TV 5-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	VISC 105: Video and Sound
VU Course Alignment	BCST 102: Introduction to Audio-Video Production
Four Yr. Course Alignment	
Postsecondary Credential	VU: A.S. Broadcasting (10.0202)
Liberal Arts/ Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7139 Principles of Broadcasting here.

Audio and Video Production Essentials	
Career Cluster	Arts, Entertainment, & Design
Program of Study	Radio & TV
NLPS Sequence	B
Course Code	7306
Course Description	*Audio and Video Production Essentials provides an in-depth study on audio and video production techniques for radio, television, and digital technologies. Students will learn skills necessary for audio production and on-air work used in radio and other digital formats. Additionally, experience will be gained in the development of the video production process; including skills in message development, directing, camera, video switcher, and character generator operations.*
Prerequisite(s)/ Corequisite(s)	Principles of Broadcasting
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
Counts Toward	Counts as Communication-Focused credit for new diploma

Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Less than Moderate Value	Level I
Bulletin 400	●Radio & Television 9-12 ● Industrial Arts 7-12, K-12 ● English 7-12 and work experience in communications/media ● Journalism 7-12	
Rules 46-47	● Radio & Television 9-12 ● Occupational Specialist: Marketing: Radio & Television 9-12 ● Industrial Technology K-12 ● Industrial Education K-12 ● English 9-12 and work experience in communications/media ● Journalism 9-12	
Rules 2002	● Workplace Specialist: Marketing: Radio/TV/ Telecommunications ● Technology Education with high school setting ● Language Arts with high school setting and work experience in communications/media ● Journalism with high school setting	
REPA/REPA 3	● Workplace Specialist: Radio & TV 9-12 ● Technology Education 5-12 ● Journalism 5-12 ● Language Arts 5-12 and work experience in communications/media ● Workplace Specialist: Interactive Media 9-12 ● CTE: Trade & Industrial: Interactive Media 5-12 ● CTE: Trade & Industrial: Radio & TV 5-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment		
VU Course Alignment	BCST 120: Audio Production, BCST 140: Video Production I: Studio Production	
Four Yr. Course Alignment		
Postsecondary Credential	VU: A.S. Broadcasting (10.0202)	
Liberal Arts/ Sciences Requirements		
Industry Credential		
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 7306 Audio and Video Production Essentials here.	

Mass Media Production		
Career Cluster	Arts, Entertainment, & Design	
Program of Study	Radio & TV	
NLPS Sequence	C	
Course Code	7307	
Course Description	*Mass Media Production will focus on the study of theory and practice in the voice and visual aspects of radio and television performance. In addition, this course introduces the skills used to acquire and deliver news stories in a digital media format. Students will learn how to research issues and events, interview news sources, interact with law enforcement and government officials, along with learning to write in a comprehensive news style.*	
Prerequisite(s)/ Corequisite(s)	Principles of Broadcasting; Audio and Video Production Essentials	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Counts as Communication-Focused credit for new diploma	
Dual Credit Status	X	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Less than Moderate Value	Level I
Bulletin 400	● Radio & Television 9-12 ● Industrial Arts 7-12, K-12 ● English 7-12 and work experience in communications/media ● Journalism 7-12	
Rules 46-47	● Radio & Television 9-12 ● Occupational Specialist: Marketing: Radio & Television 9-12 ● Industrial Technology K-12 ● Industrial Education K-12 ● English 9-12 and work experience in communications/media ● Journalism 9-12	
Rules 2002	● Workplace Specialist: Marketing: Radio/TV/ Telecommunications ● Technology Education with high school setting ● Language Arts with high school setting and work experience in communications/media ● Journalism with high school setting	
REPA/REPA 3	● Workplace Specialist: Radio & TV 9-12 ● Technology Education 5-12 ● Journalism 5-12 ● Language Arts 5-12 and work experience in communications/media ● Workplace Specialist: Interactive Media 9-12 ● CTE: Trade & Industrial: Interactive Media 5-12 ● CTE: Trade & Industrial: Radio & TV 5-12	

POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	BCST 110: Media Performance*, BCST 112: News Gathering & Storytelling*
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/ Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7307 Mass Media Production here.

Radio & TV Broadcasting Capstone		
Career Cluster	Arts, Entertainment, & Design	
Program of Study	Radio & TV	
NLPS Sequence	D	
Course Code	7308	
Course Description	*This course will cover a variety of domains further building on skills in video production, and broadcast industry practices specific to radio, television, and digital media. Attention will be given to cross-industry synergies, emerging technologies, and the global market for media. Students are highly encouraged to do a video newscast or radio practicum to gain real world experience. In most cases this practicum may be completed through a school-based enterprise.*	
Prerequisite(s)/ Corequisite(s)	Principles of Broadcasting; Audio and Video Production Essentials; Mass Media Production	
Credits	2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum	
Counts Toward	Counts as Communication-Focused credit for new diploma	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Less than Moderate Value	Level II
Bulletin 400	● Radio & Television 9-12 ● Industrial Arts 7-12, K-12 ● English 7-12 and work experience in communications/media ● Journalism 7-12	

Rules 46-47	● Radio & Television 9-12 ● Occupational Specialist: Marketing: Radio & Television 9-12 ● Industrial Technology K-12 ● Industrial Education K-12 ● English 9-12 and work experience in communications/media ● Journalism 9-12
Rules 2002	● Workplace Specialist: Marketing: Radio/TV/ Telecommunications ● Technology Education with high school setting ● Language Arts with high school setting and work experience in communications/media ● Journalism with high school setting
REPA/REPA 3	● Workplace Specialist: Radio & TV 9-12 ● Technology Education 5-12 ● Journalism 5-12 ● Language Arts 5-12 and work experience in communications/media ● Workplace Specialist: Interactive Media 9-12 ● CTE: Trade & Industrial: Interactive Media 5-12 ● CTE: Trade & Industrial: Radio & TV 5-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	JOUR 216: Mass Communications*, BCST 206: Video Production II - Field Production
Four Yr. Course Alignment	USI - RTV 150: Practicum Broadcasting
Postsecondary Credential	USI: B.A./B.S. Radio and Television (09.0701) VU: A.S. Broadcasting (10.0202)
Liberal Arts/ Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7308 Radio & TV Broadcasting Capstone here.

Business Management

Technical/Business Communication	
Career Cluster	Business Management; Financial Services; Marketing, Sales, & Entrepreneurship
Program of Study	
NLPS Sequence	Introductory
Course Code	4508
Course Description	*Technical/Business Communications provides students with the communication and problem-solving skills to function effectively in the workplace. Areas studied include written/oral/visual communication, listening, informational reading, Internet research/analysis, and electronic communication. Concepts addressed will include adapting communication to the situation, purpose, and audience. Students produce related documents such as employee handbooks, instructional manuals, employment communication, organizational communication, business reports, and social/professional situations using word processing, presentation, multimedia, and desktop publishing software.*
Prerequisite(s)/ Corequisite(s)	None
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
Counts Toward	Counts as Communication-Focused credit for new diploma
Dual Credit Status	
Additional Notes	
ADDITIONAL COURSE INFO	
Funding	
Bulletin 400	● Business Education with Shorthand 7-12 ● English 7-12
Rules 46-47	● Business Education 9-12 ● English 9-12
Rules 2002	● Business with high school setting ● CTE: Business Services & Technology with high school setting ● Language Arts with high school setting
REPA/REPA 3	● Business 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● Language Arts 5-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	

VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/ Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 4508 Technical/Business Communication here.

Business Math	
Career Cluster	Business Management; Financial Services; Marketing, Sales, & Entrepreneurship
Program of Study	
NLPS Sequence	Introductory
Course Code	4512
Course Description	*Business Math is a course designed to prepare students for roles as entrepreneurs, producers, and business leaders by developing abilities and skills that are part of any business environment. A solid understanding of math including algebra, basic geometry, statistics, and probability provides the necessary foundation for students interested in careers in business and skilled trade areas. The content includes mathematical operations related to accounting, banking and finance, marketing, and management. Instructional strategies should include simulations, guest speakers, tours, Internet research, and business experiences.*
Prerequisite(s)/ Corequisite(s)	Algebra I
Credits	1 to 2 semester course, 1 credit per semester, 2 credits maximum
Counts Toward	Counts as a quantitative reasoning course for CORE 40 diplomas Counts as a Math Credit for new diploma
Dual Credit Status	
Additional Notes	When offered as applied: 4 units maximum; counts as an employability applied unit for alternate diploma
ADDITIONAL COURSE INFO	
Funding	
Bulletin 400	● Business Education 7- 12 ● Distributive Education K-12 ● Mathematics 7-12
Rules 46-47	● Business Education 9-12

	● Marketing Education 9-12 ● Distributive Education K-12 ● Business Education with Vocational Endorsement 9-12 ● Mathematics 9-12 ● General Math 5-12
Rules 2002	● Business with high school setting ● CTE: Marketing with high school setting ● CTE: Business Services & Technology with high school setting ● Mathematics with high school setting
REPA/REPA 3	● Business 5-12 ● Mathematics 5-12 ● CTE: Marketing 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/ Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 4512 Business Math here.

Introduction to Business	
Career Cluster	Business Management; Financial Services; Marketing, Sales, & Entrepreneurship
Program of Study	
NLPS Sequence	Introductory
Course Code	4518
Course Description	*Introduction to Business introduces students to the world of business, including the concepts, functions, and skills required for meeting the challenges of operating a business in the twenty- first century on a local, national, and/or international scale. The course covers business management, entrepreneurship, marketing fundamentals, and business ethics and law. The course develops business vocabulary and provides an overview of business and the role that business plays*

	in economic, social, and political environments.	
Prerequisite(s)/ Corequisite(s)	None	
Credits	1 to 2 semester course, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status		
Additional Notes	This course qualifies for funding at the 8th grade level	
ADDITIONAL COURSE INFO		
Funding	Introductory	Available for 8th grade
Bulletin 400	● Business Education 7- 12 ● Distributive EducationK-12	
Rules 46-47	● Business Education 9-12 ● Marketing Education 9-12 ● Distributive Education K-12 ● Business Education with Vocational Endorsement 9-12 ● Occupational Specialist I, II or III in related course approved for a CTE pathway	
Rules 2002	● Business with high school setting ● CTE: Marketing with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist I or II in related course approved for a CTE pathway	
REPA/REPA 3	● Business 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● CTE: Marketing 5-12 ● Workplace Specialist I or II in related course approved for a CTE pathway	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment		
VU Course Alignment		
Four Yr. Course Alignment		
Postsecondary Credential		
Liberal Arts/ Sciences Requirements		
Industry Credential		
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 4518 Introduction to Business here.	

Entrepreneurship and New Ventures Capstone		
Career Cluster	All programs of study except Entrepreneurship	
Program of Study		
NLPS Sequence		
Course Code	5966	
Course Description	*Entrepreneurship and New Ventures Capstone introduces entrepreneurship and develops skills and tools critical for starting and succeeding in a new venture. The entrepreneurial process of opportunity recognition, innovation, value proposition, competitive advantage, venture concept, feasibility analysis, and "go to" market strategies will be explored through mini-case studies of successful and unsuccessful entrepreneurial start-ups. Additionally, topics of government and legal restrictions, intellectual property, franchising location, basic business accounting, raising startup funding, sales and revenue forecasting, and business plan development will be presented through extensive use of word processing, spreadsheet and presentation software.*	
Prerequisite(s)/ Corequisite(s)	Any CTE Concentrator Sequence except Entrepreneurship	
Credits	2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum	
Counts Toward		
Dual Credit Status	X	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level II
Bulletin 400	● Business Education 7- 12 ● Business Education with Vocational Business Endorsement 7-12 ● Distributive Education K-12	
Rules 46-47	● Business Education 9-12 ● Business Education with Vocational Business Endorsement 9-12 ● Marketing Education 9-12 ● Distributive Education K-12 ● Occupational Specialist: Business: Entrepreneurship / Small Business Ownership 9-12	
Rules 2002	● Business with high school setting ● CTE: Business Services & Technology with high school setting ● CTE: Marketing with high school setting ● Workplace Specialist: Marketing: Entrepreneurship / Small Business Ownership	
REPA/REPA 3	● Business 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● CTE: Marketing 5-12 ● Workplace Specialist: Entrepreneurship 9-12	

POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/ Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 5966 Entrepreneurship and New Ventures Capstone here.

Business, Marketing and Entrepreneurship: Special Topics	
Career Cluster	Business Management; Financial Services; Marketing, Sales, & Entrepreneurship
Program of Study	
NLPS Sequence	
Course Code	5968
Course Description	*Business, Marketing, and Entrepreneurship: Special Topics is an extended learning experience designed to address the advancement and specialization of careers within the career cluster through the provision of a specialized course for a specific workforce in the school's region. The learning experience is at a qualified site, and is designed to give the student the opportunity to learn and practice technical skills while working under the direction of the appropriately licensed professional. Throughout the course, students will focus on learning about employment opportunities and obtaining the knowledge, skills and attitudes essential for success in specific occupations. Course standards and curriculum must be tailored to the specific profession, preparing students to advance in this career field, and where applicable, provide students with opportunities for certification or dual credit. Participation in a related CTSO encourages the development of leadership, communication and career related skills, and opportunities for community service.*
Prerequisite(s)/ Corequisite(s)	None
Credits	1 semester course, up to 3 credits per semester, May be offered for successive semesters up to 12 credits
Counts Toward	
Dual Credit Status	X
Additional Notes	Schools must have an approved Nonstandard Course Waiver on file to be eligible for CTE Funding.

ADDITIONAL COURSE INFO	
Funding	Pilot
Bulletin 400	● Appropriate Vocational License ● Business Education 7- 12 ● Distributive Education K-12
Rules 46-47	● Appropriate Vocational license ● Business Education 9-12 ● Marketing Education 9-12 ● Distributive Education K-12 ● Business Education with Vocational Endorsement 9-12 ● Occupational Specialist in related course approved for a CTE pathway
Rules 2002	● Appropriate CTE License with high school setting ● Business with high school setting ● CTE: Marketing with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist in related course approved for a CTE pathway
REPA/REPA 3	● Appropriate CTE License 5-12 ● Business 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● CTE: Marketing 5-12 ● Workplace Specialist in related course approved for a CTE Pathway
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/ Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	

Advanced Career & Technical Education, College Credit: Business, Marketing, and Entrepreneurship	
Career Cluster	Business Management; Financial Services; Marketing, Sales, & Entrepreneurship
Program of Study	
NLPS Sequence	
Course Code	6142
Course Description	*Advanced Career and Technical Education, College Credit is a course title covering any CTE advanced course offered for credit by an accredited postsecondary institution through an adjunct agreement with a secondary school. The intent of this course is to allow students to earn college credit for courses with content that goes beyond that currently approved for high school credit. This course may be used for any dual enrollment course, including a joint program of study involving a postsecondary partnership.*
Prerequisite(s)/ Corequisite(s)	None
Credits	1 semester course, up to 3 credits per semester, May be offered for successive semesters up to 12 credits
Counts Toward	
Dual Credit Status	X
Additional Notes	A student should earn at least 3 postsecondary credits for each high school credit. Schools must have an approved Nonstandard Course Waiver on file to be eligible for CTE Funding.
ADDITIONAL COURSE INFO	
Funding	Pilot
Bulletin 400	● Appropriate Vocational License ● Business Education 7- 12 ● Distributive Education K-12
Rules 46-47	● Appropriate Vocational license ● Business Education 9-12 ● Marketing Education 9-12 ● Distributive Education K-12 ● Business Education with Vocational Endorsement 9-12 ● Occupational Specialist in related course approved for a CTE pathway
Rules 2002	● Appropriate CTE License with high school setting ● Business with high school setting ● CTE: Marketing with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist in related course approved for a CTE pathway
REPA/REPA 3	● Appropriate CTE License 5-12 ● Business 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● CTE: Marketing 5-12

	● Workplace Specialist in related course approved for a CTE Pathway
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/ Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	

Business Management Business Administration							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
4562	Principles of Business Management	7143	Management Fundamentals	4524	Accounting Fundamentals	7256	Business Administration Capstone
		5914	Marketing Fundamentals				

Principles of Business Management		
Career Cluster	Business Management; Financial Services; Marketing, Sales, & Entrepreneurship, Supply Chain & Transportation	
Program of Study	Accounting, Business Administration, Finance and Investment, Insurance, Marketing and Sales, Supply Chain and Logistics	
NLPS Sequence	A	
Course Code	4562	
Course Description	*Principles of Business Management examines business ownership, organization principles and problems, management, control facilities, administration, financial management, and development practices of business enterprises. This course will also emphasize the identification and practice of the appropriate use of technology to communicate and solve business problems and aid in decision making. Attention will be given to developing business communication, problem-solving, and decision-making skills using spreadsheets, word processing, data management, and presentation software.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Business Education 7-12 ● Distributive Education K-12	
Rules 46-47	● Business Education 9-12 ● Marketing Education 9-12 ● Distributive Education K-12 ● Business Education with Vocational Endorsement 9-12	

	● Occupational Specialist I, II or III in related course approved for a CTE pathway
Rules 2002	● Business with high school setting ● CTE: Marketing with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist I or II in related course approved for a CTEpathway
REPA/REPA 3	● Business 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● CTE: Marketing 5-12 ● Workplace Specialist: Advanced Business Management 9-12 ● Workplace Specialist I or II in related course approved for a CTE pathway
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	BUSN 101: Introduction to Business, OTEC 207: Integrated Microsoft Office Applications **OR** OTEC 107: Introduction to Microsoft Office
VU Course Alignment	MGMT 100: Introduction to Business, COMP 110: Introduction to Computer Concepts
Four Yr. Course Alignment	BSU – ISOM 125: Introduction to Business Computer Applications ISU - BUS 100: Introduction to Contemporary Business, BUS 180: Business Information Tools IUB - BUS X-100: Introduction to Business IUN/S/K/N - BUS W-100: Introduction to Business IUSB - BUS B-190: Introduction to Business PFW - BUS 10001: Principles of Business Administration PNW - BUSM 10100: Introduction to Business USI - MNGT 201: Survey of Management
Postsecondary Credential	ITCC: CT Business Administration, CT Professional Bookkeeping and Payroll, TC Business Administration (52.0201), TC Accounting VU: Management Training Certificate, CPC; A.S. Business Administration (52.0201), A.S. Business Management (52.0101) IUB/K/N/S/SB: B.S. Business (52.0101) PFW: B.S. Business (52.0101) PNW: B.S. in Business (52.1399) BSU: B.S. Business Administration (52.0101) ISU: B.S. in Insurance and Risk Management (52.1701)
Liberal Arts/ Sciences Requirements	ITCC - ENGL 111: English Composition, IVYT 114: Student Success in Business, Humanities/ Social & Behavioral 3-4 hours
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 4562 Principles of Business Management here.

Management Fundamentals		
Career Cluster	Business Management	
Program of Study	Business Administration	
NLPS Sequence	B	
Course Code	7143	
Course Description	*Management Fundamentals describes the functions of managers, including the management of activities and personnel. Describes the judicial system and the nature and sources of law affecting business. Studies contracts, sales contracts with emphasis on Uniform Commercial Code Applications, remedies for breach of contract and tort liabilities. Examines legal aspects of property ownership, structures of business ownership, and agency relationships.*	
Prerequisite(s)/ Corequisite(s)	Principles of Business Management	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Business Education 7-12 ● Distributive Education K-12	
Rules 46-47	● Business Education 9-12 ● Marketing Education 9-12 ● Distributive Education K-12 ● Business Education with Vocational Endorsement 9-12 ● Occupational Specialist I, II or III in related course approved for a CTE pathway	
Rules 2002	● Business with high school setting ● CTE: Marketing with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist I or II in related course approved for a CTE pathway	
REPA/REPA 3	● Business 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● CTE: Marketing 5-12 ● Workplace Specialist: Advanced Business Management 9-12 ● Workplace Specialist I or II in related course approved for a CTE pathway	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	BUSN 105: Principles of Management, BUSN 201: Business Law	
VU Course Alignment	MGMT 250: Introduction to Management	

Four Yr. Course Alignment	BSU – MGT 250: Lessons in Leadership
Postsecondary Credential	BSU: B.A./B.S. Business Administration (52.0201) ITCC: CT Business Administration, CT Professional Bookkeeping and Payroll, TC Business Administration (52.0201), TC Accounting VU: A.S. Business Administration (52.0201); A.S. Business Management (52.0101)
Liberal Arts/ Sciences Requirements	ITCC - ENGL 111: English Composition, IVYT 114: Student Success in Business, Humanities/Social & Behavioral 3-4 hours
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7143 Management Fundamentals here.

Marketing Fundamentals		
Career Cluster	Business Management; Marketing, Sales, & Entrepreneurship	
Program of Study	Business Administration, Marketing and Sales	
NLPS Sequence	B	
Course Code	5914	
Course Description	*Marketing Fundamentals provides a basic introduction to the scope and importance of marketing in the global economy. Course topics include the seven functions of marketing: promotion, channel management, pricing, product/service management, market planning, marketing information management, and professional selling skills. Emphasis is marketing content but will involve use of oral and written communications, mathematical applications, problem-solving, and critical thinking skills through the development of an integrated marketing plan and other projects.*	
Prerequisite(s)/ Corequisite(s)	Principles of Business Management	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Business Education 7-12 ● Distributive Education K-12	
Rules 46-47	● Business Education 9-12 ● Marketing Education 9-12 ● Distributive Education K-12 ● Business Education with Vocational Endorsement 9-12 ● Occupational Specialist with specific experience in strategic marketing	

Rules 2002	● Business with high school setting ● CTE: Marketing with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist with specific experience in strategic marketing
REPA/REPA 3	● Business 5-12 ● CTE: Marketing 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● Workplace Specialist with specific experience in strategic marketing
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	MKTG 101: Principles of Marketing, MKTG 102: Principles of Selling
VU Course Alignment	MGMT 280: Introduction to Marketing
Four Yr. Course Alignment	
Postsecondary Credential	ITCC: CT Business Administration, CT Professional Bookkeeping and Payroll, TC Business Administration (52.0201), TC Accounting VU: Entrepreneurship Certificate, 5404, CPC; A.S. Business Administration (52.0201), A.S. Business Management (52.0101)
Liberal Arts/ Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 5914 Marketing Fundamentals here.

Accounting Fundamentals	
Career Cluster	Business Management; Marketing, Sales, & Entrepreneurship
Program of Study	Business Administration, Accounting, Finance and Investment
NLPS Sequence	C
Course Code	4524
Course Description	*Accounting Fundamentals introduces the language of business using Generally Accepted Accounting Principles (GAAP) and procedures for proprietorships and partnerships using double-entry accounting. Emphasis is placed on accounting principles as they relate to both manual and automated financial systems. This course involves understanding, analyzing, and recording business transactions and preparing, analyzing, and interpreting financial reports as a basis for decision-making.*
Prerequisite(s)/ Corequisite(s)	Principles of Business Management

Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Business Education 7-12 ● Distributive Education K-12	
Rules 46-47	● Business Education 9-12 ● Marketing Education 9-12 ● Distributive Education K-12 ● Business Education with Vocational Endorsement 9- 12 ● Occupational Specialist I, II or III in related course approved for a CTE pathway	
Rules 2002	● Business with high school setting ● CTE: Marketing with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist: Accounting & Finance 9-12	
REPA/REPA 3	● Business 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● CTE: Marketing 5-12 ● Workplace Specialist: Accounting & Finance 9-12 ● CTE: Trade & Industrial: Accounting & Finance 5-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	ACCT 101: Financial Accounting	
VU Course Alignment	ACCT 100: Basic College Accounting	
Four Yr. Course Alignment	BSU - ACC 201: Principles of Finance and Accounting ISU - BUS 201: Principles of Accounting I PNW - ACC 20000: Introductory Accounting	
Postsecondary Credential	ITCC: CT Business Administration, CT Professional Bookkeeping and Payroll, TC Business Administration (52.0201), TC Accounting VU: CPC Accounting; CG Accounting (52.0305) ISU: B.S. Business Administration (52.0101) PNW: B.S. Accounting (52.0301)	
Liberal Arts/ Sciences Requirements	ITCC - ENGL 111: English Composition, IVYT 114: Student Success in Business, Humanities/Social & Behavioral 3-4 hours	
Industry Credential		
CONTENT STANDARDS AND COMPETENCIES		

Course Competencies	Access competencies for 4524 Accounting Fundamentals here.

Business Administration Capstone		
Career Cluster	Business Management	
Program of Study	Business Administration	
NLPS Sequence	D	
Course Code	7256	
Course Description	*The Business Administration Capstone course will allow students to explore advanced topics in business leadership including Human Resources and International Business. Additionally students will have the chance to complete Managerial Accounting. Throughout the course students will develop business communication skills through work on projects, labs, and simulations. All of these courses represent key business competencies required by nearly all postsecondary Business schools.*	
Prerequisite(s)/ Corequisite(s)	Principles of Business Management; Management Fundamentals or Marketing Fundamentals; Accounting Fundamentals	
Credits	2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level II
Bulletin 400	● Business Education 7-12 ● Distributive Education K-12	
Rules 46-47	● Business Education 9-12 ● Marketing Education 9-12 ● Distributive Education K-12 ● Business Education with Vocational Endorsement 9-12 ● Occupational Specialist I, II or III in related course approved for a CTE pathway	
Rules 2002	● Business with high school setting ● CTE: Marketing with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist I or II in related course approved for a CTE pathway	
REPA/REPA 3	● Business 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● CTE: Marketing 5-12 ● Workplace Specialist: Advanced Business Management 9-12 ● Workplace Specialist I or II in related course approved for a CTE pathway	

POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	BUSN 202: Human Resource Management; BUSN 207: Introduction to International Business; OTEC 216: Business Communication; ACCT 102: Managerial Accounting
VU Course Alignment	VU-EC: COMP 201: The Computer in Business ^
Four Yr. Course Alignment	BSU – ACC 202: Principles of Managerial Accounting
Postsecondary Credential	ITCC: CT Business Administration, CT Professional Bookkeeping and Payroll, TC Business Administration (52.0201), TC Accounting BSU: B.A./B.A. Business Administration (52.0101) VU-EC: Accounting Certificate 5251, CPC
Liberal Arts/ Sciences Requirements	ITCC - ENGL 111: English Composition, IVYT 114: Student Success in Business, Humanities/Social & Behavioral 3-4 hours
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7256 Business Administration Capstone here.

Business Management Business Operations and Technology							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
7153	Principles of Business Operations and Technology	7144	Business Office Communications	7146	Digital Data Applications	7254	Business Operations and Technology Capstone

Principles of Business Operations and Technology		
Career Cluster	Business Management, Marketing and Finance	
Program of Study	Bus Operations and Technology	
NLPS Sequence	A	
Course Code	7153	
Course Description	*The Principles of Business Operations and Technology course will prepare students to plan, organize, direct, and control the functions and processes of a firm or organization and be successful in a work environment. Students are provided opportunities to develop attitudes and apply skills and knowledge in the areas of business, management, Microsoft office, and finance. Individual experiences will be based upon the student's career and educational goals.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Less Than Moderate Value	Level I
Bulletin 400	● Business Education 7-12 ● Distributive Education K-12	
Rules 46-47	● Business Education 9-12 ● Marketing Education 9-12 ● Distributive Education K-12 ● Business Education with Vocational Endorsement 9- 12	
Rules 2002	● Business with high school setting ● CTE: Marketing with high school setting ● CTE: Business Services & Technology with high school Setting	
REPA/REPA 3	● Business 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12	

	● CTE: Marketing 5-12 ● Workplace Specialist: Advanced Business Management 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	OTEC 121: Office Procedures and Collaboration, OTEC 101: Microsoft Outlook
VU Course Alignment	VU/EC - COMP 256: Office Management Communications
Four Yr. Course Alignment	
Postsecondary Credential	ITCC: CT Microsoft Office Specialist (52.0407); TC Office Administration and Technology VU/EC: CG Business Office Management Technology (52.0204)
Liberal Arts/ Sciences Requirements	ITCC - ENGL 111: English Composition, IVYT 111: Student Success for University Transition VU - ENGL 101: English Composition I
Industry Credential	Microsoft Certified Associate (Any), Microsoft Office Specialist Expert
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7153 Principle Operations and Technology here.

Business Office Communications		
Career Cluster	Business Management, Marketing and Finance	
Program of Study	Bus Operations and Technology	
NLPS Sequence	B	
Course Code	7144	
Course Description	*The Business Office Communications course emphasizes the analysis of communication to direct the choice of oral and written methods and techniques. It includes practice in writing a variety of messages used to communicate in business and industry with an emphasis on the potential impact of the message on the receiver as a basis for planning and delivering effective business communications. Through projects and the development of messages students will develop their knowledge and skills for the use of Microsoft Word and Microsoft PowerPoint.*	
Prerequisite(s)/ Corequisite(s)	Principles of Business Operations and Technology	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Less than Moderate Value	Level I

Bulletin 400	● Business Education 7-12 ● Distributive Education K-12
Rules 46-47	● Business Education 9-12 ● Marketing Education 9-12 ● Distributive Education K-12 ● Business Education with Vocational Endorsement 9- 12
Rules 2002	● Business with high school setting ● CTE: Marketing with high school setting ● CTE: Business Services & Technology with high school Setting
REPA/REPA 3	● Business 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● CTE: Marketing 5-12 ● Workplace Specialist: Advanced Business Management 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	OTEC 216: Business Communication, OTEC 105: Microsoft Word, OTEC 109: Microsoft PowerPoint
VU Course Alignment	VU-EC - COMP 202: Business Documents and Presentations
Four Yr. Course Alignment	
Postsecondary Credential	ITCC: CT Microsoft Office Specialist (52.0407); TC Office Administration and Technology VU/EC: CG Business Office Management Technology (52.0204)
Liberal Arts/ Sciences Requirements	ITCC - ENGL 111: English Composition, IVYT 111: Student Success for University Transition VU - ENGL 101 English Composition I
Industry Credential	Microsoft Certified Associate (Any), Microsoft Office Specialist Expert
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7144 Business Office Communications here.

Digital Data Applications	
Career Cluster	Business Management, Marketing and Finance
Program of Study	Bus Operations and Tech
NLPS Sequence	C
Course Code	7146
Course Description	*Students will use Microsoft Excel to sort and search records, combine files, produce reports, and to extract data from a file. This course is designed to include creating and formatting worksheets, using formulas and basic functions, creating charts, and printing professional-looking reports. Additionally, students will use Microsoft*

	Access to create a database and to manage a database through the creation and modification of a query. Students will also be expected to produce reports from the information.
Prerequisite(s)/ Corequisite(s)	Principles of Business Operations and Technology
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
Counts Toward	
Dual Credit Status	X (PCL/CTE)
Additional Notes	
ADDITIONAL COURSE INFO	
Funding	Less than Moderate Value | Level I
Bulletin 400	● Business Education 7-12 ● Distributive Education K-12
Rules 46-47	● Business Education 9-12 ● Marketing Education 9-12 ● Distributive Education K-12 ● Business Education with Vocational Endorsement 9- 12
Rules 2002	● Business with high school setting ● CTE: Marketing with high school setting ● CTE: Business Services & Technology with high school Setting
REPA/REPA 3	● Business 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● CTE: Marketing 5-12 ● Workplace Specialist: Advanced Business Management 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	OTEC 118: Microsoft Excel, OTEC 222: Microsoft Access
VU Course Alignment	COMP 185: Introduction to Databases VU-EC - COMP 234: Data Management with Spreadsheets
Four Yr. Course Alignment	
Postsecondary Credential	ITCC: CT Microsoft Office Specialist (52.0407); TC Office Administration and Technology VU/EC: CG Business Office Management Technology (52.0204)
Liberal Arts/ Sciences Requirements	ITCC - ENGL 111: English Composition, IVYT 111: Student Success for University Transition VU - ENGL 100: English Composition I
Industry Credential	Microsoft Certified Associate (Any), Microsoft Office Specialist Expert
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7146 Digital Data Application here.

Business Operations and Technology Capstone		
Career Cluster	Business Management, Marketing and Finance	
Program of Study	Bus Operations and Tech	
NLPS Sequence	D	
Course Code	7254	
Course Description	*Digital literacy has become increasingly important to the business environment. Technological advances provide opportunities for businesses to survey inclusion of new innovations. This course discusses, identifies, researches, and applies emerging technologies. Discussing new technology and understanding the importance of updating skills is necessary for today's business operations.*	
Prerequisite(s)/ Corequisite(s)	Principles of Business Operations and Technology; Business Office Communications; Digital Data Applications	
Credits	2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Less than Moderate Value	Level II
Bulletin 400	• Business Education 7-12 • Distributive Education K-12	
Rules 46-47	• Business Education 9-12 • Marketing Education 9-12 • Distributive Education K-12 • Business Education with Vocational Endorsement 9- 12	
Rules 2002	• Business with high school setting • CTE: Marketing with high school setting • CTE: Business Services & Technology with high school Setting	
REPA/REPA 3	• Business 5-12 • CTE: Business Services & Technology 5-12 • CTE: Business & Information Technology 5-12 • CTE: Marketing 5-12 • Workplace Specialist: Advanced Business Management 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	OTEC 213: Google Technologies, OTEC 205: Advanced Microsoft Word*, OTEC 228: Advanced Microsoft Excel	
VU Course Alignment	ACCT 291: Accounting with QuickBooks□, COMP 107: Web Page Design□ VU-EC – CNET 151: Information and Data Security I□; COMP 242: Creating a Personal Brand and e-Portfolio□; ECON 208: Personal Financial Management□	
Four Yr. Course Alignment		

Postsecondary Credential	ITCC: CT Microsoft Office Specialist (52.0407); TC Office Administration and Technology VU/EC: CG Business Office Management Technology (52.0204)
Liberal Arts/ Sciences Requirements	ITCC - ENGL 111: English Composition, IVYT 111: Student Success for University Transition VU - ENGL 101: English Composition
Industry Credential	Microsoft Certified Associate (Any), Microsoft Office Specialist Expert
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7254 Business Operations and Technology here.

Construction

Introduction to Construction		
Career Cluster	Construction	
Program of Study		
NLPS Sequence	Introductory Course	
Course Code	4792	
Course Description	*Introduction to Construction offers students hands-on activities and real-world experiences related to the skills essential in residential, commercial, and civil building construction. During the course students will be introduced to the history and traditions of construction trades. The student will also learn and apply knowledge of the care and safe use of hand and power tools as related to each trade. In addition, students are introduced to blueprint reading, applied math, basic tools and equipment, and safety. Students will demonstrate building construction techniques, including concrete and masonry, framing, electrical, plumbing, dry walling, Heating, Ventilation, and Air Conditioning (HVAC), and painting as developed locally in accordance with available space and technologies. Students learn how architectural ideas are converted into projects and how projects are managed during a construction project in this course. Students study construction technology topics such as preparing a site, doing earthwork, setting footings and foundations, building the superstructure, enclosing the structure, installing systems, finishing the structure, and completing the site. Students also investigate topics related to the purchasing and maintenance of structures, special purpose facilities, green construction and construction careers.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	1 or 2 semester course, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status		
Additional Notes	This course qualifies for funding at the 8th grade level	
ADDITIONAL COURSE INFO		
Funding	Introductory	Available for 8th grade
Bulletin 400	● Industrial Arts 7-12, K12	
Rules 46-47	● Industrial Technology K-12	
Rules 2002	● Industrial Education K-12	
REPA/REPA 3	● Occupational Specialist I, II or III in related course approved for a CTE pathway	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment		

VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/ Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 4792 Introduction to Construction here.

Construction: Special Topics		
Career Cluster	Construction	
Program of Study		
NLPS Sequence		
Course Code	5654	
Course Description	*Construction: Special Topics is an extended learning experience designed to address the advancement and specialization of careers within the career cluster through the provision of a specialized course for a specific workforce in the school's region. The learning experience is at a qualified site, and is designed to give the student the opportunity to learn and practice technical skills while working under the direction of the appropriately licensed professional. Throughout the course, students will focus on learning about employment opportunities and obtaining the knowledge, skills and attitudes essential for success in specific occupations. Course standards and curriculum must be tailored to the specific profession, preparing students to advance in this career field, and where applicable, provide students with opportunities for certification or dual credit. Participation in a related CTSO encourages the development of leadership, communication and career related skills, and opportunities for community service.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	1 semester course, up to 3 credits per semester, May be offered for successive semesters up to 12 credits	
Counts Toward		
Dual Credit Status	X	
Additional Notes	Schools must have an approved Nonstandard Course Waiver on file to be eligible for CTE Funding.	
ADDITIONAL COURSE INFO		
Funding	Pilot	

Bulletin 400	● Industrial Arts 7-12, K-12 ● Standard Trade & Industrial: Engineering K-12 ● Appropriate Vocational License
Rules 46-47	● Industrial Technology K-12 ● Industrial Education K-12 ● Standard Trade & Industrial: CivilArchitectural Engineering 9- 12 ● Occupational Specialist I, II or III: Civil-Architectural Engineering 9-12 ● Occupational Specialist I, II or III: Building Trades Technology 9-12 ● Appropriate Vocational License ● Occupational Specialist in related course approved for a CTE pathway
Rules 2002	● Technology Education with high school setting ● CTE: Trade & Industrial: Civil-Architectural Engineering Workplace Specialist: Civil Architectural Engineering ● Workplace Specialist: Construction 9-12 ● Workplace Specialist: Building Trades 9-12 ● Appropriate CTE License with high school setting ● Workplace Specialist in related course approved for a CTE pathway
REPA/REPA 3	● Technology Education 5-12 ● CTE: Trade & Industrial CivilArchitectural Engineering 5-12 ● Workplace Specialist: Engineering 9- 12 ● Workplace Specialist: Construction 9- 12 ● Workplace Specialist: Building Trades 9-12 ● Appropriate CTE License 5-12 ● Workplace Specialist in related course approved for a CTE Pathway
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/ Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	

Advanced Career & Technical Education, College Credit: Construction	
Career Cluster	Construction
Program of Study	
NLPS Sequence	
Course Code	6132
Course Description	*Advanced Career & Technical Education, College Credit: Construction is a course title covering any CTE advanced course offered for credit by an accredited postsecondary institution through an adjunct agreement with a secondary school. The intent of this course is to allow students to earn college credit for courses with content that goes beyond that currently approved for high school credit. This course may be used for any dual enrollment course, including a joint program of study involving a postsecondary partnership.*
Prerequisite(s)/ Corequisite(s)	None
Credits	1 semester course, up to 3 credits per semester, May be offered for successive semesters up to 12 credits
Counts Toward	
Dual Credit Status	X
Additional Notes	A student should earn at least 3 postsecondary credits for each high school credit. Schools must have an approved Nonstandard Course Waiver on file to be eligible for CTE Funding.
ADDITIONAL COURSE INFO	
Funding	Pilot
Bulletin 400	● Industrial Arts 7-12, K-12 ● Standard Trade & Industrial: Engineering K-12 ● Appropriate Vocational License
Rules 46-47	● Industrial Technology K-12 ● Industrial Education K-12 ● Standard Trade & Industrial: CivilArchitectural Engineering 9- 12 ● Occupational Specialist I, II or III: Civil-Architectural Engineering 9-12 ● Occupational Specialist I, II or III: Building Trades Technology 9-12 ● Appropriate Vocational License ● Occupational Specialist in related course approved for a CTE pathway
Rules 2002	● Technology Education with high school setting ● CTE: Trade & Industrial: Civil-Architectural Engineering Workplace Specialist: CivilArchitectural Engineering ● Workplace Specialist: Construction 9-12 ● Workplace Specialist: Building Trades 9-12 ● Appropriate CTE License with high school setting ● Workplace Specialist in related course approved for a CTE pathway
REPA/REPA 3	● Technology Education 5-12 ● CTE: Trade & Industrial CivilArchitectural Engineering 5-12 ● Workplace Specialist: Engineering 9- 12 ● Workplace Specialist: Construction 9- 12

	● Workplace Specialist: Building Trades 9-12 ● Appropriate CTE License 5-12 ● Workplace Specialist in related course approved for a CTE Pathway
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/ Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	

Construction Building and Facilities Maintenance							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
7130	Principles of Construction Trades	7285	Building and Facilities Maintenance Fundamentals	7286	Advanced Building and Facilities Maintenance	7287	Building and Facilities Maintenance Capstone

Principles of Construction Trades		
Career Cluster	Construction	
Program of Study	Building and Facilities Management, Civil Construction (Heavy Highway), Construction Trades – Carpentry, Construction Trades – Electrical, Heavy Equipment Operations	
NLPS Sequence	A	
Course Code	7130	
Course Description	*Principles of Construction Trades provides students with the basic skills needed to continue in a construction trade field. Covered topics include an introduction to the types and uses for common hand and power tools, learning the types and basic terminology associated with construction drawings, and basic worksite safety. Additionally, students study the roles of individuals and companies within the construction industry. Emphasis is placed on the importance of mathematical and communication skills within the construction industry.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
	ADDITIONAL COURSE INFO	
Funding	High Value	Level I
Bulletin 400	● Standard Trade & Industrial: Building Trades K-12 ● Industrial Arts 7-12, K-12	

Rules 46-47	● Standard Trade & Industrial: Building Trades 9-12 ● Occupational Specialist I, II or III: Building Trades 9-12 ● Industrial Technology K-12 ● Industrial Education K-12
Rules 2002	●Technology Education with high school setting ● Workplace Specialist: Building Trades ● Workplace Specialist in related course approved for a CTE pathway
REPA/REPA 3	● Technology Education 5-12 ● CTE: Trade and Industrial: Building Trades 5-12 ● Workplace Specialist: Construction 9-12 ● Workplace Specialist: Building Trades 9-12 ● Workplace Specialist in related course approved for a CTE pathway
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	BCTI 100: Introduction to Construction Technology
VU Course Alignment	CNST 100: Construction Seminar, CNST 120: Construction Safety
Four Yr. Course Alignment	
Postsecondary Credential	ITCC - CT Carpentry Specialist (46.0415), TC Carpentry Specialist (46.0415) VU - CG Construction Carpenter Assistant (46.0000), CPC Construction Technology
Liberal Arts/ Sciences Requirements	ITCC - MATH 122: Applied Technical Mathematics; COMM 104: Workplace Communications, IVYT 113: Student Success in Technology VU - ENGL 101: English Composition I, MATH 100+ level or higher
Industry Credential	NCCER Core Certification
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7130 Principles of Construction Trades here.

Building and Facilities Maintenance Fundamentals	
Career Cluster	Construction
Program of Study	Building and Facilities Maintenance
NLPS Sequence	B
Course Code	7285
Course Description	*Building and Facilities Maintenance Fundamentals prepares students to complete basic maintenance tasks (like minor construction repairs) and be able to repair and/or replace various building materials including flooring, wall covering, hardware, lighting and plumbing fixtures.*

Prerequisite(s)/ Corequisite(s)	Principles of Construction Trades	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Standard Trade & Industrial: Building Maintenance K-12	
Rules 46-47	● Standard Trade & Industrial: Building Maintenance 9-12 ● Occupational Specialist I, II or III: Building Maintenance 9-12	
Rules 2002	● CTE: Trade & Industrial: Building Facilities & Maintenance ● Workplace Specialist: Building Facilities & Maintenance	
REPA/REPA 3	● CTE: Trade & Industrial Building Maintenance 5-12 ● Workplace Specialist: Facilities Management & Maintenance 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	HVAC 120: Building and Property Maintenance I	
VU Course Alignment		
Four Yr. Course Alignment		
Postsecondary Credential		
Liberal Arts/ Sciences Requirements		
Promoted Certifications	Certificate for Apartment Maintenance Technicians CAMT	
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 7285 Building & Facilities Maintenance Fundamentals here.	

Advanced Building and Facilities Maintenance	
Career Cluster	Construction
Program of Study	Building and Facilities Maintenance

NLPS Sequence	C	
Course Code	7286	
Course Description	*Advanced Building and Facilities Maintenance prepares students to complete more advanced repairs involving a building's mechanical system including electrical, Heating, Ventilation, and Air Conditioning (HVAC), and plumbing.*	
Prerequisite(s)/ Corequisite(s)	Principles of Construction Trades; Building and Facilities Maintenance Fundamentals	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Standard Trade & Industrial: Building Maintenance K-12	
Rules 46-47	● Standard Trade & Industrial: Building Maintenance 9-12 ● Occupational Specialist I, II or III: Building Maintenance 9-12	
Rules 2002	● CTE: Trade & Industrial: Building Facilities & Maintenance ● Workplace Specialist: Building Facilities & Maintenance	
REPA/REPA 3	● CTE: Trade & Industrial Building Maintenance 5-12 ● Workplace Specialist: Facilities Management & Maintenance 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	HVAC 122: Building and Property Maintenance II	
VU Course Alignment		
Four Yr. Course Alignment		
Postsecondary Credential		
Liberal Arts/ Sciences Requirements		
Promoted Certifications	Certificate for Apartment Maintenance Technicians CAMT	
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 7286 Advanced Building and Facilities Maintenance here.	

Building and Facilities Maintenance Capstone		
Career Cluster	Construction	
Program of Study	Building and Facilities Maintenance	
NLPS Sequence	D	
Course Code	7287	
Course Description	*Building and Facilities Maintenance Capstone will continue to develop students' facilities maintenance skills (ideally through a work-based learning experience). Students will also explore additional topics such as processing work orders, fair housing regulation compliance, environmental and regulation compliance, reporting and documentation of maintenance activities, and implementation of a preventive maintenance schedule.*	
Prerequisite(s)/ Corequisite(s)	Principles of Construction Trades; Building and Facilities Maintenance Fundamentals; and Advanced Building and Facilities Maintenance	
Credits	2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level II
Bulletin 400	● Standard Trade & Industrial: Building Maintenance K-12	
Rules 46-47	● Standard Trade & Industrial: Building Maintenance 9-12 ● Occupational Specialist I, II or III: Building Maintenance 9-12	
Rules 2002	● CTE: Trade & Industrial: Building Facilities & Maintenance ● Workplace Specialist: Building Facilities & Maintenance	
REPA/REPA 3	● CTE: Trade & Industrial Building Maintenance 5-12 ● Workplace Specialist: Facilities Management & Maintenance 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	BCTI 130: Intro to Electrical, BCTI 151: Intro to Plumbing Part II	
VU Course Alignment		
Four Yr. Course Alignment		
Postsecondary Credential	ITCC – CT Building and Property Maintenance Technician	

Liberal Arts/ Sciences Requirements	
Promoted Certifications	NCCER Electrical Level 1 Certificate
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7287 Building and Facilities Maintenance Capstone here.

Construction Civil Construction (Heavy Highway)							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
7130	Principles of Construction Trades	7121	Civil Construction Fundamentals	7118	Advanced Civil Construction	7240	Civil Construction Capstone

Principles of Construction Trades		
Career Cluster	Construction	
Program of Study	Civil Construction (Heavy Highway)	
NLPS Sequence	A	
Course Code	7130	
Course Description	*Principles of Construction Trades prepares students with the basic skills needed to continue in a construction trade field. Topics will include an introduction to the types and uses for common hand and power tools, learn the types and basic terminology associated with construction drawings, and basic safety. Additionally students will study the roles of individuals and companies within the construction industry and reinforce mathematical and communication skills necessary to be successful in the construction field.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Standard Trade & Industrial: Building Trades K-12 ● Industrial Arts 7-12, K-12	
Rules 46-47	● Standard Trade & Industrial: Building Trades 9-12 ● Occupational Specialist I, II or III: Building Trades 9-12 ● Industrial Technology K-12 ● Industrial Education K-12	
Rules 2002	● Technology Education with high school setting ● Workplace Specialist: Building Trades ● Workplace Specialist in related course approved for a CTE pathway	
REPA/REPA 3	● Technology Education 5-12 ● CTE: Trade and Industrial: Building Trades 5-12	

	● Workplace Specialist: Construction 9-12 ● Workplace Specialist: Building Trades 9-12 ● Workplace Specialist in related course approved for a CTE pathway
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	BCTI 100: Introduction to Construction Technology
VU Course Alignment	CNST 100: Construction Seminar, CNST 120: Construction Safety
Four Yr. Course Alignment	
Postsecondary Credential	ITCC - CT Carpentry Specialist (46.0415), TC Carpentry Specialist (46.0415) VU - CG Construction Carpenter Assistant (46.0000), CPC Construction Technology
Liberal Arts/ Sciences Requirements	ITCC - MATH 122: Applied Technical Mathematics, COMM 104: Workplace Communications, IVYT 113: Student Success in Technology VU - ENGL 101: English Composition, MATH 100+ level or higher
Industry Credential	NCCER Core Certification
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7130 Principles of Construction Trades here.

Civil Construction Fundamentals	
Career Cluster	Construction
Program of Study	Civil Construction (Heavy Highway)
NLPS Sequence	B
Course Code	7121
Course Description	*Civil Construction Fundamentals covers the first half of NCCER Heavy Highway Construction Level 1. Its modules cover topics such as orientation to the trade, identification of equipment used in heavy highway construction, heavy highway construction safety, work zone safety, soils, site work, excavation math, and interpretation of civil drawings. The NCCER Heavy Highway Construction Level 1 Certificate will not be awarded until the student successfully completes both this course and Advanced Civil Construction.*
Prerequisite(s)/ Corequisite(s)	Principles of Construction Trades
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
Counts Toward	
Dual Credit Status	X (PCL/CTE)
Additional Notes	
ADDITIONAL COURSE INFO	

Funding	Moderate Value	Level I
Bulletin 400	● Industrial Arts 7-12, K-12	
Rules 46-47	● Industrial Technology K-12 ● Industrial Education K-12 ● Occupational Specialist I, II or III in related course approved for a CTE pathway	
Rules 2002	● Technology Education with high school setting ● Workplace Specialist in related course approved for a CTE pathway	
REPA/REPA 3	● Technology Education 5-12 ● CTE: Trade and Industrial: Building Trades 5-12 ● CTE: Trade & Industry: Construction 5-12 ● Workplace Specialist: Heavy Highway 9-12 ● Workplace Specialist: Heavy Equipment 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	BCTI 120: Introduction to Heavy Highway Construction; BCTI 110: Introduction to Concrete Finishing	
VU Course Alignment	CNST 180: Concrete and Masonry*; CNST 180L: Concrete and Masonry Lab*	
Four Yr. Course Alignment		
Postsecondary Credential		
Liberal Arts/ Sciences Requirements		
Industry Credential	NCCER Heavy Equipment Operations Level 1 & 2, NCCER Heavy Highway Construction Level 1 & 2	
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 7121 Civil Construction Fundamentals here.	

Advanced Civil Construction	
Career Cluster	Construction
Program of Study	Civil Construction
NLPS Sequence	C
Course Code	7118
Course Description	*Advanced Civil Construction builds upon the knowledge and skills learned in the fundamentals course and covers the second half of NCCER Heavy Highway Construction Level 1. Its modules cover topics such as rigging practices, crane safety and emergency procedures, basic principles of cranes, and crane communications. The NCCER Heavy Highway Construction Level 1 Certificate and*

	wallet card will also be awarded upon successful completion of this course.	
Prerequisite(s)/ Corequisite(s)	Principles of Construction Trades; Civil Construction Fundamentals	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level I
Bulletin 400	● Industrial Arts 7-12, K-12	
Rules 46-47	● Industrial Technology K-12 ● Industrial Education K-12 ● Occupational Specialist I, II or III in related course approved for a CTE pathway	
Rules 2002	● Technology Education with high school setting ● Workplace Specialist in related course approved for a CTE pathway	
REPA/REPA 3	● Technology Education 5-12 ● CTE: Trade and Industrial: Building Trades 5-12 ● CTE: Trade & Industry: Construction 5-12 ● Workplace Specialist: Heavy Highway 9-12 ● Workplace Specialist: Heavy Equipment 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	BCTI 121: Basic Rigging	
VU Course Alignment		
Four Yr. Course Alignment		
Postsecondary Credential	ITCC - CT Civil Construction and Heavy Highway Equipment	
Liberal Arts/ Sciences Requirements		
Industry Credential	NCCER Heavy Equipment Operations Level 1 & 2, NCCER Heavy Highway Construction Level 1 & 2	
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 7118 Advanced Civil Construction here.	

Civil Construction Capstone		
Career Cluster	Construction	
Program of Study	Civil Construction	
NLPS Sequence	D	
Course Code	7240	
Course Description	*The Civil Construction Capstone covers topics such as earthmoving, finishing and grading, trenching and excavating, plant operations, paving, horizontal formwork, and vertical formwork. Additionally, students learn skills associated with working with concrete and bridge construction. The course prepares students for the NCCER Level 2 Certificate.*	
Prerequisite(s)/ Corequisite(s)	Principles of Construction Trades; Civil Construction Fundamentals; and Advanced Civil Construction	
Credits	2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level II
Bulletin 400	● Industrial Arts 7-12, K-12	
Rules 46-47	● Industrial Technology K-12 ● Industrial Education K-12 ● Occupational Specialist I, II or III in related course approved for a CTE pathway	
Rules 2002	● Technology Education with high school setting ● Workplace Specialist in related course approved for a CTE pathway	
REPA/REPA 3	● Technology Education 5-12 ● CTE: Trade and Industrial: Building Trades 5-12 ● CTE: Trade & Industry: Construction 5-12 ● Workplace Specialist: Heavy Highway 9-12 ● Workplace Specialist: Heavy Equipment 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	BCTI 122: Heavy Highway Construction Part 1; BCTI 123: Heavy Highway Construction Part 2; BCTI 160: Introduction to Site Layout	
VU Course Alignment		
Four Yr. Course Alignment		
Postsecondary Credential	ITCC - CT Civil Construction and Heavy Highway Equipment	
Liberal Arts/ Sciences Requirements		

Industry Credential	NCCER Heavy Equipment Operations Level 1 & 2, NCCER Heavy Highway Construction Level 1 & 2, NCCER Site Layout
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7240 Civil Construction Capstone here.

Construction Construction Trades - Carpentry							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
7130	Principles of Construction Trades	7123	Construction Trades: General Carpentry	7122	Construction Trades: Framing and Finishing	7242	Construction Trades Capstone
				7390	Construction Trades: Masonry Fundamentals	7391	Masonry Capstone

Principles of Construction Trades		
Career Cluster	Construction	
Program of Study	Construction Trades - Carpentry	
NLPS Sequence	A	
Course Code	7130	
Course Description	*Principles of Construction Trades prepares students with the basic skills needed to continue in a construction trade field. Topics will include an introduction to the types and uses for common hand and power tools, learn the types and basic terminology associated with construction drawings, and basic safety. Additionally, students will study the roles of individuals and companies within the construction industry and reinforce mathematical and communication skills necessary to be successful in the construction field.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Standard Trade & Industrial: Building Trades K-12 ● Industrial Arts 7-12, K-12	
Rules 46-47	● Standard Trade & Industrial: Building Trades 9-12 ● Occupational Specialist I, II or III: Building Trades 9-12 ● Industrial Technology K-12 ● Industrial Education K-12	

Rules 2002	● Technology Education with high school setting ● Workplace Specialist: Building Trades ● Workplace Specialist in related course approved for a CTE pathway
REPA/REPA 3	● Technology Education 5-12 ● CTE: Trade and Industrial: Building Trades 5-12 ● Workplace Specialist: Construction 9-12 ● Workplace Specialist: Building Trades 9-12 ● Workplace Specialist in related course approved for a CTE pathway
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	BCTI 100: Introduction to Construction Technology
VU Course Alignment	CNST 100: Construction Seminar, CNST 120: Construction Safety VU/ABC – ABCC 100: Foundation of Construction Site Safety, ABCC 110: Basic Construction Skills
Four Yr. Course Alignment	
Postsecondary Credential	ITCC - CT Carpentry Specialist (46.0415), TC Carpentry Specialist (46.0415) VU - CG Construction Carpenter Assistant (46.0000), CPC Construction Technology
Liberal Arts/ Sciences Requirements	ITCC - MATH 122: Applied Technical Mathematics; COMM 104: Workplace Communications, IVYT 113: Student Success in Technology VU - ENGL 101: English Composition I, MATH 100+ level or higher
Industry Credential	NCCER Core Certification
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7130 Principles of Construction Trades here.

Construction Trades: General Carpentry	
Career Cluster	Construction
Program of Study	Construction Trades - Carpentry
NLPS Sequence	B
Course Code	7123
Course Description	*Construction Trades: General Carpentry builds upon the skills learned in the Principles of Construction Trades and examines the basics of framing. Students learn the procedures for laying out and constructing floor systems, wall systems, and ceiling joists. Students also spend time learning the principles of roof framing, and basic stair layout. Additionally, students will be introduced to building envelope systems.*
Prerequisite(s)/ Corequisite(s)	Principles of Construction Trades
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits

	maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Standard Trade & Industrial: Building Trades K-12 ● Industrial Arts 7-12, K-12	
Rules 46-47	● Standard Trade & Industrial: Building Trades 9-12 ● Occupational Specialist I, II or III: Building Trades 9-12 ● Industrial Technology K-12 ● Industrial Education K-12	
Rules 2002	● Technology Education with high school setting ● Workplace Specialist: Building Trades ● Workplace Specialist in related course approved for a CTE pathway	
REPA/REPA 3	● Technology Education 5-12 ● CTE: Trade and Industrial: Building Trades 5-12 ● Workplace Specialist: Construction 9-12 ● Workplace Specialist: Building Trades 9-12 ● Workplace Specialist in related course approved for a CTE pathway	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	BCTI 101: Introduction to Carpentry, Part 1; BCTI 102: Introduction to Carpentry, Part 2	
VU Course Alignment	CNST 105/105L (Lab): Framing/Framing Laboratory VU/ABC – APPC 101: Introduction to Carpentry	
Four Yr. Course Alignment		
Postsecondary Credential	ITCC - CT Carpentry Specialist (46.0415), TC Carpentry Specialist (46.0415) VU - Construction Technology Certificate, CPC; CG Construction Carpenter Assistant (46.0000) VU/ABC - CPC Construction and Skilled Trades Technology, CG Construction Carpenter Assistant	
Liberal Arts/ Sciences Requirements	ITCC - MATH 122: Applied Technical Mathematics; COMM 104: Workplace Communications, IVYT 113: Student Success in Technology VU - ENGL 101: English Composition I, MATH 100+ level or higher	
Industry Credential	NCCER Carpentry Level 1 & 2, NCCER Masonry Level 1 & 2, IKORCC Carpenter Apprenticeship Level 1, ABC Apprenticeship	
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 7123 Construction Trades: General Carpentry here.	

Construction Trades: Framing and Finishing		
Career Cluster	Construction	
Program of Study	Construction Trades - Carpentry	
NLPS Sequence	C	
Course Code	7122	
Course Description	*Construction Trades: Framing and Finishing prepares students with advanced framing skills along with interior and exterior finishing techniques. Covered topics include roofing applications, thermal and moisture protection, exterior finishing, cold-formed steel framing, drywall installation and finishing, doors and door hardware, suspended ceilings, window, door, floor, and ceiling trim, and cabinet installation.*	
Prerequisite(s)/ Corequisite(s)	Principles of Construction Trades	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Standard Trade & Industrial: Building Trades K-12 ● Industrial Arts 7-12, K-12	
Rules 46-47	● Standard Trade & Industrial: Building Trades 9-12 ● Occupational Specialist I, II or III: Building Trades 9-12 ● Industrial Technology K-12 ● Industrial Education K-12	
Rules 2002	● Technology Education with high school setting ● Workplace Specialist: Building Trades ● Workplace Specialist in related course approved for a CTE pathway	
REPA/REPA 3	● Technology Education 5-12 ● CTE: Trade and Industrial: Building Trades 5-12 ● Workplace Specialist: Construction 9-12 ● Workplace Specialist: Building Trades 9-12 ● Workplace Specialist in related course approved for a CTE pathway	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	BCTI 103: Carpentry Framing and Finishing, Part 1; BCTI 104: Carpentry Framing and Finishing, Part 2	
VU Course Alignment	CNST 160/160L (Lab): Finish Carpentry/Finish Carpentry Laboratory VU/ABC – APPC 111: Carpentry Applications	
Four Yr. Course		

Alignment	
Postsecondary Credential	ITCC - CT Carpentry Specialist (46.0415), TC Carpentry Specialist (46.0415) VU - Construction Technology Certificate, CPC; CG Construction Carpenter Assistant (46.0000) VU/ABC - CPC Construction and Skilled Trades Technology, CG Construction Carpenter Assistant
Liberal Arts/ Sciences Requirements	ITCC - MATH 122: Applied Technical Mathematics; COMM 104: Workplace Communications; IVYT 113: Student Success in Technology VU - ENGL 101: English Composition I, MATH 100+ level or higher
Industry Credential	NCCER Carpentry Framing and Finishing Level 2, NCCER Carpentry Level 1 & 2, NCCER Masonry Level 1 & 2, IKORCC Carpenter Apprenticeship Level 1, ABC Apprenticeship
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7122 Construction Trades: Framing and Finishing here.

Construction Trades: Masonry Fundamentals		
Career Cluster	Construction	
Program of Study	Construction Trades - Carpentry	
NLPS Sequence	C	
Course Code	7390	
Course Description	*The Masonry Fundamentals course covers foundations of completing masonry work including safety, tools, and the basics of brick and block construction. After mastering the basics, students will be introduced to advanced masonry techniques including control and expansion joints, corners and intersections. Students will also understand the impacts of climate on masonry work and how to inspect masonry work for quality control.*	
Prerequisite(s)/ Corequisite(s)	Principles of Construction Trades; Construction Trades: General Carpentry	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Standard Trade & Industrial: Building Trades K-12 ● Industrial Arts 7-12, K-12	
Rules 46-47	● Standard Trade & Industrial: Building Trades 9-12 ● Occupational Specialist I, II or III: Building Trades 9-12 ● Industrial Technology K-12 ● Industrial Education K-12	

Rules 2002	● Technology Education with high school setting ● Workplace Specialist: Building Trades ● Workplace Specialist in related course approved for a CTE pathway
REPA/REPA 3	● Technology Education 5-12 ● CTE: Trade and Industrial: Building Trades 5-12 ● Workplace Specialist: Construction 9-12 ● Workplace Specialist: Building Trades 9-12 ● Workplace Specialist in related course approved for a CTE pathway
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	BCTI 140: Introduction to Masonry
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	VU - CG Construction Carpenter Assistant (46.0000)
Liberal Arts/ Sciences Requirements	ITCC - MATH 122: Applied Technical Mathematics, COMM 104: Workplace Communications, IVYT 113: Student Success in Technology VU - ENGL 101: English Composition I, MATH 100+ level or higher
Industry Credential	NCCER Carpentry Level 1 & 2, NCCER Masonry Level 1 & 2, IKORCC Carpenter Apprenticeship Level 1, ABC Apprenticeship
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7390 Construction Trades: Masonry Fundamentals here.

Construction Trades Capstone	
Career Cluster	Construction
Program of Study	Construction Trades - Carpentry
NLPS Sequence	D
Course Code	7242
Course Description	*The Construction Trades: General Carpentry Capstone allows students to gain a deeper understanding and experience of the field of carpentry. This course builds upon the skills and concepts that students were first introduced to in Principles of Construction Trade, Construction Trades: General Carpentry, and Construction Trades: Framing and Finishing. Additional topics include an introduction to the National Electric Code, electrical safety, electrical circuits, basic electrical construction drawings, and residential electrical services. The course prepares students for the NCCER Carpentry Electrical Level 1 Certificates.*
Prerequisite(s)/ Corequisite(s)	Principles of Construction Trades; Construction Trades: General Carpentry; and Construction Trades: Framing and Finishing
Credits	2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum

Counts Toward	Counts as a quantitative reasoning course for CORE 40 diplomas	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level II
Bulletin 400	● Industrial Arts 7-12, K-12 ● Standard Trade & Industrial: Engineering K-12 ● Appropriate Vocational License	
Rules 46-47	● Industrial Technology K-12 ● Industrial Education K-12 ● Standard Trade & Industrial: Civil Architectural Engineering 9- 12 ● Occupational Specialist I, II or III: Civil-Architectural Engineering 9-12 ● Occupational Specialist I, II or III: Building Trades Technology 9-12 ● Appropriate Vocational License ● Occupational Specialist in related course approved for a CTE pathway	
Rules 2002	● Technology Education with high school setting ● CTE: Trade & Industrial: Civil-Architectural Engineering Workplace Specialist: Civil Architectural Engineering ● Workplace Specialist: Construction 9-12 ● Workplace Specialist: Building Trades 9-12 ● Appropriate CTE License with high school setting ● Workplace Specialist in related course approved for a CTE pathway	
REPA/REPA 3	● Technology Education 5-12 ● CTE: Trade & Industrial Civil Architectural Engineering 5-12 ● Workplace Specialist: Engineering 9- 12 ● Workplace Specialist: Construction 9- 12 ● Workplace Specialist: Building Trades 9-12 ● Appropriate CTE License 5-12 ● Workplace Specialist in related course approved for a CTE Pathway	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	BCTI 130: Introduction to Electrical; BCTI 201: Carpentry Forms, Part 1; BCTI 202: Carpentry Forms, Part 2; BCTI 280: Co-Op/Internship	
VU Course Alignment	VU/EC - CNST 155/155L (LAB): Electrical Wiring VU/ABC – APPE 101: Introduction to Electrical, APPE 111: Electrical Applications	
Four Yr. Course Alignment		
Postsecondary Credential	ITCC - CT Carpentry Specialist (46.0415), TC Carpentry Specialist (46.0415) VU/EC – Construction Technology Certificate CPC, CG Construction Carpenter Assistant (46.0000) VU/ABC - CPC Construction and Skilled Trades Technology, CG Construction Carpenter Assistant	
Liberal Arts/ Sciences Requirements	ITCC - MATH 122: Applied Technical Mathematics, COMM 104: Workplace Communications, IVYT 113: Student Success in Technology VU - ENGL 101: English Composition I, MATH 100+ level or higher	

Industry Credential	NCCER Carpentry Level 1 & 2, NCCER Masonry Level 1 & 2, IKORCC Carpenter Apprenticeship Level 1, ABC Apprenticeship
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7242 Construction Trades Capstone here.

Masonry Capstone		
Career Cluster	Construction	
Program of Study	Construction Trades - Carpentry	
NLPS Sequence	D	
Course Code	7391	
Course Description	*The Masonry Capstone course covers the basics of brick and block construction. The course is aligned to an entry level apprenticeship program through the International Union of Bricklayers & Allied Craftworkers Indiana/Kentucky. The program includes approximately 300 hours of instruction with on-the-job training.*	
Prerequisite(s)/ Corequisite(s)	Principles of Construction Trades; Construction Trades: General Carpentry; and Construction Trades: Masonry Fundamentals	
Credits	2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum	
Counts Toward	Counts as a Directed Elective or Elective for all diplomas Counts as a quantitative reasoning course*	
Dual Credit Status	X	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level II
Bulletin 400	● Standard Trade & Industrial: Building Trades K-12 ● Industrial Arts 7-12, K-12	
Rules 46-47	● Standard Trade & Industrial: Building Trades 9-12 ● Occupational Specialist I, II or III: Building Trades 9-12 ● Industrial Technology K-12 ● Industrial Education K-12	
Rules 2002	● Technology Education with high school setting ● Workplace Specialist: Building Trades ● Workplace Specialist in related course approved for a CTE pathway	
REPA/REPA 3	● Technology Education 5-12 ● CTE: Trade and Industrial: Building Trades 5-12 ● Workplace Specialist: Construction 9-12 ● Workplace Specialist: Building Trades 9-12 ● Workplace Specialist in related course approved for a CTE pathway	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course		

Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	VU - CG Construction Carpenter Assistant (46.0000)
Liberal Arts/ Sciences Requirements	ITCC - MATH 122: Applied Technical Mathematics, COMM 104: Workplace Communications, IVYT 113: Student Success in Technology VU - ENGL 101: English Composition I, MATH 100+ level or higher
Industry Credential	NCCER Carpentry Level 1 & 2, NCCER Masonry Level 1 & 2, IKORCC Carpenter Apprenticeship Level 1, ABC Apprenticeship
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7391 Masonry Capstone here.

Construction Construction Trades - Electrical							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
7130	Principles of Construction Trades	7124	Electrical Fundamentals	7119	Advanced Electrical	7263	Construction Trades Electrical Capstone

Principles of Construction Trades		
Career Cluster	Construction	
Program of Study	Building and Facilities Management, Civil Construction (Heavy Highway), Construction Trades – Carpentry, Construction Trades – Electrical, Heavy Equipment Operations	
NLPS Sequence	A	
Course Code	7130	
Course Description	*Principles of Construction Trades prepares students with the basic skills needed to continue in a construction trade field. Topics will include an introduction to the types and uses for common hand and power tools, learn the types and basic terminology associated with construction drawings, and basic safety. Additionally, students will study the roles of individuals and companies within the construction industry and reinforce mathematical and communication skills necessary to be successful in the construction field.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Standard Trade & Industrial: Building Trades K-12 ● Industrial Arts 7-12, K-12	
Rules 46-47	● Standard Trade & Industrial: Building Trades 9-12 ● Occupational Specialist I, II or III: Building Trades 9-12 ● Industrial Technology K-12 ● Industrial Education K-12	
Rules 2002	● Technology Education with high school setting ● Workplace Specialist: Building Trades ● Workplace Specialist in related course approved for a CTE pathway	

REPA/REPA 3	● Technology Education 5-12 ● CTE: Trade and Industrial: Building Trades 5-12 ● Workplace Specialist: Construction 9-12 ● Workplace Specialist: Building Trades 9-12 ● Workplace Specialist in related course approved for a CTE pathway
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	BCTI 100: Introduction to Construction Technology
VU Course Alignment	CNST 100: Construction Seminar, CNST 120: Construction Safety
Four Yr. Course Alignment	
Postsecondary Credential	ITCC - CT Carpentry Specialist (46.0415), TC Carpentry Specialist (46.0415) VU – CPC Construction Technology Certificate; CG Construction Carpenter Assistant (46.0000) VU/ABC - CPC Construction and Skilled Trades Technology, CG Construction Carpenter Assistant
Liberal Arts/ Sciences Requirements	ITCC - MATH 122: Applied Technical Mathematics, COMM 104: Workplace Communications, IVYT 113: Student Success in Technology VU - ENGL 101: English Composition I, MATH 100+ level or higher
Industry Credential	NCCER Core Certification
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7130 Principles of Construction Trades here.

Electrical Fundamentals	
Career Cluster	Construction
Program of Study	Construction Trades - Electrical
NLPS Sequence	B
Course Code	7124
Course Description	*This course covers the materials present within the NCCER Electrical Level 1 Certificate. Included modules cover topics such as an overview of the electrical trade, electrical safety, introduction to electrical circuits, electrical theory, introduction to the National Electrical Code, device boxes, hand bending, raceways and fittings, conductors and cables, basic electrical construction drawings, residential electrical services, and electrical test equipment. The NCCER Electrical Level 1 Certificate and wallet card will also be awarded upon successful completion of this course.*
Prerequisite(s)/ Corequisite(s)	Principles of Construction Trades
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum

Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Standard Trade & Industrial: Building Trades K-12 ● Industrial Arts 7-12, K-12	
Rules 46-47	● Standard Trade & Industrial: Building Trades 9-12 ● Occupational Specialist I, II or III: Building Trades 9-12 ● Industrial Technology K-12 ● Industrial Education K-12	
Rules 2002	● CTE: Trade & Industrial: Building Trades Technology ● Workplace Specialist: Building Trades Technology ● Workplace Specialist: Industrial Technology or Industrial Electronics ● Technology Education	
REPA/REPA 3	● CTE: Trade & Industrial: Building Trades 5-12 ● CTE: Trade & Industry: Electrician 5-12 ● Workplace Specialist: Electrical 9-12 ● Workplace Specialist: Industrial Technology or Industrial Electronics 9-12 ● Technology Education 5-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	BCTI 130: Introduction to Electrical	
VU Course Alignment	VU/ABC – APPE 101: Introduction to Electrical, APPE 111: Electrical Applications	
Four Yr. Course Alignment		
Postsecondary Credential	ITCC – CT Carpentry Specialist (46.0415), TC Carpentry Specialist (46.0415) VU/ABC - CPC Construction and Skilled Trades Technology, CG Construction Carpenter Assistant	
Liberal Arts/ Sciences Requirements		
Industry Credential	NCCER Electrical Level 1 & 2, IBEW Apprenticeship	
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 7124 Electrical Fundamentals here.	

Advanced Electrical		
Career Cluster	Construction	
Program of Study	Construction Trades - Electrical	
NLPS Sequence	C	
Course Code	7119	
Course Description	*Advanced Electrical covers topics such as alternating current, motors (theory and application), electric lighting, conduit bending, and pull and junction boxes. The second part of the course will cover topics such as conductor installations, cable tray, conductor terminations and splices, grounding and bonding, circuit breakers and fuses, control systems, and additional electrical concepts. Students will be ready to complete the NCCER Electrical Level 2 Certificate upon successful completion of the course.*	
Prerequisite(s)/ Corequisite(s)	Principles of Construction Trades; Electrical Fundamentals	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Counts as a quantitative reasoning course for CORE 40 diplomas	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Standard Trade & Industrial: Building Trades K-12 ● Industrial Arts 7-12, K-12	
Rules 46-47	● Standard Trade & Industrial: Building Trades 9-12 ● Occupational Specialist I, II or III: Building Trades 9-12 ● Industrial Technology K-12 ● Industrial Education K-12	
Rules 2002	● CTE: Trade & Industrial: Building Trades Technology ● Workplace Specialist: Building Trades Technology ● Workplace Specialist: Industrial Technology or Industrial Electronics ● Technology Education	
REPA/REPA 3	● CTE: Trade & Industrial: Building Trades 5-12 ● CTE: Trade & Industry: Electrician 5-12 ● Workplace Specialist: Electrical 9-12 ● Workplace Specialist: Industrial Technology or Industrial Electronics 9-12 ● Technology Education 5-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	BCTI 131: Electrical Part 1; BCTI 132: Electrical Part 2	
VU Course Alignment		

Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/ Sciences Requirements	
Industry Credential	NCCER Electrical Level 1 & 2, IBEW Apprenticeship
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7119 Advanced Electrical here.

Construction Trades Electrical Capstone		
Career Cluster	Construction	
Program of Study	Construction Trades - Electrical	
NLPS Sequence	D	
Course Code	7263	
Course Description	*Construction Trades Electrical Capstone builds upon the skills learned in Electrical Fundamentals and Advanced Electrical. Topics covered include load calculations (branch and feeder circuits), conductor selection and calculations, and the practical applications of lighting. This course will also cover commercial electrical services including distribution equipment; transformers; and voice, data and video. Completion of this course will prepare students for the NCCER Electrical Level 3 Certificate. Students may also complete an Ivy Tech CT by completing coursework in general carpentry.*	
Prerequisite(s)/ Corequisite(s)	Principles of Construction Trades; Electrical Fundamentals; Advanced Electrical	
Credits	2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum	
Counts Toward	Counts as a quantitative reasoning course for CORE 40 diplomas	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level II
Bulletin 400	● Standard Trade & Industrial: Building Trades K-12 ● Industrial Arts 7-12, K-12	
Rules 46-47	● Standard Trade & Industrial: Building Trades 9-12 ● Occupational Specialist I, II or III: Building Trades 9-12 ● Industrial Technology K-12 ● Industrial Education K-12	
Rules 2002	● CTE: Trade & Industrial: Building Trades Technology	

	● Workplace Specialist: Building Trades Technology ● Workplace Specialist: Industrial Technology or Industrial Electronics ● Technology Education
REPA/REPA 3	● CTE: Trade & Industrial: Building Trades 5-12 ● CTE: Trade & Industry: Electrician 5-12 ● Workplace Specialist: Electrical 9-12 ● Workplace Specialist: Industrial Technology or Industrial Electronics 9-12 ● Technology Education 5-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	BCTI 231: Intermediate Electrical, Part 1; BCTI 232: Intermediate Electrical, Part 2; BCTI 101: Intro to Carpentry, Part 1; BCTI 102: Intro to Carpentry, Part 2; BCTI 280: Co-Op/ Internship BCTI 231: Intermediate Electrical Part 1, BCTI 232: Intermediate Electrical Part 2
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	ITCC – CT Carpentry Specialist (46.0415), TC Carpentry Specialist (46.0415)
Liberal Arts/ Sciences Requirements	
Industry Credential	NCCER Electrical Level 1 & 2, IBEW Apprenticeship
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7263 Construction Trades Electrical Capstone here.

Construction Heating, Ventilation, and Air Conditioning (HVAC)							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
7131	Principles of HVAC	7125	HVAC Fundamentals	7126	HVAC Service	7244	HVAC Capstone

Principles of Heating, Ventilation, and Air Conditioning (HVAC)		
Career Cluster	Construction	
Program of Study	HVAC	
NLPS Sequence	A	
Course Code	7131	
Course Description	*Principles of Heating, Ventilation, and Air Conditioning (HVAC) covers many of the topics needed for students to be successful in the mechanical construction industry. Modules include history of the HVAC Industry, OSHA 10-Hour Construction Industry Training, and basic communication and customer service skills. This course will also cover basic electricity concepts.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Standard Trade & Industrial: Heating & Air Conditioning K-12 ● Industrial Arts 7-12, K-12	
Rules 46-47	● Standard Trade & Industrial: Heating & Air Conditioning 9-12 ● Occupational Specialist I, II or III: Heating & Air Conditioning 9-12 ● Industrial Technology K-12 ● Industrial Education K-12	
Rules 2002	● CTE: Trade & Industrial: Heating, Ventilation, Air Conditioning, & Refrigeration (HVACR) ● Workplace Specialist: Heating, Ventilation, Air Conditioning, & Refrigeration (HVACR) ● Technology Education	
REPA/REPA 3	● CTE: Trade & Industrial Heating, Ventilation, Air Conditioning, & Refrigeration (HVACR) 5-12	

	● Workplace Specialist: HVAC 9-12 ● Technology Education 5-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	HVAC 100: Intro to HVAC Technology, BCTI 130: Introduction to Electrical
VU Course Alignment	VU/ABC – APPE 101: Introduction to Electrical, APPP 101: Introduction to Plumbing
Four Yr. Course Alignment	
Postsecondary Credential	ITCC – CT Heating, Ventilation, and Air Conditioning (47.0201), TC Heating, Ventilation and Air Conditioning (47.0201) VU/ABC - CPC Construction and Skilled Trades Technology, CG Construction Carpenter Assistant
Liberal Arts/ Sciences Requirements	ITCC - MATH 122: Applied Technical Mathematics, COMM 104: Workplace Communications, IVYT 113: Student Success in Technology
Industry Credential	NCCER HVAC Level 1 & 2
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7131 Principles of Heating, Ventilation, and Air Conditioning (HVAC) here.

HVAC Fundamentals	
Career Cluster	Construction
Program of Study	HVAC
NLPS Sequence	B
Course Code	7125
Course Description	*Heating, Ventilation, and Air Conditioning (HVAC) Fundamentals introduces fundamentals applicable to the heating and refrigeration phases of air conditioning. Course topics include: types of units, parts, basic controls, functions, and applications. Emphasis is placed on standard industry practices, tool and meter use, temperature measurement, heat flow, the combustion process, and piping installation practices. The course also covers the basic sequence of operation for gas, oil and electric furnaces. Students receive an introduction to compression systems used in mechanical refrigeration including the refrigeration cycle and system components. The course introduces students to safety procedures, proper use of tools used to install and service refrigeration equipment, refrigerant charging and recovery, system evacuation, calculating superheat and subcooling, and using a refrigerant temperature/pressure chart. This course utilizes lectures, labs, and online simulations to prepare students for the nationally recognized certification exam as part of the outcome assessment learning objectives.*
Prerequisite(s)/ Corequisite(s)	Principles of HVAC

Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Standard Trade & Industrial: Heating & Air Conditioning K-12 ● Industrial Arts 7-12, K-12	
Rules 46-47	● Standard Trade & Industrial: Heating & Air Conditioning 9-12 ● Occupational Specialist I, II or III: Heating & Air Conditioning 9-12 ● Industrial Technology K-12 ● Industrial Education K-12	
Rules 2002	● CTE: Trade & Industrial: Heating, Ventilation, Air Conditioning, & Refrigeration (HVACR) ● Workplace Specialist: Heating, Ventilation, Air Conditioning, & Refrigeration (HVACR) ● Technology Education	
REPA/REPA 3	● CTE: Trade & Industrial Heating, Ventilation, Air Conditioning, & Refrigeration (HVACR) 5-12 ● Workplace Specialist: HVAC 9-12 ● Technology Education 5-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	HVAC 101: Heating Fundamentals, HVAC 103: Refrigeration I	
VU Course Alignment		
Four Yr. Course Alignment		
Postsecondary Credential	ITCC: CT Heating, Ventilation, and Air Conditioning (47.0201), TC Heating, Ventilation and Air Conditioning (47.0201)	
Liberal Arts/ Sciences Requirements	ITCC - MATH 122: Applied Technical Mathematics, COMM 104: Workplace Communications, IVYT 113: Student Success in Technology	
Industry Credential	NCCER HVAC Level 1 & 2	
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 7125 HVAC Fundamentals here.	

HVAC Service		
Career Cluster	Construction	
Program of Study	HVAC	
NLPS Sequence	C	
Course Code	7126	
Course Description	*Heating, Ventilation, and Air Conditioning (HVAC) Service continues the study of air conditioning and refrigeration along with the procedures used to analyze mechanical and electrical problems encountered when servicing heating systems. Students will better understand compressors, metering devices, system recharging, refrigerant recovery, basics of motor types, equipment installation and troubleshooting practices as they apply to air conditioning and refrigeration systems. Additionally, students will be able to understand electrical schematics and connection diagrams, combustion testing, venting and combustion air requirements, sequence of operation, heating controls, troubleshooting techniques, installation practices, basic codes applying to furnace codes, and service procedures. This course will use lecture, lab and online simulation to prepare students for the nationally recognized certification exam as part of the outcome assessment learning objectives.*	
Prerequisite(s)/ Corequisite(s)	Principles of HVAC; HVAC Fundamentals	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Standard Trade & Industrial: Heating & Air Conditioning K-12 ● Industrial Arts 7-12, K-12	
Rules 46-47	● Standard Trade & Industrial: Heating & Air Conditioning 9-12 ● Occupational Specialist I, II or III: Heating & Air Conditioning 9-12 ● Industrial Technology K-12 ● Industrial Education K-12	
Rules 2002	● CTE: Trade & Industrial: Heating, Ventilation, Air Conditioning, & Refrigeration (HVACR) ● Workplace Specialist: Heating, Ventilation, Air Conditioning, & Refrigeration (HVACR) ● Technology Education	
REPA/REPA 3	● CTE: Trade & Industrial Heating, Ventilation, Air Conditioning, & Refrigeration (HVACR) 5-12 ● Workplace Specialist: HVAC 9-12 ● Technology Education 5-12	

POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	HVAC 202: Electrical Circuits and Controls, HVAC 211: Refrigeration II
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	ITCC – CT Heating, Ventilation, and Air Conditioning (47.0201), TC Heating, Ventilation, and Air Conditioning (47.0201)
Liberal Arts/ Sciences Requirements	ITCC - MATH 122: Applied Technical Mathematics, COMM 104: Workplace Communications, IVYT 113: Student Success in Technology
Industry Credential	NCCER HVAC Level 1 & 2
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7126 HVAC Service here.

HVAC Capstone		
Career Cluster	Construction	
Program of Study	HVAC	
NLPS Sequence	D	
Course Code	7244	
Course Description	*The Heating, Ventilation, and Air Conditioning (HVAC) Capstone course covers procedures used to analyze mechanical and electrical problems encountered when servicing heating systems. Topics include electrical schematics and connection diagrams, combustion testing, venting and combustion air requirements, sequence of operation, heating controls, troubleshooting techniques, installation practices, basic codes applying to furnace codes, and service procedures. Students may also have the opportunity to gain an understanding of Heat Pump Systems or to develop skills needed to fabricate and install duct work. This course will use lecture, lab and online simulation to prepare students for the nationally recognized certification exam as part of the outcome assessment learning objectives.*	
Prerequisite(s)/ Corequisite(s)	Principles of HVAC; HVAC Fundamentals; HVAC Service	
Credits	2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum	
Counts Toward	Counts as a quantitative reasoning course for CORE 40 diplomas	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level II

Bulletin 400	● Standard Trade & Industrial: Heating & Air Conditioning K-12 ● Industrial Arts 7-12, K-12
Rules 46-47	● Standard Trade & Industrial: Heating & Air Conditioning 9-12 ● Occupational Specialist I, II or III: Heating & Air Conditioning 9-12 ● Industrial Technology K-12 ● Industrial Education K-12
Rules 2002	● CTE: Trade & Industrial: Heating, Ventilation, Air Conditioning, & Refrigeration (HVACR) ● Workplace Specialist: Heating, Ventilation, Air Conditioning, & Refrigeration (HVACR) ● Technology Education
REPA/REPA 3	● CTE: Trade & Industrial Heating, Ventilation, Air Conditioning, & Refrigeration (HVACR) 5-12 ● Workplace Specialist: HVAC 9-12 ● Technology Education 5-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	HVAC 208: Heating Service; HVAC 107: Duct Fabrication and Installation ***OR*** HVAC 205: Heat Pump Systems*
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	ITCC – CT Heating, Ventilation, and Air Conditioning (47.0201); TC Heating, Ventilation and Air Conditioning (47.0201)
Liberal Arts/ Sciences Requirements	ITCC - MATH 122: Applied Technical Mathematics, COMM 104: Workplace Communications, IVYT 113: Student Success in Technology
Industry Credential	NCCER HVAC Level 1 & 2
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7244 HVAC Capstone here.

Construction Heavy Equipment Operations							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
7130	Principles of Construction Trades	7290	Heavy Equipment Fundamentals	7291	Advanced Heavy Equipment Operations	7292	Heavy Equipment Capstone

Principles of Construction Trades		
Career Cluster	Construction	
Program of Study	Heavy Equipment Operations	
NLPS Sequence	A	
Course Code	7130	
Course Description	*Principles of Construction Trades prepares students with the basic skills needed to continue in a construction trade field. Topics will include an introduction to the types and uses for common hand and power tools, learn the types and basic terminology associated with construction drawings, and basic safety. Additionally students will study the roles of individuals and companies within the construction industry and reinforce mathematical and communication skills necessary to be successful in the construction field.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	• Standard Trade & Industrial: Building Trades K-12 • Industrial Arts 7-12, K-12	
Rules 46-47	• Standard Trade & Industrial: Building Trades 9-12 • Occupational Specialist I, II or III: Building Trades 9-12 • Industrial Technology K-12 • Industrial Education K-12	
Rules 2002	• Technology Education with high school setting • Workplace Specialist: Building Trades • Workplace Specialist in related course approved for a CTE pathway	
REPA/REPA 3	• Technology Education 5-12 • CTE: Trade and Industrial: Building Trades 5-12 • Workplace Specialist: Construction 9-12	

	● Workplace Specialist: Building Trades 9-12 ● Workplace Specialist in related course approved for a CTE pathway
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	BCTI 100: Introduction to Construction Technology
VU Course Alignment	CNST 100: Construction Seminar, CNST 120: Construction Safety
Four Yr. Course Alignment	
Postsecondary Credential	ITCC - CT Carpentry Specialist (46.0415), TC Carpentry Specialist (46.0415) VU - CG Construction Carpenter Assistant (46.0000), CPC Construction Technology
Liberal Arts/ Sciences Requirements	ITCC - MATH 122: Applied Technical Mathematics, COMM 104: Workplace Communications, IVYT 113: Student Success in Technology VU - ENGL 101: English Composition I, MATH 100+ level or higher,
Industry Credential	NCCER Core Certification
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7130 Principles of Construction Trades here.

Heavy Equipment Fundamentals		
Career Cluster	Construction	
Program of Study	Heavy Equipment Operations	
NLPS Sequence	B	
Course Code	7290	
Course Description	*Heavy Equipment Fundamentals orients students to the Heavy Equipment industry and the basics operational techniques required to be a Heavy Equipment Operator. Covered topics include: jobsite safety, identification of heavy equipment, utility tractors, earthmoving, and grades. This course prepares students for the NCCER Heavy Equipment Level 1 Certification.*	
Prerequisite(s)/ Corequisite(s)	Principles of Construction Trades	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level I
Bulletin 400	● Standard Trade & Industrial: Building Trades K-12	

	● Industrial Arts 7-12, K12
Rules 46-47	● Standard Trade & Industrial: Building Trades 9-12 ● Occupational Specialist I, II or III: Building Trades 9-12 ● Industrial Technology K-12 ● Industrial Education K-12
Rules 2002	● CTE: Trade & Industrial: Building Trades Technology ● Workplace Specialist: Building Trades Technology ● Technology Education
REPA/REPA 3	● CTE: Trade & Industrial Building Trades 5-12 ● Workplace Specialist: Heavy Equipment 9-12 ● Technology Education 5-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/ Sciences Requirements	
Industry Credential	NCCER Heavy Equipment Operator Level 1 & 2
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7290 Heavy Equipment Fundamentals here.

Advanced Heavy Equipment Operations	
Career Cluster	Construction
Program of Study	Heavy Equipment Operations
NLPS Sequence	C
Course Code	7291
Course Description	*Advanced Heavy Equipment Operations builds upon the earthmoving knowledge learned in Heavy Equipment Fundamentals. Students will gain the necessary skills and knowledge regarding soils, excavation math, and interpreting Civil Drawings to be able to prepare a site. Additionally students will learn to operate scrapers used in site preparation. This course will prepare students for the first half of the NCCER Heavy Equipment Operations Level 2.*
Prerequisite(s)/ Corequisite(s)	Principles of Construction Trades; Heavy Equipment Fundamentals

Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level I
Bulletin 400	● Standard Trade & Industrial: Building Trades K-12 ● Industrial Arts 7-12, K12	
Rules 46-47	● Standard Trade & Industrial: Building Trades 9-12 ● Occupational Specialist I, II or III: Building Trades 9-12 ● Industrial Technology K-12 ● Industrial Education K-12	
Rules 2002	● CTE: Trade & Industrial: Building Trades Technology ● Workplace Specialist: Building Trades Technology ● Technology Education	
REPA/REPA 3	● CTE: Trade & Industrial Building Trades 5-12 ● Workplace Specialist: Heavy Equipment 9-12 ● Technology Education 5-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment		
VU Course Alignment		
Four Yr. Course Alignment		
Postsecondary Credential		
Liberal Arts/ Sciences Requirements		
Industry Credential	NCCER Heavy Equipment Operator Level 1 & 2	
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 7291 Advanced Heavy Equipment Operations here.	

Heavy Equipment Capstone	
Career Cluster	Construction
Program of Study	Heavy Equipment Operations
NLPS Sequence	D

Course Code	7292	
Course Description	*Heavy Equipment Capstone covers the second part of NCCER Heavy Equipment Level 2 and all of Level 3. Students will learn to operate Loaders, Skid Steers, Rough Terrain Forklifts, Backhoes, and Dozers.*	
Prerequisite(s)/ Corequisite(s)	Principles of Construction Trades; Heavy Equipment Fundamentals; Advanced Heavy Equipment Operations	
Credits	2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum	
Counts Toward		
Dual Credit Status	X	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level II
Bulletin 400	● Standard Trade & Industrial: Building Trades K-12 ● Industrial Arts 7-12, K12	
Rules 46-47	● Standard Trade & Industrial: Building Trades 9-12 ● Occupational Specialist I, II or III: Building Trades 9-12 ● Industrial Technology K-12 ● Industrial Education K-12	
Rules 2002	● CTE: Trade & Industrial: Building Trades Technology ● Workplace Specialist: Building Trades Technology ● Technology Education	
REPA/REPA 3	● CTE: Trade & Industrial Building Trades 5-12 ● Workplace Specialist: Heavy Equipment 9-12 ● Technology Education 5-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment		
VU Course Alignment		
Four Yr. Course Alignment		
Postsecondary Credential		
Liberal Arts/ Sciences Requirements		
Industry Credential	NCCER Heavy Equipment Operator Level 1 & 2	
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 7292 Heavy Equipment Capstone here.	

Construction Plumbing and Pipefitting							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
7133	Principles of Plumbing and Pipefitting	7129	Plumbing and Pipefitting Fundamentals	7120	Advanced Plumbing and Pipefitting	7264	Plumbing and Pipefitting Capstone

Principles of Plumbing and Pipefitting		
Career Cluster	Construction	
Program of Study	Plumbing and Pipefitting	
NLPS Sequence	A	
Course Code	7133	
Course Description	*Principles of Plumbing and Pipefitting covers much of the NCCER Level I Curriculum for Plumbing and is a prerequisite to future plumbing courses. Its modules cover topics such as an introduction to the plumbing profession, basic safety, tools used in the plumbing trade, an introduction to plumbing drawings, and all basic skills needed to continue education in the plumbing program.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Standard Trade & Industrial: Building Trades K-12 ● Industrial Arts 7-12, K-12	
Rules 46-47	● Standard Trade & Industrial: Building Trades 9-12 ● Occupational Specialist I, II or III: Building Trades 9-12 ● Industrial Technology K-12 ● Industrial Education K-12	
Rules 2002	● CTE: Trade & Industrial: Building Trades Technology ● Workplace Specialist: Building Trades Technology ● Technology Education	
REPA/REPA 3	● CTE: Trade & Industrial Building Trades 5-12 ● CTE: Trade & Industrial: Plumbing & Pipefitting 5-12 ● Technology Education 5-12 ● Workplace Specialist: Construction Trades 9-12	

	● Workplace Specialist: Plumbing & Pipefitting 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	BCTI 150: Introduction to Plumbing, Part 1; BCTI 151: Introduction to Plumbing, Part 2
VU Course Alignment	VU/ABC – APPP 111: Principles of Plumbing and Pipefitting
Four Yr. Course Alignment	
Postsecondary Credential	VU/ABC - CPC Construction and Skilled Trades Technology, CG Construction Carpenter Assistant
Liberal Arts/ Sciences Requirements	
Industry Credential	NCCER Plumber Level 1 & 2
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7133 Principles of Plumbing and Pipefitting here.

Plumbing and Pipefitting Fundamentals		
Career Cluster	Construction	
Program of Study	Plumbing and Pipefitting	
NLPS Sequence	B	
Course Code	7129	
Course Description	*Plumbing and Pipefitting Fundamentals builds on the knowledge and skills developed in the principles course. Students will gain a better understanding of a variety of plumbing materials and fittings. As well as focus on common plumbing installations including piping, drains, fixtures, and valves.*	
Prerequisite(s)/ Corequisite(s)	Principles of Plumbing and Pipefitting	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Standard Trade & Industrial: Building Trades K-12 ● Industrial Arts 7-12, K-12	
Rules 46-47	● Standard Trade & Industrial: Building Trades 9-12 ● Occupational Specialist I, II or III: Building Trades 9-12	

	● Industrial Technology K-12 ● Industrial Education K-12
Rules 2002	● CTE: Trade & Industrial: Building Trades Technology ● Workplace Specialist: Building Trades Technology ● Technology Education
REPA/REPA 3	● CTE: Trade & Industrial Building Trades 5-12 ● CTE: Trade & Industrial: Plumbing & Pipefitting 5-12 ● Technology Education 5-12 ● Workplace Specialist: Construction Trades 9-12 ● Workplace Specialist: Plumbing & Pipefitting 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/ Sciences Requirements	
Industry Credential	NCCER Plumbing Level 1 & 2
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7129 Plumbing and Pipefitting Fundamentals here.

Advanced Plumbing and Pipefitting	
Career Cluster	Construction
Program of Study	Plumbing and Pipefitting
NLPS Sequence	C
Course Code	7120
Course Description	*Advanced Plumbing and Pipefitting prepares students for more advanced installations including structural penetrations, insulations, and water heaters. Additionally, students will gain a better understanding of basic electricity and fuel systems that are required for these advanced installations.*
Prerequisite(s)/ Corequisite(s)	Principles of Plumbing and Pipefitting; Plumbing and Pipefitting Fundamentals
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
Counts Toward	

Dual Credit Status	X	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Standard Trade & Industrial: Building Trades K-12 ● Industrial Arts 7-12, K-12	
Rules 46-47	● Standard Trade & Industrial: Building Trades 9-12 ● Occupational Specialist I, II or III: Building Trades 9-12 ● Industrial Technology K-12 ● Industrial Education K-12	
Rules 2002	● CTE: Trade & Industrial: Building Trades Technology ● Workplace Specialist: Building Trades Technology ● Technology Education	
REPA/REPA 3	● CTE: Trade & Industrial Building Trades 5-12 ● CTE: Trade & Industrial: Plumbing & Pipefitting 5-12 ● Technology Education 5-12 ● Workplace Specialist: Construction Trades 9-12 ● Workplace Specialist: Plumbing & Pipefitting 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment		
VU Course Alignment		
Four Yr. Course Alignment		
Postsecondary Credential		
Liberal Arts/ Sciences Requirements		
Industry Credential	NCCER Plumbing Level 1 & 2	
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 7120 Advanced Plumbing and Pipefitting here.	

Plumbing and Pipefitting Capstone	
Career Cluster	Construction
Program of Study	Plumbing and Pipefitting
NLPS Sequence	D

Course Code	7264	
Course Description	*The Plumbing and Pipefitting Capstone builds on the skills learned in Principles of Construction Trades, Plumbing and Pipefitting, and Advanced Plumbing and Pipefitting. This course is strictly for students who will either be prepared to earn at least a NCCER Level 3 or another similar plumbing certification and/or have completed at least one full-year's worth of an apprenticeship. In order to facilitate the completion of at least one of those goals, additional course competencies are expected to be developed on an as-needed basis.*	
Prerequisite(s)/ Corequisite(s)	Principles of Construction Trades; Plumbing and Pipefitting Fundamentals; Advanced Plumbing and Pipefitting	
Credits	2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum	
Counts Toward	Counts as a Directed Elective or Elective for all diplomas	
Dual Credit Status	X	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level II
Bulletin 400	● Standard Trade & Industrial: Building Trades K-12 ● Industrial Arts 7-12, K-12	
Rules 46-47	● Standard Trade & Industrial: Building Trades 9-12 ● Occupational Specialist I, II or III: Building Trades 9-12 ● Industrial Technology K-12 ● Industrial Education K-12	
Rules 2002	● CTE: Trade & Industrial: Building Trades Technology ● Workplace Specialist: Building Trades Technology ● Technology Education	
REPA/REPA 3	● CTE: Trade & Industrial Building Trades 5-12 ● CTE: Trade & Industrial: Plumbing & Pipefitting 5-12 ● Technology Education 5-12 ● Workplace Specialist: Construction Trades 9-12 ● Workplace Specialist: Plumbing & Pipefitting 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment		
VU Course Alignment		
Four Yr. Course Alignment		
Postsecondary Credential		
Liberal Arts/ Sciences Requirements		
Industry	NCCER Plumbing Level 1 & 2	

Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7264 Plumbing and Pipefitting Capstone here.

CTE Foundational Courses

Computing Foundations for a Digital Age	
Career Cluster	CTE Foundational Courses
Program of Study	
NLPS Sequence	
Course Code	4565
Course Description	*Computers and the internet have revolutionized the way we access and disseminate information. As technology continues to change at an ever-increasing pace, the need for students to gain a foundational understanding of computer science is clear. Computing Foundations for a Digital Age is designed to introduce students to five major topics within computer science including computing systems, networks and the internet, data and analysis, algorithms and planning, and impacts of computing. The course introduces foundational computing concepts while exploring current events and building critical thinking, collaboration, problem solving, and other important skills that are invaluable for life in a global and technologically advancing society.*
Prerequisite(s)/ Corequisite(s)	None
Credits	1 semester, 1 credit maximum
Counts Toward	Computer science requirement pursuant to Indiana Code IC 20-32-4-18.
Dual Credit Status	
Additional Notes	When offered as applied: 2 units maximum; counts as an employability applied unit for alternate diploma 7279
ADDITIONAL COURSE INFO	
Funding	
Bulletin 400	● Any 5-12 secondary educator with a valid Indiana licensure (i.e., instructional, administrator, counselor) and computer science/information technology (IT)/business professional development, training, or work experience ● Adjunct teacher holding a locally-issued adjunct teacher permit for teaching at the secondary level with work experience or training in computer science/information technology (IT)/business
Rules 46-47	● Any 5-12 secondary educator with a valid Indiana licensure (i.e., instructional, administrator, counselor) and computer science/information technology (IT)/business professional development, training, or work experience ● Adjunct teacher holding a locally-issued adjunct teacher permit for teaching at the secondary level with work experience or training in computer science/information technology (IT)/business
Rules 2002	● Any 5-12 secondary educator with a valid Indiana licensure (i.e., instructional, administrator, counselor) and computer science/information technology (IT)/business professional development, training, or work experience

	● Adjunct teacher holding a locally-issued adjunct teacher permit for teaching at the secondary level with work experience or training in computer science/information technology (IT)/business
REPA/REPA 3	● Any 5-12 secondary educator with a valid Indiana licensure (i.e., instructional, administrator, counselor) and computer science/information technology (IT)/business professional development, training, or work experience ● Adjunct teacher holding a locally-issued adjunct teacher permit for teaching at the secondary level with work experience or training in computer science/information technology (IT)/business
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/ Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 4565 Computing Foundations for a Digital Age here.

Personal Financial Responsibility	
Career Cluster	CTE Foundational Courses
Program of Study	
NLPS Sequence	
Course Code	4540
Course Description	*Personal Financial Responsibility addresses the identification and management of personal financial resources to meet the financial needs and wants of individuals and families, considering a broad range of economic, social, cultural, technological, environmental, and maintenance factors. This course helps students build skills in financial responsibility and decision making; analyze personal standards, needs, wants, and goals, identify sources of income, savings, and investing; understand banking, budgeting, record-keeping and manage risk, insurance and credit card debt. A project based approach and applications through authentic settings such as work based observations and service learning experiences are appropriate. Direct, concrete applications of mathematics proficiencies in projects are encouraged.*
Prerequisite(s)/	None

Corequisite(s)	
Credits	1 credit per semester, 1 credit maximum
Counts Toward	Counts as a quantitative reasoning course for CORE 40 diplomas
Dual Credit Status	
Additional Notes	When offered as applied: 2 units maximum; counts as an employability applied unit for alternate diploma
ADDITIONAL COURSE INFO	
Funding	
Bulletin 400	● 5-12 licensed teacher, counselor, or administrator with financial, math, or business professional development, training, or work experience
Rules 46-47	● 5-12 licensed teacher, counselor, or administrator with financial, math, or business professional development, training, or work experience
Rules 2002	● 5-12 licensed teacher, counselor, or administrator with financial, math, or business professional development, training, or work experience
REPA/REPA 3	● 5-12 licensed teacher, counselor, or administrator with financial, math, or business professional development, training, or work experience
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/ Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 4540 Personal Financial Responsibilities here.

Adult Roles and Responsibilities	
Career Cluster	CTE Foundational Courses
Program of Study	
NLPS Sequence	
Course Code	5330
Course	*Adult Roles and Responsibilities is recommended for all students as life*

Description	*foundations and academic enrichment, and as a career sequence course for students with interest in family and community services, personal and family finance, and similar areas. This course builds knowledge, skills, attitudes, and behaviors that students will need as they complete high school and prepare to take the next steps toward adulthood in today's society. The course includes the study of interpersonal standards, lifespan roles and responsibilities, individual and family resource management, and financial responsibility and resources. A project-based approach that utilizes higher order thinking, communication, leadership, management processes, and fundamentals to college and career success is recommended in order to integrate these topics into the study of adult roles and responsibilities. Direct, concrete mathematics and language arts proficiencies will be applied. Service learning and other authentic applications are strongly recommended. This course provides the foundation for continuing and postsecondary education in all career areas related to individual and family life.*
Prerequisite(s)/ Corequisite(s)	None
Credits	1 semester course, 1 credit per semester, 1 credit maximum
Counts Toward	Qualifies as one of the FACS courses a student can take to waive the Health & Wellness graduation requirement, in place of either Human Development and Wellness or Interpersonal Relationships. To qualify for the Health and Wellness waiver, a student must take three approved courses. For more information, see 511 IAC 6-7.1-4(c)(6).
Dual Credit Status	
Additional Notes	When offered as applied: 2 units maximum; counts as an employability applied unit for alternate diploma
ADDITIONAL COURSE INFO	
Funding	
Bulletin 400	● Any Home Economics K12 ● Any Vocational License
Rules 46-47	● Consumer Homemaking Education 9-12 ● Occupational Education (FACS) 9-12 ● Any Vocational or Occupational license
Rules 2002	● CTE: Family & Consumer Sciences with high school setting ● Any CTE License
REPA/REPA 3	● CTE: Family & Consumer Sciences 5-12 ● Any CTE license
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary	

Credential	
Liberal Arts/ Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 5330 Adult Roles and Responsibilities here.

Consumer Economics	
Career Cluster	CTE Foundational Courses
Program of Study	
NLPS Sequence	
Course Code	5334
Course Description	*Consumer Economics enables students to achieve high standards and competencies in economic principles in contexts of high relevancy and applicability to their individual, family, workplace, and community lives. A project-based approach that utilizes higher order thinking, communication, leadership, and management processes is recommended in order to integrate suggested topics into the study of consumer economics issues. The course focuses on interrelationships among economic principles and individual and family roles of exchanger, consumer, producer, saver, investor, and citizen. Economic principles to be studied include scarcity, supply and demand, market structure, the role of government, money and the role of financial institutions, labor productivity, economic stabilization, and trade. Depending on needs and resources, this course may be taught in a local program. In schools where it is taught, it is recommended for all students regardless of their career pathway, in order to build basic economics proficiencies.*
Prerequisite(s)/ Corequisite(s)	None
Credits	1 credit per semester, 1 credit maximum
Counts Toward	Counts as a quantitative reasoning course for CORE 40 diplomas
Dual Credit Status	
Additional Notes	When offered as applied: 1 unit maximum; counts as an employability applied unit for alternate diploma
ADDITIONAL COURSE INFO	
Funding	
Bulletin 400	● Any Home Economics K-12 ● Economics 7-12 ● Business 7-12 ● Vocational Business 7- 12
Rules 46-47	● Consumer Homemaking Education 9-12

	● Occupational Education (FACS) 9-12 ● Economics 7-12 ● Business 7-12 ● Business Education with vocational education 7-12
Rules 2002	● CTE: Family & Consumer Sciences with high school setting ● Economics with high school setting ● Workplace Specialist: Business Management & Finance with high school setting ● Business with high school setting ● CTE: Business Services & Technology with high school setting
REPA/REPA 3	● CTE: Family & Consumer Sciences 5-12 ● Economics 5-12 ● Workplace Specialist: Business Law 9-12 ● Business 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/ Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 5334 Consumer Economics here.

Advanced Nutrition and Wellness	
Career Cluster	CTE Foundational Courses
Program of Study	
NLPS Sequence	Introductory
Course Code	5340
Course Description	*Advanced Nutrition and Wellness is a course which provides an extensive study of nutrition. This course is recommended for all students wanting to improve their nutrition and learn how nutrition affects the body across the lifespan. Advanced Nutrition and Wellness is an especially appropriate course for students interested in careers in the medical field, athletic training and dietetics. This course builds on the*

	foundation established in Nutrition and Wellness, which is a recommended prerequisite. This is a project-based course utilizing higher-order thinking, communication, leadership and management processes. Topics include extensive study of major nutrients, nutritional standards across the lifespan, influences on nutrition/food choices, technological and scientific influences, and career exploration in this field. Laboratory experiences will be utilized to develop food handling and preparation skills; attention will be given to nutrition, food safety, and sanitation. This course is the second in a sequence of courses that provide a foundation for continuing and postsecondary education in all career areas related to nutrition, food, and wellness.
Prerequisite(s)/ Corequisite(s)	None Recommended: Nutrition and Wellness
Credits	1 or 2 semester course, 1 credit per semester, 2 credits maximum
Counts Toward	
Dual Credit Status	
Additional Notes	When offered as applied: 2 units maximum; counts as an employability applied unit for alternate diploma
ADDITIONAL COURSE INFO	
Funding	
Bulletin 400	● Any Home Economics K-12
Rules 46-47	● Consumer Homemaking Education 9-12 ● Occupational Education (FACS) 9-12 ● A related Occupational Specialist with specific training/experience in nutrition and wellness
Rules 2002	● CTE: Family & Consumer Sciences with high school setting ● A related Workplace Specialist with specific training/experience in nutrition and wellness
REPA/REPA 3	● CTE: Family & Consumer Sciences 5-12 ● A related Workplace Specialist with specific training/experience in nutrition and wellness
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/ Sciences Requirements	
Industry Credential	

CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 5340 Advanced Nutrition and Wellness here.

Nutrition and Wellness	
Career Cluster	CTE Foundational Courses
Program of Study	
NLPS Sequence	Introductory
Course Code	5342
Course Description	*Nutrition and Wellness is an introductory course valuable for all students as a life foundation and academic enrichment; it is especially relevant for students interested in careers related to nutrition, food, and wellness. This is a nutrition class that introduces students to only the basics of food preparation so they can become self-sufficient in accessing healthy and nutritious foods. Major course topics include nutrition principles and applications; influences on nutrition and wellness; food preparation, safety, and sanitation; and science, technology, and careers in nutrition and wellness. A project-based approach that utilizes higher order thinking, communication, leadership, management processes, and fundamentals to college and career success is recommended in order to integrate these topics into the study of nutrition, food, and wellness.* ***Food preparation experiences are a required component****. Direct, concrete mathematics and language arts proficiencies will be applied. This course is the first in a sequence of courses that provide a foundation for continuing and postsecondary education in all career areas related to nutrition, food, and wellness.*
Prerequisite(s)/ Corequisite(s)	None
Credits	1 credit per semester, 1 credit maximum
Counts Toward	Qualifies as one of the FACS courses a student can take to waive the Health & Wellness graduation requirement. To qualify for the Health and Wellness waiver, a student must take three of the approved courses. For more information, see 511 IAC 6-7.1-4(c)(6). Local programs have the option of offering a second version of the course that is focused more on the fitness aspects of wellness and nutrition. This version may be taught within the family and consumer sciences department, or it may be interdisciplinary, and team taught or co-taught with a teacher licensed in physical education. Such a course may be differentiated from the regular course offering by using subtitles in addition to Nutrition and Wellness. A student may earn credits for multiple versions of the course. No waiver is required in this instance.
Dual Credit Status	
Additional Notes	When offered as applied: 2 units maximum; counts as an employability applied unit for alternate diploma
ADDITIONAL COURSE INFO	

Funding		
Bulletin 400	● Any Home Economics K-12 ● Health K-12 ● Physical Education And Health 7-12	
Rules 46-47	● Consumer Homemaking Education 9-12 ● Occupational Education (FACS) 9-12 ● Health 9-12 ● Occupational Specialist Health Careers 9-12 ● Health Occupations 9-12 ● A related Occupational Specialist with specific training/experience in nutrition and wellness	
Rules 2002	● CTE: Family & Consumer Sciences with high school setting ● Health with high school setting ● CTE: Health Occupations with high school setting ● Workplace Specialist: Anatomy & Physiology with high school setting ● Workplace Specialist: Health Science – Special Topics with high school setting ● Workplace Specialist: Nursing with high school setting ● A related Workplace Specialist with specific training/experience in nutrition and wellness	
REPA/REPA 3	● CTE: Family & Consumer Sciences 5-12 ● Health 5-12 ● CTE: Health Occupations 5-12 ● Workplace Specialist: Anatomy & Physiology 9-12 ● Workplace Specialist: Health Science – Special Topics 9-12 ● Workplace Specialist: Nursing 9-12 ● A related Workplace Specialist with specific training/experience in nutrition and wellness	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment		
VU Course Alignment		
Four Yr. Course Alignment		
Postsecondary Credential		
Liberal Arts/ Sciences Requirements		
Industry Credential		
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 5342 Nutrition and Wellness here.	

Advanced Child Development	
Career Cluster	CTE Foundational Courses
Program of Study	Introductory
NLPS Sequence	
Course Code	5360
Course Description	*Advanced Child Development is for those students interested in life foundations, academic enrichment, and/or careers related to knowledge of children, child development, and nurturing of children. This course addresses issues of child development from ages four through age eight (grade three). It builds on the Child Development course, which is a recommended prerequisite. Advanced Child Development includes the study of professional and ethical issues in child development; child growth and development; child development theories, research, and best practices; child health and wellness; teaching and guiding children; special conditions affecting children; and career exploration in child development and nurturing. A project-based approach that utilizes higher order thinking, communication, leadership, management, and fundamentals to college and career success is recommended in order to integrate these topics into the study of child development. Direct, concrete mathematics and language arts proficiencies will be applied.*
Prerequisite(s)/ Corequisite(s)	None Recommend: Child Development
Credits	1 or 2 semester course, 1 credit per semester, 2 credits maximum
Counts Toward	
Dual Credit Status	
Additional Notes	When offered as applied: 2 units maximum; counts as an employability applied unit for alternate diploma
ADDITIONAL COURSE INFO	
Funding	
Bulletin 400	● Any Home Economics K-12 ● A teacher with an Elementary, Kindergarten, Primary, Early Childhood or Psychology license with 5 years teaching experience
Rules 46-47	● Consumer Homemaking Education 9-12 ● Occupational Education (FACS) 9-12 ● A teacher with an Elementary, Kindergarten-Primary, Early Childhood or Psychology license with 5 years teaching experience
Rules 2002	● CTE: Family & Consumer Sciences with high school setting ● Workplace Specialist: Early Childhood Education & Services with work experience as lead teacher in a preschool setting ● A teacher with an Elementary, Kindergarten-Primary, Early Childhood or Psychology license with 5 years teaching experience
REPA/REPA 3	● CTE: Family & Consumer Sciences 5-12 ● Workplace Specialist: Early Childhood Education & Services with work experience as lead teacher in a preschool setting

	● A teacher with an Elementary, Kindergarten-Primary, Early Childhood or Psychology license with 5 years teaching experience
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/ Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 5360 Advanced Child Development here.

Child Development	
Career Cluster	CTE Foundational Courses
Program of Study	
NLPS Sequence	Introductory
Course Code	5362
Course Description	*Child Development is an introductory course for all students as a life foundation and academic enrichment; it is especially relevant for students interested in careers that draw on knowledge of children, child development, and nurturing of children. This course addresses issues of child development from conception/prenatal through age 3. It includes the study of prenatal development and birth, growth and development of children, child caregiving and nurturing, and support systems for parents and caregivers. A project-based approach that utilizes higher order thinking, communication, leadership, management processes, and fundamentals to college and career success is recommended in order to integrate these topics into the study of child development. Direct, concrete mathematics and language arts proficiencies will be applied. Authentic applications such as introductory laboratory/field experiences with young children and/or service learning that build knowledge of children, child development, and nurturing of children are strongly recommended. This course provides the foundation for continuing and postsecondary education in all career areas related to children, child development, and nurturing of children.*
Prerequisite(s)/ Corequisite(s)	None

Credits	1 credit per semester, 1 credit maximum
Counts Toward	
Dual Credit Status	
Additional Notes	When offered as applied: 2 units maximum; counts as an employability applied unit for alternate diploma
ADDITIONAL COURSE INFO	
Funding	
Bulletin 400	● Any Home Economics K-12 ● Nursery School ● Psychology 7-12 ● A teacher with an Elementary, KindergartenPrimary, Early Childhood or Psychology license with 5 years teaching experience
Rules 46-47	● Consumer Homemaking Education 9-12 ● Occupational Education (FACS) 9-12 ● Occupational Specialist: Child Development 9-12 ● A teacher with an Elementary, Kindergarten-Primary, Early Childhood or Psychology license with 5 years teaching experience
Rules 2002	● CTE: Family & Consumer Sciences with high school setting ● Early Childhood Education ● Psychology 5-12 ● Workplace Specialist: Early Childhood Education & Services with high school setting ● Workplace Specialist: Health Sciences – Special Topics with high school setting ● A teacher with an Elementary, Kindergarten-Primary, Early Childhood or Psychology license with 5 years teaching experience
REPA/REPA 3	● CTE: Family & Consumer Sciences 5-12 ● Early Childhood Education P-3 ● Psychology 5-12 ● Workplace Specialist: Early Childhood Education & Services 9-12 ● Workplace Specialist: Health Sciences – Special Topics 9-12 ● A teacher with an Elementary, Kindergarten-Primary, Early Childhood or Psychology license with 5 years teaching experience
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/ Sciences Requirements	

Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 5362 Child Development here.

Interpersonal Relationships	
Career Cluster	CTE Foundational Courses
Program of Study	
NLPS Sequence	Introductory
Course Code	5364
Course Description	*Interpersonal Relationships is an introductory course that is especially relevant for students interested in careers that involve interacting with people. It is also valuable for all students as a life foundation and academic enrichment. This course addresses knowledge and skills needed for positive and productive relationships in career, community, and family settings. Major course topics include communication skills; leadership, teamwork, and collaboration; conflict prevention, resolution, and management; building and maintaining relationships; and individual needs and characteristics and their impacts on relationships. A project-based approach that utilizes higher order thinking, communication, leadership, and management processes, and fundamentals to college and career success is recommended in order to integrate these topics into the study of interpersonal relationships. Direct, concrete language arts proficiencies will be applied. Service learning and other authentic applications are strongly recommended. This course provides a foundation for continuing and postsecondary education for all career areas that involve interacting with people both inside and outside of a business/organization, including team members, clients, patients, customers, and the general public.*
Prerequisite(s)/ Corequisite(s)	None
Credits	1 to 2 semester course, 1 credit per semester, 2 credits maximum
Counts Toward	Qualifies as one of the FACS courses a student can take to waive the Health & Wellness graduation requirement. To qualify for the Health and Wellness waiver, a student must take three of the approved courses. For more information, see 511 IAC 6-7.1-4(c)(6).
Dual Credit Status	
Additional Notes	When offered as applied: 2 units maximum; counts as an employability applied unit for alternate diploma
ADDITIONAL COURSE INFO	
Funding	
Bulletin 400	● Any Home Economics K-12 ● Psychology 7-12 ● English 7-12 ● English K-9, 9th grade only

	● Any Vocational License
Rules 46-47	● Consumer Homemaking Education 9-12 ● Occupational Education (FACS) 9-12 ● Psychology 9-12 ● English 9-12 ● Language Arts 1-9, 9th grade only ● Language Arts 5-9, 9th grade only ● English 1-9, 9th grade only ● Any Occupational license
Rules 2002	● CTE: Family & Consumer Sciences with high school setting ● Psychology with high school setting ● Language Arts with high school setting ● Any CTE License
REPA/REPA 3	● CTE: Family & Consumer Sciences 5-12 ● Psychology 5-12 ● Language Arts 5-12 ● Any CTE License
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/ Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 5364 Interpersonal Relationships here.

Human Development and Wellness	
Career Cluster	CTE Foundational Courses
Program of Study	
NLPS Sequence	
Course Code	5366
Course Description	*Human Development and Wellness is valuable for all students as a life foundation and academic enrichment. It is especially relevant for students interested in careers impacted by individuals' physical, social, emotional, and moral development and wellness across the lifespan. Major topics include principles of human development*

	and wellness, impacts of family on human development and wellness, factors that affect human development and wellness, practices that promote human development and wellness, managing resources and services related to human development and wellness, and career exploration in human development and wellness. Life events and contemporary issues addressed in this course include (but are not limited to) change, stress, abuse, personal safety, and relationships among lifestyle choices, health and wellness conditions, and diseases. A project-based approach that utilizes higher order thinking, communication, leadership, and management processes is recommended in order to integrate the study of these topics. Authentic applications through service learning are encouraged.
Prerequisite(s)/ Corequisite(s)	None
Credits	1 or 2 semester course, 1 credit per semester, 2 credits maximum
Counts Toward	Qualifies as one of the FACS courses a student can take to waive the Health & Wellness graduation requirement. To qualify for the Health and Wellness waiver, a student must take three of the approved courses. For more information, see 511 IAC 6-7.1-4(c)(6).
Dual Credit Status	
Additional Notes	Course may be offered as an applied course
ADDITIONAL COURSE INFO	
Funding	
Bulletin 400	● Any Home Economics K-12 ● Health K-12
Rules 46-47	● Consumer Homemaking Education 9-12 ● Occupational Education (FACS) 9-12 ● Health 9-12
Rules 2002	● CTE: Family & Consumer Sciences with high school setting ● Health with high school setting
REPA/REPA 3	● CTE: Family & Consumer Sciences 5-12 ● Health 5-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/ Sciences Requirements	
Industry Credential	

CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 5366 Human Development and Wellness here.

Preparing for College and Careers (PCC)		
Career Cluster	CTE Foundational Courses	
Program of Study		
NLPS Sequence		
Course Code	5394	
Course Description	*Preparing for College and Careers addresses the knowledge, skills, and behaviors all students need to be prepared for success in college, career, and life. The focus of the course is the impact of today's choices on tomorrow's possibilities. Topics to be addressed include twenty- first century life and career skills; higher order thinking, communication, leadership, and management processes; exploration of personal aptitudes, interests, values, and goals; examining multiple life roles and responsibilities as individuals and family members; planning and building employability skills; transferring school skills to life and work; and managing personal resources. This course includes reviewing the national career clusters and Indiana's College and Career Pathways, in-depth investigation of one or more pathways, reviewing graduation plans, exploring postsecondary options and making career plans, and developing personal and career portfolios. A project based approach, including computer and technology applications, cooperative ventures between school and community, simulations, and real world experiences is recommended.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	1 to 2 semester course, 1 credit per semester, 2 credits maximum	
Counts Toward	Qualifies as one of the FACS courses a student can take to waive the Heath & Wellness graduation requirement. To qualify for a waiver, a student must take three of the approved courses. For more information, please see 511 IAC 6-7.1-4(c)(6)	
Dual Credit Status		
Additional Notes	When offered as applied: 2 units maximum; counts as an employability applied unit for alternate diploma. This course qualifies for funding at the 8th grade level	
ADDITIONAL COURSE INFO		
Funding	Preparing for College and Careers	Available for 7th or 8th grade with funding
Bulletin 400	● Any 5-12 License ● Any licensed school counselor	
Rules 46-47	● Any 5-12 License ● Any Occupational Specialist License	

	● Any licensed school counselor
Rules 2002	● Any 5-12 License ● Any Workplace Specialist License ● Any licensed school counselor
REPA/REPA 3	● Any 5-12 License ● Any Workplace Specialist License ● Any licensed school counselor
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/ Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 5394 Preparing for College and Careers (PCC) here.

Technical Math	
Career Cluster	CTE
Program of Study	
NLPS Sequence	Introductory
Course Code	7218
Course Description	*Technical Math is designed to help students develop mathematical reasoning and real-world skills in analyzing verbal and written descriptions, translating them into algebraic, geometric, trigonometric, and statistical statements and applying them to solve problems in fabrication, manufacturing, and business. The course will include at least six lab activities or projects to allow faculty and students to apply mathematics principles to work-related situations.*
Prerequisite(s)/ Corequisite(s)	Algebra I
Credits	1 or 2 semester course, 1 credit per semester, 2 credits maximum
Counts Toward	
Dual Credit Status	X
Additional Notes	When offered as applied: 2 units maximum; counts as an employability applied unit

	for alternate diploma
ADDITIONAL COURSE INFO	
Funding	
Bulletin 400	● Business Education with Shorthand 7-12 ● Mathematics 7-12 ● Industrial Arts 7-12, K-12
Rules 46-47	● Business Education 9-12 ● Occupational Specialist I, II, or III: Building Trades 9-12 ● Industrial Education K-12 ● Occupational Specialist I, II, or III: Auto Mechanics 9-12 ● Mathematics 9-12
Rules 2002	● Business with high school setting ● CTE: Business Services & Technology with high school setting ● Mathematics ● Workplace Specialist: Building Trades ● Workplace Specialist: Automotive Services Technology
REPA/REPA 3	● Business 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information ● Technology 5-12 ● Mathematics 5-12 ● Workplace Specialist: Construction 9-12 ● Workplace Specialist: Building Trades 9-12 ● Workplace Specialist: Automotive Services 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/ Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7218 Technical Math here.

CTE Nonstandard Courses

CTSO Leadership Development in Action	
Career Cluster	CTE Nonstandard Courses
Program of Study	
NLPS Sequence	
Course Code	5237
Course Description	*Leadership Development in Action is a project-based course in which students integrate higher order thinking, communication, leadership, and management processes to conduct Career and Technical Student Organization (CTSO) leadership projects at the local, state, or national level. Each student will create a vision statement, establish standards and goals, design and implement an action plan and timeline, reflect on accomplishments, and evaluate results.* *Authentic, independent application through CTSO student-directed programs or projects, internship, community-based study, or in-depth laboratory experience is required. Research and development, interdisciplinary projects, and/or collaboration with postsecondary faculty, community agencies, or organizations are appropriate approaches.* ***Instructor must be a current chapter advisor of an Indiana-recognized CTSO. State and national membership in an Indiana recognized CTSO is required of any student enrolled in this course****. Service learning experiences are highly recommended. Achievement of applicable Career and Technical Education (CTE), academic, and employability standards will be documented through a required student portfolio.*
Prerequisite(s)/ Corequisite(s)	None
Credits	1 credit per semester, up to 6 semesters, 6 credits maximum
Counts Toward	
Dual Credit Status	
Additional Notes	Can only be offered at schools with officially registered CTSO chapters and must be taught by the registered Advisor of that CTSO Chapter. Students MUST be members of the state and national CTSO.
ADDITIONAL COURSE INFO	
Funding	
Bulletin 400	● Appropriate Vocational License AND local CTSO chapter advisor ● Occupational Specialist II license in related area
Rules 46-47	● Appropriate Vocational License AND local CTSO chapter advisor ● Occupational Specialist II license in related area
Rules 2002	● Appropriate CTE License with high school setting AND local CTSO chapter advisor

	● Workplace Specialist II license in related area
REPA/REPA 3	● Appropriate CTE License 5-12 AND local CTSO chapter advisor ● Workplace Specialist II license in related area
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	

Career & Technical Education Pilot Course: (Insert title descriptive of course content)	
Career Cluster	CTE Nonstandard Courses
Program of Study	
NLPS Sequence	
Course Code	5239
Course Description	*Career and Technical Education Pilot Course is a course title that would be used for enrollment reporting purposes by schools that are piloting a new Career and Technical Education course.* ***Schools must apply for a non-standard course waiver and propose a course description and standards, explain how the pilot course relates to an existing or innovative pathway, and provide a rationale describing business and industry need and support****. Schools are to follow the pilot course framework and provide feedback at the end of the pilot year on that framework.*
Prerequisite(s)/ Corequisite(s)	Determined by the CTE Nonstandard Course Waiver
Credits	1 semester course, up to 3 credits per semester, may be offered for successive semesters up to 12 credits
Counts Toward	Determined via the CTE Nonstandard Course Waiver process
Dual Credit Status	
Additional Notes	This course requires an approved CTE Nonstandard Course Waiver
ADDITIONAL COURSE INFO	

Funding	Pilot	
Bulletin 400	● Licensing per NonStandard Course Wavier	
Rules 46-47	● Licensing per Non-Standard Course Wavier	
Rules 2002	● Licensing per Non-Standard Course Wavier	
REPA/REPA 3	● Licensing per Non-Standard Course Wavier	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment		
VU Course Alignment		
Four Yr. Course Alignment		
Postsecondary Credential		
Liberal Arts/Sciences Requirements		
Industry Credential		
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies		

Locally Created CTE Concentrator							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
7392	CTE Principles Course:	7393	CTE Concentrator A:	7394	CTE Concentrator B:	7395	CTE Capstone

Career & Technical Education Principles Course (Insert title descriptive of course content)		
Career Cluster	CTE Nonstandard Courses	
Program of Study		
NLPS Sequence		
Course Code	7392	
Course Description	*Career and Technical Education Principles Course is a course title that would be used for enrollment reporting purposes by schools that are offering a locally created CTE Concentrator Sequence.* ***Schools must apply to Career and Technical Education at the Indiana Commission for Higher Education for a non-standard course waiver*** *and propose a course description and standards, explain how the locally created concentrator program is an innovative pathway, and provide a rationale describing business and industry need and support. Schools are to follow the approved course framework.*	
Prerequisite(s)/ Corequisite(s)	Determined by the CTE Nonstandard Course Waiver	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits max	
Counts Toward	Determined via the CTE Nonstandard Course Waiver process	
Dual Credit Status		
Additional Notes	This course requires an approved CTE Nonstandard Course Waiver When offered as applied: 2 units maximum; counts as an employability applied unit for alternate diploma	
ADDITIONAL COURSE INFO		
Funding	Less than Moderate Value: Eligible for Appeal	Level I
Bulletin 400	● Licensing per NonStandard Course Wavier	
Rules 46-47	● Licensing per Non-Standard Course Wavier	
Rules 2002	● Licensing per Non-Standard Course Wavier	
REPA/REPA 3	● Licensing per Non-Standard Course Wavier	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment		
VU Course Alignment		

Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	*Competencies must be submitted by the proposing school during the nonstandard course waiver application process.*

Career & Technical Education Concentrator A: (Insert title descriptive of course content)		
Career Cluster	CTE Nonstandard Courses	
Program of Study		
NLPS Sequence		
Course Code	7393	
Course Description	*Career and Technical Education Concentrator A Course is a course title that would be used for enrollment reporting purposes by schools that are offering a locally created CTE Concentrator Sequence.* ***Schools must apply to Career and Technical Education at the Indiana Commission for Higher Education for a non-standard course waiver*** *and propose a course description and standards, explain how the locally created concentrator program is an innovative pathway, and provide a rationale describing business and industry need and support. Schools are to follow the approved course framework.*	
Prerequisite(s)/ Corequisite(s)	Determined by the CTE Nonstandard Course Waiver	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits max	
Counts Toward	Determined via the CTE Nonstandard Course Waiver process	
Dual Credit Status		
Additional Notes	This course requires an approved CTE Nonstandard Course Waiver When offered as applied: 2 units maximum; counts as an employability applied unit for alternate diploma	
ADDITIONAL COURSE INFO		
Funding	Less than Moderate Value: Eligible for Appeal	Level I
Bulletin 400	● Licensing per NonStandard Course Wavier	
Rules 46-47	● Licensing per Non-Standard Course Wavier	
Rules 2002	● Licensing per Non-Standard Course Wavier	
REPA/REPA 3	● Licensing per Non-Standard Course Wavier	

POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	*Competencies must be submitted by the proposing school during the nonstandard course waiver application process.*

Career & Technical Education Concentrator B: (Insert title descriptive of course content)		
Career Cluster	CTE Nonstandard Courses	
Program of Study		
NLPS Sequence		
Course Code	7394	
Course Description	*Career and Technical Education Concentrator B Course is a course title that would be used for enrollment reporting purposes by schools that are offering a locally created CTE Concentrator Sequence.* ***Schools must apply to Career and Technical Education at the Indiana Commission for Higher Education for a non-standard course waiver*** *and propose a course description and standards, explain how the locally created concentrator program is an innovative pathway, and provide a rationale describing business and industry need and support. Schools are to follow the approved course framework.*	
Prerequisite(s)/ Corequisite(s)	Determined by the CTE Nonstandard Course Waiver	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits max	
Counts Toward	Determined via the CTE Nonstandard Course Waiver process	
Dual Credit Status		
Additional Notes	This course requires an approved CTE Nonstandard Course Waiver When offered as applied: 2 units maximum; counts as an employability applied unit for alternate diploma	
ADDITIONAL COURSE INFO		
Funding	Less than Moderate Value: Eligible for Appeal	Level I

Bulletin 400	● Licensing per NonStandard Course Wavier
Rules 46-47	● Licensing per Non-Standard Course Wavier
Rules 2002	● Licensing per Non-Standard Course Wavier
REPA/REPA 3	● Licensing per Non-Standard Course Wavier
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	*Competencies must be submitted by the proposing school during the nonstandard course waiver application process.*

Career & Technical Education Capstone: (Insert title descriptive of course content)	
Career Cluster	CTE Nonstandard Courses
Program of Study	
NLPS Sequence	
Course Code	7395
Course Description	*Career and Technical Education Capstone Course is a course title that would be used for enrollment reporting purposes by schools that are offering a locally created CTE Concentrator Sequence.* ***Schools must apply to Career and Technical Education at the Indiana Commission for Higher Education for a non-standard course waiver*** *and propose a course description and standards, explain how the locally created concentrator program is an innovative pathway, and provide a rationale describing business and industry need and support. Schools are to follow the approved course framework.*
Prerequisite(s)/ Corequisite(s)	Determined by the CTE Nonstandard Course Waiver
Credits	2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits max
Counts Toward	Determined via the CTE Nonstandard Course Waiver process
Dual Credit Status	
Additional Notes	This course requires an approved CTE Nonstandard Course Waiver. When offered as applied: 6 units maximum; counts as an employability applied

	unit for alternate diploma	
ADDITIONAL COURSE INFO		
Funding	Less than Moderate Value: Eligible for Appeal	Level II
Bulletin 400	● Licensing per NonStandard Course Wavier	
Rules 46-47	● Licensing per Non-Standard Course Wavier	
Rules 2002	● Licensing per Non-Standard Course Wavier	
REPA/REPA 3	● Licensing per Non-Standard Course Wavier	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment		
VU Course Alignment		
Four Yr. Course Alignment		
Postsecondary Credential		
Liberal Arts/Sciences Requirements		
Industry Credential		
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	*Competencies must be submitted by the proposing school during the nonstandard course waiver application process.*	

Work-Based Learning

Cooperative Education	
Career Cluster	CTE WBL
Program of Study	
NLPS Sequence	
Course Code	6162
Course Description	*Cooperative Education is an approach to employment training that spans all career and technical education program areas through school-based instruction and on the job training. The course combines time spent on workplace activities and time spent doing school-based instruction, focused on employability skills development. Additionally, all state and federal laws and regulations related to student employment and cooperative education must be followed.*
Prerequisite(s)/ Corequisite(s)	None
Credits	2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum A minimum of 75 hours spent on workplace activities **and** 75 hours of classroom instruction are required for the first credit. Each additional credit requires a minimum of 75 additional work hours. There is no requirement for additional RTI hours for credits after the first.
Counts Toward	
Dual Credit Status	
Additional Notes	Course is funded at a flat rate of $150 When offered as applied: 6 units maximum; counts as an employability applied unit for alternate diploma
ADDITIONAL COURSE INFO	
Funding	Preparing for College and Careers
Bulletin 400	● Any license ● Trade & Industrial Cooperative Teacher Coordinator
Rules 46-47	● Any license ● ICE Endorsement ● Occupational Specialist I, II or III in related course approved for a CTE pathway
Rules 2002	● Any licensed school counselor ● Any CTE license or Workplace Specialist I or II in related course approved for a CTE pathway
REPA/REPA 3	● Any licensed school counselor ● Any CTE license or Workplace Specialist I or II in related course approved for a

	CTE pathway
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 6162 Cooperative Education here.

Technical Skills Development	
Career Cluster	CTE WBL
Program of Study	
NLPS Sequence	
Course Code	7156
Course Description	*The Technical Skills Development course may be used to provide students with the opportunity to apply the technical knowledge and skills learned in a Concentrator A or B course through additional real world learning experiences such as lab activities, project based learning or a work-based learning experience. Students must be co-enrolled in a Concentrator A and/or B course in order to be enrolled in the Technical Skills Development course.*
Prerequisite(s)/ Corequisite(s)	Concurrently enrolled in a Next Level Programs of Study Concentrator A and/or B course.
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum per program of study. A minimum of 75 hours of workplace activities are required for one credit; 150 hours are required for two credits.
Counts Toward	
Dual Credit Status	
Additional Notes	May be used by a student more than once as long as it is with separate programs of study When offered as applied**:** 2 units maximum per program of study; counts as an employability applied unit for alternate diploma

ADDITIONAL COURSE INFO		
Funding	Introductory	
Bulletin 400	• Trade & Industrial Cooperative Teacher Coordinator • Distributive Education K-12 • Vocational Agriculture K-12 • Vocational Business & Office Education • Vocational Home Economics	
Rules 46-47	• ICE Endorsement • Any Agribusiness license 9- 12 • Business Education with Vocational Business Endorsement 9-12 • Any Standard Health Occupations license 9-12 • Any Standard Trade & Industrial license 9-12 • Marketing Education 9-12 • Distributive Education K-12 • Occupational Education (FACS) 9-12 • Occupational Specialist I, II or III in related course approved for a CTE pathway	
Rules 2002	• Any CTE license with high school setting • Workplace Specialist I or II in related course approved for a CTE pathway	
REPA/REPA 3	• Any CTE License 5-12 • Workplace Specialist I or II in related course approved for a CTE pathway	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment		
VU Course Alignment		
Four Yr. Course Alignment		
Postsecondary Credential		
Liberal Arts/Sciences Requirements		
Industry Credential		
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	*Please refer to course standards from student's prior courses*	

Work Based Learning Capstone	
Career Cluster	CTE WBL
Program of Study	
NLPS Sequence	

Course Code	5974
Course Description	*WBL Capstone is a stand-alone course that prepares students for college and/or a career. This course occurs in real or simulated workplace settings and involves an employer assigning a student meaningful job tasks to develop his or her skills, knowledge, and readiness for work. A clear partnership agreement and training plan is developed by the student, parent or guardian, school, and employer partner to guide the student's work-based experiences and assist in evaluating achievement and performance. Related instruction shall be organized and planned around the activities associated with the student's individual job and career objectives in a pathway and shall be taught either on-the-job or in a classroom setting during the same semester the student is participating in the work-based experience. For a student to become employable, the related instruction should cover: (a) employability skills, and (b) specific occupational competencies.*
Prerequisite(s)/ Corequisite(s)	Complete at least one advanced career and technical education course from a program of study. Worksite placement must align to the student pathway
Credits	1 semester course, 1-3 credits per semester, 6 credits maximum. A minimum of 75 hours of On-the-Job Training (OJT) are required for one credit; 150 hours are required for two credits. Time spent on workplace activities must be aligned to the student's program of study. There is no requirement for additional coursework beyond the workplace activities due to the course's prerequisite.
Counts Toward	
Dual Credit Status	
Additional Notes	This course is funded at a flat rate of $500; No longer counts toward concentrator status. When offered as applied: 6 units maximum; counts as an employability applied unit, capstone course, or elective for alternate diploma
ADDITIONAL COURSE INFO	
Funding	WBL
Bulletin 400	● Any license ● Trade & Industrial Cooperative Teacher Coordinator
Rules 46-47	● Any license ● Occupational Specialist I, II or III in related course approved for a CTE pathway ● ICE Endorsement
Rules 2002	● Any licensed school counselor ● Any CTE license or Workplace Specialist I or II in related course approved for a CTE pathway
REPA/REPA 3	● Any licensed school counselor ● Any CTE license or Workplace Specialist I or II in related course approved for a CTE pathway
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	

VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	*Please refer to course standards from student's prior courses.*

Career Exploration Internship	
Career Cluster	CTE WBL
Program of Study	
NLPS Sequence	
Course Code	0530
Course Description	*The Career Exploration Internship (CEI) course consists of a paid or unpaid work experience in the public or private sector that provides for workplace learning in an area of student career interests. Unlike the Work-Based Learning Capstone course in which students gain expertise in a specific occupation, CEI is intended to expose students to broad aspects of a particular industry or career cluster area by rotating through a variety of work sites or departments. In addition to their workplace learning activities, students participate in (1) regularly scheduled meetings with their classroom teacher, or (2) a regularly scheduled seminar with the teacher for the purpose of helping students make the connection between academic learning and their work-related experiences.* *A clear partnership agreement and training plan is developed by the student, parent or guardian, school, and employer partner to guide the student's work-based experiences and assist in evaluating achievement and performance. Specific instructional standards tied to the career cluster or pathway and learning objectives for the internship must be written to clarify the expectations of all parties.*
Prerequisite(s)/ Corequisite(s)	None Recommended: Preparing for College and Careers
Credits	A minimum of 75 hours of On-the-Job Training (OJT) are required for one credit; 150 hours of OJT are required for two credits. There is a requirement of 18 hours of seminar coursework which connects the student's academic coursework to the Work-Based Learning experience. These coursework hours are in addition to the 75 hours of OJT. The student should complete academic coursework connected to the WBL experience and aligned to the student's career interests prior to utilizing this course code.

Counts Toward	
Dual Credit Status	
Additional Notes	This course is funded at a flat rate of $500 When offered as applied: 4 units maximum; counts as an employability applied unit for alternate diploma
ADDITIONAL COURSE INFO	
Funding	WBL
Bulletin 400	● Trade & Industrial Cooperative Teacher Coordinator ● Distributive Education K-12 ● Vocational Agriculture K-12 ● Vocational Business & Office Education ● Vocational Home Economics ● Any License 5-12 with Work-based Learning experience or training ● Workplace Specialist I or II in related course approved for a CTE pathway ● Any licensed school counselor
Rules 46-47	● ICE Endorsement ● Any Agribusiness license 9- 12 ● Business Education with Vocational Business Endorsement 9-12 ● Any Standard Health Occupations license 9-12 ● Any Standard Trade & Industrial license 9-12 ● Marketing Education 9-12 ● Distributive Education K-12 ● Occupational Education (FACS) 9-12 ● Occupational Specialist I, II or III in related course approved for a CTE pathway ● Any License 5-12 with Work-based Learning experience or training ● Workplace Specialist I or II in related course approved for a CTE pathway ● Any licensed school counselor
Rules 2002	● Any license with high school setting and Work-based Learning experience or training ● Workplace Specialist I or II in related course approved for a CTE pathway ● Any licensed school counselor
REPA/REPA 3	● Any License 5-12 with Work-based Learning experience or training ● Workplace Specialist I or II in related course approved for a CTE pathway ● Any licensed school counselor
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal	

Arts/Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	*Please refer to course standards from student's prior courses*

Apprenticeship	
Career Cluster	CTE WBL
Program of Study	
NLPS Sequence	
Course Code	6148
Course Description	*Apprenticeships are defined as intensive work-based learning opportunities that generally last from one to six years and provide a combination of on-the-job training and formal classroom instruction. They are intended to support progressive skill acquisition, lead to Postsecondary Credentials and, in some cases, postsecondary degrees. Apprenticeships often involve 2,000 to 10,000 on-the-job hours. Students 16-years-old or older may qualify for an apprenticeship. Per the Indiana General Assembly, any apprenticeship program must be registered under the federal National Apprenticeship Act (29 U.S.C. 50 et seq.) or another federal apprenticeship program.*
Prerequisite(s)/ Corequisite(s)	Dependent on program requirements
Credits	1 semester course, may be taken for successive semesters (12 credits maximum). A minimum of 75 hours of workplace and classroom activities are required for one credit; 150 hours are required for two credits.
Counts Toward	
Dual Credit Status	X
Additional Notes	
ADDITIONAL COURSE INFO	
Funding	WBL
Bulletin 400	● Trade & Industrial Cooperative Teacher Coordinator ● Distributive Education K-12 ● Vocational Agriculture K-12 ● Vocational Business & Office Education ● Vocational Home Economics
Rules 46-47	● ICE Endorsement ● Any Agribusiness license 9- 12 ● Business Education with Vocational Business Endorsement 9-12 ● Any Standard Health Occupations license 9-12 ● Any Standard Trade & Industrial license 9-12 ● Marketing Education 9-12

	● Distributive Education K-12 ● Occupational Education (FACS) 9-12 ● Occupational Specialist I, II or III in related course approved for a CTE pathway
Rules 2002	● Any CTE license with high school setting ● Workplace Specialist I or II in related course approved for a CTE pathway
REPA/REPA 3	● Any CTE License 5-12 ● Workplace Specialist I or II in related course approved for a CTE pathway
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	*Please refer to course standards from student's prior courses and from the Apprenticeship Program*

Youth Apprenticeship	
Career Cluster	CTE WBL
Program of Study	
NLPS Sequence	
Course Code	6149
Course Description	*Youth apprenticeships are intensive Work-Based Learning experiences, which utilize a combination of on-the-job (OJT), and classroom related technical instruction (RTI). Youth Apprenticeships may take a variety of forms, including Pre-Apprenticeships, Modern Youth Apprenticeships, and apprenticeships focused on youth that are not federally registered. Youth Apprenticeships, in any form, should support progressive skill acquisition and lead to postsecondary or Postsecondary Credentials.*
Prerequisite(s)/ Corequisite(s)	None Recommended: None
Credits	1 semester course, may be taken for successive semester (12 credits maximum, 6 per year) A minimum of 75 hours of On-the-Job Training (OJT) are required per credit.

Counts Toward	
Dual Credit Status	
Additional Notes	This course is funded at a flat rate of $500 This course code should primarily be used when an apprenticeship is not aligned to a CTE program of study.
ADDITIONAL COURSE INFO	
Funding	WBL
Bulletin 400	● Trade & Industrial Cooperative Teacher Coordinator ● Distributive Education K-12 ● Vocational Agriculture K-12 ● Vocational Business & Office Education ● Vocational Home Economics ● Any License 5-12 with Work-based Learning experience or training ● Workplace Specialist I or II in related course approved for a CTE pathway ● Any licensed school counselor
Rules 46-47	● ICE Endorsement ● Any Agribusiness license 9- 12 ● Business Education with Vocational Business Endorsement 9-12 ● Any Standard Health Occupations license 9-12 ● Any Standard Trade & Industrial license 9-12 ● Marketing Education 9-12 ● Distributive Education K-12 ● Occupational Education (FACS) 9-12 ● Occupational Specialist I, II or III in related course approved for a CTE pathway ● Any License 5-12 with Work-based Learning experience or training ● Workplace Specialist I or II in related course approved for a CTE pathway ● Any licensed school counselor
Rules 2002	● Any license with high school setting and Work-based Learning experience or training ● Workplace Specialist I or II in related course approved for a CTE pathway ● Any licensed school counselor
REPA/REPA 3	● Any License 5-12 with Work-based Learning experience or training ● Workplace Specialist I or II in related course approved for a CTE pathway ● Any licensed school counselor
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal	

Arts/Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	*Please refer to course standards from student's prior courses*

Digital Applications and Responsibility		
Career Cluster	Digital Technology	
Program of Study		
NLPS Sequence		
Course Code	4528	
Course Description	*Digital Applications and Responsibility prepares students to use technology in an effective and appropriate manner in school, a job, or everyday life. Students develop skills related to word processing, spreadsheets, presentations, and communications software. Students learn what it means to be a good digital citizen and how to use technology, including social media, responsibly. Students expand their knowledge of how to use digital devices and software to build decision-making and problem-solving skills. Students should be provided with the opportunity to seek industry-recognized digital literacy certifications.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	1 to 2 semester course, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status		
Additional Notes	When offered as applied: 4 units maximum; counts as an employability applied unit for alternate diploma	
ADDITIONAL COURSE INFO		
Funding	Foundational	*Courses designated as **Foundational** do not receive CTE funding*
Bulletin 400	● Business Education 7-12	
Rules 46-47	● Business Education 9-12 ● Business Education with Vocational Endorsement 9-12	
Rules 2002	● Business with high school setting ● Computer Education with high school setting ● CTE: Business Services & Technology with high school setting	
REPA/REPA 3	● Computer Education 5-12, P-12 ● Computer Science 5-12, P-12 ● Business 5-12 ● CTE: Business Services & Technology 5- 12 ● CTE: Business & Information Technology 5-12	

	● Workplace Specialist: Interactive Media 9-12 ● Workplace Specialist: Graphic Imaging Technology 9-12 ● Workplace Specialist: Computer Illustration & Graphics 9-12 ● Workplace Specialist: Graphic Design and Layout 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 4528 Digital Applications and Responsibility here.

Digital Technology

Digital Technology: Special Topics	
Career Cluster	Digital Technology
Program of Study	
NLPS Sequence	
Course Code	4578
Course Description	*Digital Technology: Special Topics is an extended learning experience designed to address the advancement and specialization of careers within the career cluster through the provision of a specialized course for a specific workforce in the school's region. The learning experience is at a qualified site, and is designed to give the student the opportunity to learn and practice technical skills while working under the direction of the appropriately licensed professional. Throughout the course, students will focus on learning about employment opportunities and obtaining the knowledge, skills and attitudes essential for success in specific occupations. Course standards and curriculum must be tailored to the specific profession, preparing students to advance in this career field, and where applicable, provide students with opportunities for certification or dual credit. Participation in a related CTSO encourages the development of leadership, communication and career related skills, and opportunities for community service.*
Prerequisite(s)/ Corequisite(s)	None
Credits	1 semester course, up to 3 credits per semester, May be offered for successive semesters up to 12 credits
Counts Toward	
Dual Credit Status	X
Additional Notes	Schools must have an approved Nonstandard Course Waiver on file to be eligible for CTE Funding.
ADDITIONAL COURSE INFO	
Funding	Pilot
Bulletin 400	● Industrial Arts 7-12, K12 ● Appropriate Vocational License
Rules 46-47	● Industrial Technology K-12 ● Industrial Education K-12 ● Appropriate Vocational license ● Occupational Specialist in related course approved for a CTE pathway
Rules 2002	● Technology Education with high school setting ● Appropriate CTE License with high school setting ● Workplace Specialist in related course approved for a CTE pathway

REPA/REPA 3	● Technology Education 5-12 ● Appropriate CTE License 5-12 ● Workplace Specialist in related course approved for a CTE Pathway
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	

Introduction to Computer Science and Digital Technology		
Career Cluster	Digital Technology	
Program of Study		
NLPS Sequence	Introductory	
Course Code	4803	
Course Description	*Introduction to Computer Science allows students to explore the world of computer science and digital technology. Students will gain a broad understanding of the areas composing computer science and digital technology fields. Specifically, there is a focus on the areas of computer programming, gaming/mobile development, and artificial intelligence/ robotics.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	1 to 2 semester course, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status		
Additional Notes	This course qualifies for funding at the 8th grade level. When offered as applied: 2 units maximum; counts as an employability applied unit for alternate diploma	
ADDITIONAL COURSE INFO		
Funding	Introductory	Available for 8th grade
Bulletin 400	● Business Education 7- 12 ● Industrial Arts, Math or Science with Professional Development or additional	

	training in Computer Science
Rules 46-47	● Business Education 9-12 ● Business Education with Vocational Endorsement 9-12 ● Occupational Specialist: Business IT: Programming & Software Development 9-12 ● Occupational Specialist in “Computer Science” related course approved for a CTE pathway ● Industrial Technology/Education, Math or Science with Professional Development or additional training in Computer Science
Rules 2002	● Business with high school setting ● Computer Education with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist: Business IT: Programming & Software Development ● Workplace Specialist in “Computer Science”related course approved for a CTE pathway ● Technology Education, Math, or Science with Professional Development or additional training in Computer Science
REPA/REPA 3	● Computer Education 5-12, P-12 ● Computer Science 5-12, P-12 ● Business 5-12 ● CTE: Business Services & Technology 5- 12 ● CTE: Business & Information Technology 5-12 ● Workplace Specialist in related “Computer Science” course approved for a CTE pathway ● Technology Education, Math or Science with Professional Development or additional training in Computer Science
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 4803 Intro to Computer Science and Digital Technology here.

Computer Science: Special Topics	
Career Cluster	Digital Technology
Program of Study	
NLPS Sequence	
Course Code	5252
Course Description	*Computer Science III: Special Topics is an extended experience designed to address the advancement and specialization of computer science careers allowing schools to provide a specialized course for a specific computer science workforce needed in the school's region. It prepares students with the knowledge, skills and attitudes essential for working in the field of computer science. Course standards and curriculum must be tailored to the specific computer science specialization. This course must prepare students for advancement in this career field and should provide students with opportunities for certification or dual credit.*
Prerequisite(s)/ Corequisite(s)	None
Credits	1 semester course, up to 3 credits per semester, May be offered for successive semesters up to 12 credits
Counts Toward	
Dual Credit Status	X
Additional Notes	Schools must have an approved Nonstandard Course Waiver on file to be eligible for CTE Funding. Formerly Computer Science III: Special Topics
ADDITIONAL COURSE INFO	
Funding	Pilot
Bulletin 400	● Must have an approved Non-Standard Course Waiver to use this course. Licensing is determined during the waiver process.
Rules 46-47	● Must have an approved Non-Standard Course Waiver to use this course. Licensing is determined during the waiver process.
Rules 2002	● Must have an approved Non-Standard Course Waiver to use this course. Licensing is determined during the waiver process.
REPA/REPA 3	● Must have an approved Non-Standard Course Waiver to use this course. Licensing is determined during the waiver process.
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	

Liberal Arts/Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	

Advanced Career & Technical Education, College Credit: Digital Technology	
Career Cluster	Digital Technology
Program of Study	
NLPS Sequence	
Course Code	6022
Course Description	*Advanced Career and Technical Education, College Credit is a course title covering any CTE advanced course offered for credit by an accredited postsecondary institution through an adjunct agreement with a secondary school. The intent of this course is to allow students to earn college credit for courses with content that goes beyond that currently approved for high school credit. This course may be used for any dual enrollment course, including a joint program of study involving a postsecondary partnership.*
Prerequisite(s)/ Corequisite(s)	None
Credits	1 semester course, up to 3 credits per semester, May be offered for successive semesters up to 12 credits
Counts Toward	
Dual Credit Status	X
Additional Notes	A student should earn at least 3 postsecondary credits for each high school credit. Schools must have an approved Nonstandard Course Waiver on file to be eligible for CTE Funding.
ADDITIONAL COURSE INFO	
Funding	Pilot
Bulletin 400	● Industrial Arts 7-12, K12 ● Appropriate Vocational License
Rules 46-47	● Industrial Technology K-12 ● Industrial Education K-12 ● Appropriate Vocational license ● Occupational Specialist in related course approved for a CTE pathway
Rules 2002	● Technology Education with high school setting ● Appropriate CTE License with high school setting ● Workplace Specialist in related course approved for a CTE pathway
REPA/REPA 3	● Technology Education 5-12 ● Appropriate CTE License 5-12

	● Workplace Specialist in related course approved for a CTE Pathway
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	

Advanced Digital Skills Capstone		
Career Cluster	Digital Technology	
Program of Study		
NLPS Sequence		
Course Code	7396	
Course Description	*Digital Skills Capstone introduces digital skills and tools critical to manage information. The skills learned in this class will help individuals communicate and collaborate, develop and share digital content, and problem solve. This course will focus on applying advanced digital skills to a particular industry or occupation. The focus will be on advanced IT skills in programming, web, and app development, networking and sharing information, data science, and digital business analysis.*	
Prerequisite(s)/ Corequisite(s)	Any CTE Concentrator Sequence except the Information Technology or Computer Science pathways.	
Credits	2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Vale	Level II
Bulletin 400	● Business Education with Vocational Business Endorsement 7-12	
Rules 46-47	● Business Education with Vocational Business Endorsement 9-12 ● Occupational Specialist: Business IT: Interactive Media 9-12	

Rules 2002	● Computer Education 5-12, P-12 ● Computer Science 5-12, P-12 ● CTE: Business Services & Technology with high school setting ● Workplace Specialist: Business IT: Interactive Media ● CTE: Trade & Industrial: 3D Computer Animation & Visualization ● Business with high school setting ● Workplace Specialist: 3D Computer Animation & Visualization ● Workplace Specialist: Interactive Media ● Workplace Specialist: Graphic Imaging Technology ● CTE: Trade & Industrial Photography 5-12 ● Workplace Specialist: Commercial Photography 9-12
REPA/REPA 3	● Computer Education 5-12, P-12 ● Computer Science 5-12, P-12 ● Business 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● Workplace Specialist: Interactive Media 9-12 ● Workplace Specialist: Graphic Imaging Technology 9-12 ● Workplace Specialist: Computer Illustration & Graphics 9-12 ● Workplace Specialist: Graphic Design and Layout 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	

Digital Technology AI/Machine Learning							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
7183	Principles of Computing	7488	Software and Cloud Foundations	7490	AI and Data Fundamentals	7494	AI/Machine Learning Capstone

Principles of Computing		
Career Cluster	Digital Technology	
Program of Study	AI/Machine Learning, Computer Science, Cybersecurity, Data Analytics, Informatics, IT Operations, Networking, Software Development,	
NLPS Sequence	A	
Course Code	7183	
Course Description	*Principles of Computing provides students the opportunity to explore how computers can be used in a wide variety of settings. The course will begin by exploring trends of computing and the necessary skills to implement information systems. Topics include operating systems, database technology, cybersecurity, cloud implementations and other concepts associated with applying the principles of good information management to the organization. Students will also have the opportunity to utilize basic programming skills to develop scripts designed to solve problems. Students will learn about algorithms, logic development and flowcharting.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Counts as a quantitative reasoning course for CORE 40 diplomas Fulfills a science requirement for CORE 40 diplomas Counts as STEM-Focused credit for new diploma	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Business Education 7- 12 ● Industrial Arts, Math or Science with Professional Development or additional training in Computer Science ● Standard Trade & Industrial: Engineering K-12	
Rules 46-47	● Business Education 9-12 ● Business Education with Vocational Endorsement 9- 12 ● Occupational Specialist: Business IT: Programming & Software Development 9-12	

	● Occupational Specialist in “Computer Science” related course approved for a CTE pathway ● Industrial Technology/Education, Math or Science with Professional Development or additional training in Computer Science ● Standard Trade & Industrial: Engineering 9-12 ● Occupational Specialist I, II, or III: Engineering
Rules 2002	● Business with high school setting ● Computer Education with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist: Business IT: Programming & Software Development ● Workplace Specialist in “Computer Science” related course approved for a CTE pathway ● Technology Education, Math or Science with Professional Development or additional training in Computer Science ● CTE: Trade & Industrial: Engineering ● Workplace Specialist: Engineering
REPA/REPA 3	● Computer Education 5-12, P-12 ● Computer Science 5-12, P-12 ● Business 5-12 ● CTE: Business Services & Technology 5- 12 ● CTE: Business & Information Technology 5-12 ● Workplace Specialist in related “Computer Science” course approved for a CTE pathway ● Technology Education, Math or Science with Professional Development or additional training in Computer Science ● CTE: Trade & Industrial Engineering 5-12 ● Workplace Specialist: Engineering 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	SDEV 120: Computing Logic; INFM 109: Informatics Fundamentals
VU Course Alignment	COMP 177: Introduction to Programming Logic- Design and Development
Four Yr. Course Alignment	IUB - CSCI-C 106: Introduction to Computers and Their Uses PFW - CS 11200: Computer Science for Everyone PNW - ITS 10000: Information Technology Fundamentals; ITS 14000: Intro to Computer Algorithms and Logic
Postsecondary Credential	IUB – B.S. Informatics (11.0104) PFW – A.S. Information Systems (11.0101) PNW - B.S. Cybersecurity (11.1003/11.0103) VU - CG Information Technology (11.0103) ITCC - TC Informatics; TC Applied Artificial Intelligence
Liberal Arts/Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course	Access competencies for 7183 Principles of Computing here.

Competencies	

Software and Cloud Foundations (New)		
Career Cluster	Digital Technology	
Program of Study	AI/Machine Learning, Data Analytics, Informatics, Software Development	
NLPS Sequence	B	
Course Code	7488	
Course Description	Software and Cloud Foundations introduces students to concepts and practices of programming languages and software development. Students will become familiar with algorithms and the development of tools used to document/implement computer logic. Students will compare different program languages, programming paradigms such as real-time processing, web/databased applications, and other integrated development environments. Students will learn how to implement structured programming concepts and explore the uses of different programming languages. Throughout the course, students will develop, test, and debug programs in an integrated development environment. In addition to programming, students will gain a general understanding of cloud computing concepts, core services, security, architecture, pricing, and support. The course provides students with workforce preparation focused on the AWS Cloud Practitioner certification.	
Prerequisite(s)/ Corequisite(s)	Principles of Computing	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Business Education 7-12 ● Industrial Arts, Math or Science with Professional Development or additional training in Computer Science	
Rules 46-47	● Business Education 9-12 ● Business Education with Vocational Endorsement 9-12 ● Occupational Specialist: Business IT: Programming & Software Development 9-12 ● Occupational Specialist in “Computer Science” related course approved for a CTE pathway ● Industrial Technology/Education, Math or Science with Professional Development or additional training in Computer Science	
Rules 2002	● Business with high school setting ● Computer Education with high school setting ● CTE: Business Services & Technology with high school setting	

	● Workplace Specialist: Business IT: Programming & Software Development ● Workplace Specialist in “Computer Science” related course approved for a CTE pathway ● Technology Education, Math or Science with Professional Development or additional training in Computer Science
REPA/REPA 3	● Computer Education 5-12, P-12 ● Computer Science 5-12, P-12 ● Business 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● Workplace Specialist in related “Computer Science” course approved for a CTE pathway ● Technology Education, Math or Science with Professional Development or additional training in Computer Science
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	SDEV 140: Introduction to Software Development; SVAD 150: Cloud Fundamentals; SVAD 151: WP - AWS Cloud Practitioner
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	ITCC - TC Applied Artificial Intelligence
Liberal Arts/Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7488 Software and Cloud Foundations here.

AI and Data Fundamentals (NEW)	
Career Cluster	Digital Technology
Program of Study	AI/Machine Learning, Data Analytics, Informatics, Software Development,
NLPS Sequence	C
Course Code	7490
Course Description	AI and Data Fundamentals introduce students to the basic concepts of databases including the types of databases, general database environment, and the

	importance of data in the business world. This course will provide discussion with hands-on activities which include database design, normalization of tables, and development of tables, queries, reports, and applications. Students will be familiarized with the use of the ANSI Structured Query Language. Students will be introduced to data concepts such as data warehousing, data mining, data visualization, data analysis, and big data.	
Prerequisite(s)/ Corequisite(s)	Principles of Computing, Software and Cloud Foundations	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Business Education 7-12	
Rules 46-47	● Business Education 9-12 ● Business Education with Vocational Endorsement 9-12 ● Occupational Specialist: Business IT: Programming & Software Development 9-12	
Rules 2002	● Business with high school setting ● Computer Education with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist: Computer Operations & Programming: Management Info Systems ● Workplace Specialist: Information Technology: Information Support & Services	
REPA/REPA 3	● Computer Education 5-12, P-12 ● Computer Science 5-12, P-12 ● Business 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● Workplace Specialist: Computer Science 9-12 ● Workplace Specialist: Information Technology: Information Support & Services 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	DBMS 110: Introduction to Data Analytics; AAIT 110: Artificial Intelligence Essentials: AAIT 261: WP – AWS AI Practitioner	
VU Course Alignment		
Four Yr. Course Alignment		
Postsecondary Credential	ITCC - TC Applied Artificial Intelligence	
Liberal		

Arts/Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7490 AI and Data Fundamentals here.

AI/Machine Learning Capstone		
Career Cluster	Digital Technology	
Program of Study	AI/Machine Learning	
NLPS Sequence	D	
Course Code	7494	
Course Description	AI/Machine Learning Capstone introduces students to key methodologies in machine learning (ML), emphasizing how each technique aligns with real-world problem domains and use cases. Throughout the course, attention is given to the human and ethical dimensions of data collection, transformation, and model training, ensuring students understand both the technical and responsible practice of machine learning. Students will also explore Large Language Models (LLMs) as the contemporary paradigm of Natural Language Processing (NLP). Students will develop a practical understanding of how modern Artificial Intelligence (AI) language technologies are designed, deployed, and leveraged across industry applications.	
Prerequisite(s)/ Corequisite(s)	Principles of Computing, Software and Cloud Foundations, AI and Data Fundamentals	
Credits	2 semester course, 2 semesters required, 1-3 credit per semester, 6 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level II
Bulletin 400	● Business Education 7-12	
Rules 46-47	● Business Education 9-12 ● Business Education with Vocational Endorsement 9-12 ● Occupational Specialist: Business IT: Programming & Software Development 9-12	
Rules 2002	● Business with high school setting ● Computer Education with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist: Computer Operations & Programming: Management Info Systems ● Workplace Specialist: Information Technology: Information Support & Services	

REPA/REPA 3	● Computer Education 5-12, P-12 ● Computer Science 5-12, P-12 ● Business 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● Workplace Specialist: Computer Science 9-12 ● Workplace Specialist: Information Technology: Information Support & Services 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	AAIT 212: Machine Learning; AAIT 216: Natural Language Processing; AAIS 270 Applied AI Projects; SDEV 220: Software Development Using Python;
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	ITCC - TC Applied Artificial Intelligence
Liberal Arts/Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7494 AI/Machine Learning Capstone here.

Digital Technology Computer Science							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
7183	Principles of Computing	7351	Topics in Computer Science	7352	Computer Science	7353	Computer Science Capstone

Principles of Computing		
Career Cluster	Digital Technology	
Program of Study	AI/Machine Learning, Computer Science, Cybersecurity, Data Analytics, Informatics, IT Operations, Networking, Software Development,	
NLPS Sequence	A	
Course Code	7183	
Course Description	*Principles of Computing provides students the opportunity to explore how computers can be used in a wide variety of settings. The course will begin by exploring trends of computing and the necessary skills to implement information systems. Topics include operating systems, database technology, cybersecurity, cloud implementations and other concepts associated with applying the principles of good information management to the organization. Students will also have the opportunity to utilize basic programming skills to develop scripts designed to solve problems. Students will learn about algorithms, logic development and flowcharting.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Counts as a quantitative reasoning course for CORE 40 diplomas Fulfills a science requirement for CORE 40 diplomas Counts as STEM-Focused credit for new diploma	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Business Education 7- 12 ● Industrial Arts, Math or Science with Professional Development or additional training in Computer Science ● Standard Trade & Industrial: Engineering K-12	
Rules 46-47	● Business Education 9-12 ● Business Education with Vocational Endorsement 9- 12 ● Occupational Specialist: Business IT: Programming & Software Development	

	9-12 ● Occupational Specialist in “Computer Science” related course approved for a CTE pathway ● Industrial Technology/Education, Math or Science with Professional Development or additional training in Computer Science ● Standard Trade & Industrial: Engineering 9-12 ● Occupational Specialist I, II, or III: Engineering
Rules 2002	● Business with high school setting ● Computer Education with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist: Business IT: Programming & Software Development ● Workplace Specialist in “Computer Science” related course approved for a CTE pathway ● Technology Education, Math or Science with Professional Development or additional training in Computer Science ● CTE: Trade & Industrial: Engineering ● Workplace Specialist: Engineering
REPA/REPA 3	● Computer Education 5-12, P-12 ● Computer Science 5-12, P-12 ● Business 5-12 ● CTE: Business Services & Technology 5- 12 ● CTE: Business & Information Technology 5-12 ● Workplace Specialist in related “Computer Science” course approved for a CTE pathway ● Technology Education, Math or Science with Professional Development or additional training in Computer Science ● CTE: Trade & Industrial Engineering 5-12 ● Workplace Specialist: Engineering 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	SDEV 120: Computing Logic; INFM 109: Informatics Fundamentals
VU Course Alignment	COMP 177: Introduction to Programming Logic- Design and Development
Four Yr. Course Alignment	IUB - CSCI-C 106: Introduction to Computers and Their Uses PFW - CS 11200: Computer Science for Everyone PNW - ITS 10000: Information Technology Fundamentals; ITS 14000: Intro to Computer Algorithms and Logic
Postsecondary Credential	ITCC: TC Informatics IUB: B.S. Informatics (11.0104) PFW: A.S. Information Systems (11.0101) PNW: B.S. Cybersecurity (11.1003/11.0103) VU: CG Information Technology (11.003)
Liberal Arts/Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	

Course Competencies	Access competencies for 7183 Principles of Computing here.

Topics in Computer Science		
Career Cluster	Digital Technology	
Program of Study	Computer Science	
NLPS Sequence	B	
Course Code	7351	
Course Description	*Topics in Computer Science is designed for students to investigate emerging disciplines within the field of computer science. Students will use foundational knowledge from 7183 Principles of Computing to study the areas of data science, artificial intelligence, app/game development, and security. Students will utilize knowledge related to these areas and programming skills to develop solutions to authentic problems.*	
Prerequisite(s)/ Corequisite(s)	Principles of Computing	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Counts as a quantitative reasoning course for CORE 40 diplomas Fulfills a science requirement for CORE 40 diplomas Counts as STEM-Focused credit for new diploma Counts as Computer Science credit for new diploma (Student must also complete 7183)	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Business Education 7- 12 ● Industrial Arts, Math or Science with Professional Development or additional training in Computer Science ● Standard Trade & Industrial: Engineering K-12	
Rules 46-47	● Business Education 9-12 ● Business Education with Vocational Endorsement 9- 12 ● Occupational Specialist: Business IT: Programming & Software Development 9-12 ● Occupational Specialist in “Computer Science” related course approved for a CTE pathway ● Industrial Technology/Education, Math or Science with Professional Development or additional training in Computer Science ● Standard Trade & Industrial: Engineering 9-12 ● Occupational Specialist I, II, or III: Engineering	
Rules 2002	● Business with high school setting ● Computer Education with high school setting ● CTE: Business Services & Technology with high school setting	

	● Workplace Specialist: Business IT: Programming & Software Development ● Workplace Specialist in "Computer Science" related course approved for a CTE pathway ● Technology Education, Math or Science with Professional Development or additional training in Computer Science ● CTE: Trade & Industrial: Engineering ● Workplace Specialist: Engineering
REPA/REPA 3	● Computer Education 5-12, P-12 ● Computer Science 5-12, P-12 ● Business 5-12 ● CTE: Business Services & Technology 5- 12 ● CTE: Business & Information Technology 5-12 ● Workplace Specialist in related "Computer Science" course approved for a CTE pathway ● Technology Education, Math or Science with Professional Development or additional training in Computer Science ● CTE: Trade & Industrial Engineering 5-12 ● Workplace Specialist: Engineering 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	CSCI C-297: Sophomore Topics in Computer Science
VU Course Alignment	
Four Yr. Course Alignment	IUB - INFO-I230: Analytical Foundations of Security IUK - CSCI C-297: Sophomore Topics in Computer Science
Postsecondary Credential	IUB/K – B.S. Informatics (11.0104)
Liberal Arts/Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7351 Topics in Computer Science here.

Computer Science	
Career Cluster	Digital Technology
Program of Study	Computer Science
NLPS Sequence	C
Course Code	7352
Course Description	*Computer Science introduces the fundamental concepts of procedural programming. Topics include data types, control structures, functions, arrays, files, and the mechanics of running, testing, and debugging. The course also offers an introduction to the historical and social context of computing and an*

	overview of computer science as a discipline.
Prerequisite(s)/ Corequisite(s)	Principles of Computing
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
Counts Toward	Counts as a quantitative reasoning course for CORE 40 diplomas Fulfills a science requirement for CORE 40 diplomas Counts as STEM-Focused credit for new diploma Counts as Computer Science credit for new diploma (Student must also complete 7183)
Dual Credit Status	X (PCL/CTE)
Additional Notes	The AP Computer Science A curriculum may be used to complete the competencies required for this course.
ADDITIONAL COURSE INFO	
Funding	High Value | Level I
Bulletin 400	● Business Education 7- 12 ● Industrial Arts, Math or Science with Professional Development or additional training in Computer Science ● Standard Trade & Industrial: Engineering K-12
Rules 46-47	● Business Education 9-12 ● Business Education with Vocational Endorsement 9- 12 ● Occupational Specialist: Business IT: Programming & Software Development 9-12 ● Occupational Specialist in “Computer Science” related course approved for a CTE pathway ● Industrial Technology/Education, Math or Science with Professional Development or additional training in Computer Science ● Standard Trade & Industrial: Engineering 9-12 ● Occupational Specialist I, II, or III: Engineering
Rules 2002	● Business with high school setting ● Computer Education with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist: Business IT: Programming & Software Development ● Workplace Specialist in “Computer Science” related course approved for a CTE pathway ● Technology Education, Math or Science with Professional Development or additional training in Computer Science ● CTE: Trade & Industrial: Engineering ● Workplace Specialist: Engineering
REPA/REPA 3	● Computer Education 5-12, P-12 ● Computer Science 5-12, P-12 ● Business 5-12 ● CTE: Business Services & Technology 5- 12 ● CTE: Business & Information Technology 5-12 ● Workplace Specialist in related “Computer Science” course approved for a CTE pathway ● Technology Education, Math or Science with Professional Development or

	additional training in Computer Science ● CTE: Trade & Industrial Engineering 5-12 ● Workplace Specialist: Engineering 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	CSCI 101: Computer Science I
VU Course Alignment	
Four Yr. Course Alignment	IUB – CSCI-C200: Introduction to Computers and Programming PFW – CS 16000: Introduction to Computer Science I
Postsecondary Credential	IUB – B.S. Informatics (11.0104) PFW – Certificate Computer Information Systems (11.0101)
Liberal Arts/Sciences Requirements	MATH 211: Calculus I
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7352 Computer Science here.

Computer Science Capstone	
Career Cluster	Digital Technology
Program of Study	Computer Science
NLPS Sequence	D
Course Code	7353
Course Description	*Computer Science Capstone provides a working understanding of the fundamentals of procedural and object-oriented program development using structured, modular concepts and modern object-oriented programming languages. The course introduces object-oriented concepts including classes, objects, inheritance, polymorphism, operator overloading, exception handling, recursion, abstract data types, streams and file I/O. Students will explore programming concepts such as software reuse, data abstraction and event-driven programming. Reviews control structures, functions, data types, variables, arrays, and data file access methods. Students will learn basic programming concepts such as sequence, iteration and decision structures; variables and constants; and functions and advanced concepts such as searches, sorts, collections, dictionaries, arrays, and linked lists. The course provides a basic understanding of the fundamental concepts involved when using the Java, Python and C# programming language. The emphasis will be on creating industry standard programs using current programming design software.*
Prerequisite(s)/ Corequisite(s)	Principles of Computing; Topics in Computer Science; Computer Science
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits

	maximum	
Counts Toward	Counts as STEM-Focused credit for new diploma	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level II
Bulletin 400	● Business Education 7- 12 ● Industrial Arts, Math or Science with Professional Development or additional training in Computer Science ● Standard Trade & Industrial: Engineering K-12	
Rules 46-47	● Business Education 9-12 ● Business Education with Vocational Endorsement 9- 12 ● Occupational Specialist: Business IT: Programming & Software Development 9-12 ● Occupational Specialist in “Computer Science” related course approved for a CTE pathway ● Industrial Technology/Education, Math or Science with Professional Development or additional training in Computer Science ● Standard Trade & Industrial: Engineering 9-12 ● Occupational Specialist I, II, or III: Engineering	
Rules 2002	● Business with high school setting ● Computer Education with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist: Business IT: Programming & Software Development ● Workplace Specialist in “Computer Science” related course approved for a CTE pathway ● Technology Education, Math or Science with Professional Development or additional training in Computer Science ● CTE: Trade & Industrial: Engineering ● Workplace Specialist: Engineering	
REPA/REPA 3	● Computer Education 5-12, P-12 ● Computer Science 5-12, P-12 ● Business 5-12 ● CTE: Business Services & Technology 5- 12 ● CTE: Business & Information Technology 5-12 ● Workplace Specialist in related “Computer Science” course approved for a CTE pathway ● Technology Education, Math or Science with Professional Development or additional training in Computer Science ● CTE: Trade & Industrial Engineering 5-12 ● Workplace Specialist: Engineering 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	CSCI 201: Computer Science II*, SDEV 200: Software Development Using Java*, SDEV 220: Software Development Using Python*, SDEV 240: Software Development Using C#*	
VU Course		

Alignment	
Four Yr. Course Alignment	PFW – CS 16100: Introduction to Computer Science II
Postsecondary Credential	PFW – Certificate Computer Information Systems
Liberal Arts/Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7353 Computer Science Capstone here.

Digital Technology Cybersecurity (VU)							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
7183	Principles of Computing	7179	Cybersecurity Fundamentals	7178	Advanced Cybersecurity	7243	Cybersecurity Capstone

Principles of Computing		
Career Cluster	Digital Technology	
Program of Study	AI/Machine Learning, Computer Science, Cybersecurity, Data Analytics, Informatics, IT Operations, Networking, Software Development,	
NLPS Sequence	A	
Course Code	7183	
Course Description	*Principles of Computing provides students the opportunity to explore how computers can be used in a wide variety of settings. The course will begin by exploring trends of computing and the necessary skills to implement information systems. Topics include operating systems, database technology, cybersecurity, cloud implementations and other concepts associated with applying the principles of good information management to the organization. Students will also have the opportunity to utilize basic programming skills to develop scripts designed to solve problems. Students will learn about algorithms, logic development and flowcharting.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Counts as a quantitative reasoning course for CORE 40 diplomas Fulfills a science requirement for CORE 40 diplomas Counts as STEM-Focused credit for new diploma	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Business Education 7- 12 ● Industrial Arts, Math or Science with Professional Development or additional training in Computer Science ● Standard Trade & Industrial: Engineering K-12	
Rules 46-47	● Business Education 9-12 ● Business Education with Vocational Endorsement 9- 12 ● Occupational Specialist: Business IT: Programming & Software Development 9-12	

	● Occupational Specialist in “Computer Science” related course approved for a CTE pathway ● Industrial Technology/Education, Math or Science with Professional Development or additional training in Computer Science ● Standard Trade & Industrial: Engineering 9-12 ● Occupational Specialist I, II, or III: Engineering
Rules 2002	● Business with high school setting ● Computer Education with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist: Business IT: Programming & Software Development ● Workplace Specialist in “Computer Science” related course approved for a CTE pathway ● Technology Education, Math or Science with Professional Development or additional training in Computer Science ● CTE: Trade & Industrial: Engineering ● Workplace Specialist: Engineering
REPA/REPA 3	● Computer Education 5-12, P-12 ● Computer Science 5-12, P-12 ● Business 5-12 ● CTE: Business Services & Technology 5- 12 ● CTE: Business & Information Technology 5-12 ● Workplace Specialist in related “Computer Science” course approved for a CTE pathway ● Technology Education, Math or Science with Professional Development or additional training in Computer Science ● CTE: Trade & Industrial Engineering 5-12 ● Workplace Specialist: Engineering 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	SDEV 120: Computing Logic; INFM 109: Informatics Fundamentals
VU Course Alignment	COMP 177: Introduction to Programming Logic- Design and Development
Four Yr. Course Alignment	IUB - CSCI-C 106: Introduction to Computers and Their Uses PFW - CS 11200: Computer Science for Everyone PNW - ITS 10000: Information Technology Fundamentals; ITS 14000: Intro to Computer Algorithms and Logic
Postsecondary Credential	ITCC: TC Informatics IUB: B.S. Informatics (11.0104) PFW: A.S. Information Systems (11.0101) PNW: B.S. Cybersecurity (11.1003/11.0103) VU: CG Information Technology (11.0103); CG Cybersecurity and Network Operations; CPC Cybersecurity and Networking Certificate
Liberal Arts/Sciences Requirements	
Industry Credential	CompTIA A+
CONTENT STANDARDS AND COMPETENCIES	

Course Competencies	Access competencies for 7183 Principles of Computing here.

Cybersecurity Fundamentals		
Career Cluster	Digital Technology	
Program of Study	Cybersecurity	
NLPS Sequence	B	
Course Code	7179	
Course Description	*This course introduces fundamental networking protocols and their hierarchical relationship in the context of conceptual Information Communication Technology (ICT) frameworks. Students will learn how networked hosts and applications communicate across networks. Emphasis is placed on security throughout the entire SDLC (Systems Development Life Cycle).*	
Prerequisite(s)/ Corequisite(s)	Principles of Computing	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Fulfills a science requirement for CORE 40 diplomas Counts as Computer Science credit for new diploma (Student must also complete 7183)	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Business Education 7-12	
Rules 46-47	● Business Education 9-12 ● Business Education with Vocational Endorsement 9-12 ● Occupational Specialist: Business IT: Programming & Software Development 9-12	
Rules 2002	● Business with high school setting ● Computer Education with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist: Information Support & Services	
REPA/REPA 3	● Computer Education 5-12, P-12 ● Computer Science 5-12, P-12 ● Business 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● Workplace Specialist: Computer Science 9-12 ● Workplace Specialist: Cybersecurity 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		

ITCC Course Alignment	
VU Course Alignment	VU-EC - CNET 146: Introduction to Network Operations and Security; CNET 246: Fundamentals in Network Operations and Security
Four Yr. Course Alignment	
Postsecondary Credential	VU - CG Information Technology (11.0103); CG Cybersecurity and Network Operations; CPC Cybersecurity and Networking Certificate
Liberal Arts/Sciences Requirements	VU - ENGL 101: English Composition I, MATH 103: Quantitative Reasoning, PSYC 141: Applied Psychology
Industry Credential	CompTIA A+
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7179 Cybersecurity Fundamentals here.

Advanced Cybersecurity		
Career Cluster	Digital Technology	
Program of Study	Cybersecurity	
NLPS Sequence	C	
Course Code	7178	
Course Description	*Students will acquire the fundamentals of information and data security and understand the vulnerability most organizations have in their security systems with an emphasis on firewalls, security plans and Virtual Private Networks (VPNs). Discussions will include data security methods, authentication, network attacks, malicious code and viruses, wireless security, e-mail and web security and disaster recovery. This course will also focus on the managerial aspects of information security and assurance. Topics covered include access control models, information security governance, and information security program assessment and metrics. Coverage on the foundational and technical components of information security is included to reinforce key concepts such as security planning and contingencies, security policies, security management models, and practices and ethics.*	
Prerequisite(s)/ Corequisite(s)	Principles of Computing; Cybersecurity Fundamentals	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Counts as Computer Science credit for new diploma (Student must also complete 7183)	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I

Bulletin 400	● Business Education 7-12
Rules 46-47	● Business Education 9-12 ● Business Education with Vocational Endorsement 9-12 ● Occupational Specialist: Business IT: Programming & Software Development 9-12
Rules 2002	● Business with high school setting ● Computer Education with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist: Information Support & Services
REPA/REPA 3	● Computer Education 5-12, P-12 ● Computer Science 5-12, P-12 ● Business 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● Workplace Specialist: Computer Science 9-12 ● Workplace Specialist: Cybersecurity 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	CNET 151: Information and Data Security I□ VU/EC - CNET 251: Information and Data Security II ^ ; CNET 227: Cyber Security Operations ^
Four Yr. Course Alignment	
Postsecondary Credential	VU - CG Information Technology (11.0103); CG Cybersecurity and Network Operations (11.1003); CPC Cybersecurity and Networking Certificate
Liberal Arts/Sciences Requirements	VU - ENGL 101: English Composition I, MATH 103: Quantitative Reasoning, PSYC 141: Applied Psychology
Industry Credential	CompTIA A+
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7178 Advanced Cybersecurity here.

Cybersecurity Capstone	
Career Cluster	Digital Technology
Program of Study	Cybersecurity
NLPS Sequence	D
Course Code	7243
Course Description	*The Cybersecurity Capstone is designed to increase a student's ability to investigate advanced topics with a primary focus on computer forensics, cyber law, cybercrimes, and cyber forensics. Using Federal, State, and existing case laws,*

	students will gain in-depth experience investigating and gathering evidence to prepare for a presentation in a court of law. This course will emphasize the need for structured investigation techniques and proper protocol for maintaining a chain of evidence. Students will learn to follow proper investigative procedures while using a variety of forensic software tools and techniques.
Prerequisite(s)/ Corequisite(s)	Principles of Computing; Cybersecurity Fundamentals; Advanced Cybersecurity
Credits	2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum
Counts Toward	Counts as STEM-focused credit for new diploma
Dual Credit Status	X (PCL/CTE)
Additional Notes	
ADDITIONAL COURSE INFO	
Funding	High Value | Level II
Bulletin 400	● Business Education 7-12
Rules 46-47	● Business Education 9-12 ● Business Education with Vocational Endorsement 9-12 ● Occupational Specialist: Business IT: Programming & Software Development 9-12
Rules 2002	● Business with high school setting ● Computer Education with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist: Information Support & Services
REPA/REPA 3	● Computer Education 5-12, P-12 ● Computer Science 5-12, P-12 ● Business 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● Workplace Specialist: Computer Science 9-12 ● Workplace Specialist: Cybersecurity 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	CSIA 210: Network Protocol Analysis
VU Course Alignment	VU/EC - CNET 155: Basic Cyber Crime and Computer Forensics□; CNET 255: Advanced Researches in Cyber Crime and Forensics□; CNET 236: Operating Systems I□
Four Yr. Course Alignment	
Postsecondary Credential	VU - CG Information Technology (11.0103); CG Cybersecurity and Network Operations; CPC Cybersecurity and Networking Certificate ITCC - TC Cybersecurity and Information Assurance
Liberal Arts/Sciences Requirements	VU - ENGL 101: English Composition I, MATH 103: Quantitative Reasoning, PSYC 141: Applied Psychology

Industry Credential	CompTIA A+
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7243 Cybersecurity Capstone here.

Digital Technology Cybersecurity and Information Assurance (ITCC)							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
7183	Principles of Computing	7180	Information Technology Fundamentals	7181	Networking and Cybersecurity Operations	7249	Cybersecurity Operations Capstone

Principles of Computing		
Career Cluster	Digital Technology	
Program of Study	AI/Machine Learning, Computer Science, Cybersecurity, Data Analytics, Informatics, IT Operations, Networking, Software Development,	
NLPS Sequence	A	
Course Code	7183	
Course Description	*Principles of Computing provides students the opportunity to explore how computers can be used in a wide variety of settings. The course will begin by exploring trends of computing and the necessary skills to implement information systems. Topics include operating systems, database technology, cybersecurity, cloud implementations and other concepts associated with applying the principles of good information management to the organization. Students will also have the opportunity to utilize basic programming skills to develop scripts designed to solve problems. Students will learn about algorithms, logic development and flowcharting.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Counts as a quantitative reasoning course for CORE 40 diplomas Fulfills a science requirement for CORE 40 diplomas Counts as STEM-Focused credit for new diploma	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Business Education 7- 12 ● Industrial Arts, Math or Science with Professional Development or additional training in Computer Science ● Standard Trade & Industrial: Engineering K-12	
Rules 46-47	● Business Education 9-12 ● Business Education with Vocational Endorsement 9- 12 ● Occupational Specialist: Business IT: Programming & Software Development	

	9-12 ● Occupational Specialist in “Computer Science” related course approved for a CTE pathway ● Industrial Technology/Education, Math or Science with Professional Development or additional training in Computer Science ● Standard Trade & Industrial: Engineering 9-12 ● Occupational Specialist I, II, or III: Engineering
Rules 2002	● Business with high school setting ● Computer Education with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist: Business IT: Programming & Software Development ● Workplace Specialist in “Computer Science” related course approved for a CTE pathway ● Technology Education, Math or Science with Professional Development or additional training in Computer Science ● CTE: Trade & Industrial: Engineering ● Workplace Specialist: Engineering
REPA/REPA 3	● Computer Education 5-12, P-12 ● Computer Science 5-12, P-12 ● Business 5-12 ● CTE: Business Services & Technology 5- 12 ● CTE: Business & Information Technology 5-12 ● Workplace Specialist in related “Computer Science” course approved for a CTE pathway ● Technology Education, Math or Science with Professional Development or additional training in Computer Science ● CTE: Trade & Industrial Engineering 5-12 ● Workplace Specialist: Engineering 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	SDEV 120: Computing Logic; INFM 109: Informatics Fundamentals
VU Course Alignment	COMP 177: Introduction to Programming Logic- Design and Development
Four Yr. Course Alignment	IUB - CSCI-C 106: Introduction to Computers and Their Uses PFW - CS 11200: Computer Science for Everyone PNW - ITS 10000: Information Technology Fundamentals; ITS 14000: Intro to Computer Algorithms and Logic
Postsecondary Credential	IUB – B.S. Informatics (11.0104) PFW – A.S. Information Systems (11.0101) PNW - B.S. Cybersecurity (11.1003/11.0103) VU - CG Information Technology (11.0103) ITCC - TC Informatics; TC Cybersecurity and Information Assurance
Liberal Arts/Sciences Requirements	
Industry Credential	Comp TIA Security+; Comp TIA A+
CONTENT STANDARDS AND COMPETENCIES	

Course Competencies	Access competencies for 7183 Principles of Computing here.

Information Technology Fundamentals		
Career Cluster	Digital Technology	
Program of Study	IT Operations, Networking, Cybersecurity, Informatics	
NLPS Sequence	B	
Course Code	7180	
Course Description	*Information Technology Fundamentals provides the necessary competencies required for an entry-level Information Technology professional. Students will have the knowledge required to assemble components based on customer requirements, install, configure and maintain devices/software for end users, understand the basics of networking and security, properly and safely diagnose, resolve and document common hardware and software issues while applying troubleshooting skills. Students will also learn appropriate customer support, understand the basics of virtualization, desktop imaging, and deployment. This course should also prepare students for the CompTIA A+ Certification Exam.*	
Prerequisite(s)/ Corequisite(s)	Principles of Computing	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Counts as Computer Science credit for new diploma (Student must also complete 7183)	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Business Education 7-12	
Rules 46-47	● Business Education 9-12 ● Business Education with Vocational Endorsement 9-12 ● Occupational Specialist: Business IT: Programming & Software Development 9-12	
Rules 2002	● Business with high school setting ● Computer Education with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist: Computer Operations & Programming: Management Info Systems ● Workplace Specialist: Information Technology: Information Support & Services	
REPA/REPA 3	● Computer Education 5-12, P-12 ● Computer Science 5-12, P-12 ● Business 5-12 ● CTE: Business Services & Technology 5-12	

	● CTE: Business & Information Technology 5-12 ● Workplace Specialist: Computer Science 9-12 ● Workplace Specialist: Information Technology: Information Support & Services 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	ITSP 132: IT Support Essentials I; ITSP 134: IT Support Essentials II; ITSP 136: Workforce Preparation: CompTIA A+ Certification
VU Course Alignment	CMET 140: CompTIA A+□; CMET 185: CompTIA A+ Certification Prep□; CMET 195: CompTIA A+ Certification□
Four Yr. Course Alignment	PNW - ITS 13500: Operating Systems Technology, ITS 17000: Networking Technologies
Postsecondary Credential	ITCC - TC Cyber Security and Information Assurance (11.0401) PNW – B.S. in Cybersecurity (11.1003/11.0103)
Liberal Arts/Sciences Requirements	
Industry Credential	Comp TIA Security+; Comp TIA A+
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7180 Information Technology Fundamentals here.

Networking and Cybersecurity Operations	
Career Cluster	Digital Technology
Program of Study	IT Operations, Cybersecurity (ITCC)
NLPS Sequence	C
Course Code	7181
Course Description	*Networking and Cybersecurity Operations will provide students with the fundamental concepts in networking and cybersecurity. Students are introduced to the principles and concepts of computer networking, covering the architecture, components, and operations of routers and switches in a small network. Students learn how to configure a router and a switch for basic functionality. Students will be able to troubleshoot routers and switches and resolve common issues. The students will also explore the field of Cyber Security/Information Assurance focusing on the technical and managerial aspects of the discipline. Students will be introduced to the basic terminology, concepts, and best practices of computer/network security and the roles and responsibilities of management/security personnel. The students will learn the technologies used and techniques involved in creating a secure computer networking environment including authentication and the types of attacks against an organization.*
Prerequisite(s)/ Corequisite(s)	Principles of Computing; Information Technology Fundamentals
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits

	maximum	
Counts Toward	Fulfills a science requirement for CORE 40 diplomas Counts as Computer Science credit for new diploma (Student must also complete 7183)	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level I
Bulletin 400	● Business Education 7-12	
Rules 46-47	● Business Education 9-12 ● Business Education with Vocational Endorsement 9-12 ● Occupational Specialist: Business IT: Programming & Software Development 9-12	
Rules 2002	● Business with high school setting ● Computer Education with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist: Computer Operations & Programming: Management Info Systems ● Workplace Specialist: Information Technology: Information Support & Services	
REPA/REPA 3	● Computer Education 5-12, P-12 ● Computer Science 5-12, P-12 ● Business 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● Workplace Specialist: Computer Science 9-12 ● Workplace Specialist: Information Technology: Information Support & Services 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	NETI 104: Introduction to Networking, CSIA 105: Introduction to Cyber Security/Information Assurance	
VU Course Alignment		
Four Yr. Course Alignment	PNW - ITS 25000: Fundamentals of Information Assurance, ITS 27000: Internetworking Technologies	
Postsecondary Credential	ITCC - TC Cyber Security and Information Assurance (11.0401) PNW – B.S in Cybersecurity (11.1003/11.0103)	
Liberal Arts/Sciences Requirements		
Industry Credential	Comp TIA Security+; Comp TIA A+	
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 7181 Networking and Cybersecurity Operations here.	

Cybersecurity Operations Capstone		
Career Cluster	Digital Technology	
Program of Study	Cybersecurity	
NLPS Sequence	D	
Course Code	7249	
Course Description	*Cybersecurity Operations Capstone course introduces the core security concepts and skills needed to monitor, detect, analyze and respond to cybercrime, cyberespionage, insider threats, advanced persistent threats, regulatory requirements, and other cybersecurity issues facing organizations. It emphasizes the practical application of the skills needed to maintain and ensure security operational readiness of secure networked systems through an in-depth coverage of network protocols and ethical hacking. Through hands-on instruction students will be prepared to interact with TCP/IP on the vast majority of networks in use today and learn threats and defense mechanisms. The skills developed in the curriculum prepares students for a career in the rapidly growing area of cybersecurity operations.*	
Prerequisite(s)/ Corequisite(s)	Principles of Computing; Information Technology Fundamentals; Networking and Cybersecurity Operations	
Credits	2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum	
Counts Toward	Counts as STEM-focused credit for new diploma	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level II
Bulletin 400	● Business Education 7-12	
Rules 46-47	● Business Education 9-12 ● Business Education with Vocational Endorsement 9-12 ● Occupational Specialist: Business IT: Programming & Software Development 9-12	
Rules 2002	● Business with high school setting ● Computer Education with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist: Information Support & Services	
REPA/REPA 3	● Computer Education 5-12, P-12 ● Computer Science 5-12, P-12 ● Business 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● Workplace Specialist: Computer Science 9-12 ● Workplace Specialist: Cybersecurity 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		

ITCC Course Alignment	SVAD 111: Linux and Virtualization Technologies Fundamentals; SVAD 121: Enterprise Computing; CSIA 210: Network Protocol Analysis*; CSIA 115: Cyber Ops; CPIN 280: Computing and Informatics CO-OP/Internship/Externship; NETI 114: Workforce Preparation: CompTIA Network+ Certification; CSIA 106: Workforce Preparation: CompTIA Security+ Certification
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	ITCC - TC Cyber Security and Information Assurance (11.0401)
Liberal Arts/Sciences Requirements	ITCC - ENGL 111: English Composition, IVYT 115: Student Success in Computing and Informatics, MATH 136+ College Algebra or Higher
Industry Credential	CompTIA Security+; CompTIA A+
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7249 Cybersecurity Operations Capstone here.

Digital Technology Data Analytics							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
7183	Principles of Computing	7488	Software and Cloud Foundations	7490	AI and Data Fundamentals	7492	Data Analytics Capstone

Principles of Computing		
Career Cluster	Digital Technology	
Program of Study	AI/Machine Learning, Computer Science, Cybersecurity, Data Analytics, Informatics, IT Operations, Networking, Software Development,	
NLPS Sequence	A	
Course Code	7183	
Course Description	*Principles of Computing provides students the opportunity to explore how computers can be used in a wide variety of settings. The course will begin by exploring trends of computing and the necessary skills to implement information systems. Topics include operating systems, database technology, cybersecurity, cloud implementations and other concepts associated with applying the principles of good information management to the organization. Students will also have the opportunity to utilize basic programming skills to develop scripts designed to solve problems. Students will learn about algorithms, logic development and flowcharting.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Counts as a quantitative reasoning course for CORE 40 diplomas Fulfills a science requirement for CORE 40 diplomas Counts as STEM-Focused credit for new diploma	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Business Education 7- 12 ● Industrial Arts, Math or Science with Professional Development or additional training in Computer Science ● Standard Trade & Industrial: Engineering K-12	

Rules 46-47	● Business Education 9-12 ● Business Education with Vocational Endorsement 9- 12 ● Occupational Specialist: Business IT: Programming & Software Development 9-12 ● Occupational Specialist in “Computer Science” related course approved for a CTE pathway ● Industrial Technology/Education, Math or Science with Professional Development or additional training in Computer Science ● Standard Trade & Industrial: Engineering 9-12 ● Occupational Specialist I, II, or III: Engineering
Rules 2002	● Business with high school setting ● Computer Education with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist: Business IT: Programming & Software Development ● Workplace Specialist in “Computer Science” related course approved for a CTE pathway ● Technology Education, Math or Science with Professional Development or additional training in Computer Science ● CTE: Trade & Industrial: Engineering ● Workplace Specialist: Engineering
REPA/REPA 3	● Computer Education 5-12, P-12 ● Computer Science 5-12, P-12 ● Business 5-12 ● CTE: Business Services & Technology 5- 12 ● CTE: Business & Information Technology 5-12 ● Workplace Specialist in related “Computer Science” course approved for a CTE pathway ● Technology Education, Math or Science with Professional Development or additional training in Computer Science ● CTE: Trade & Industrial Engineering 5-12 ● Workplace Specialist: Engineering 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	SDEV 120: Computing Logic; INFM 109: Informatics Fundamentals
VU Course Alignment	COMP 177: Introduction to Programming Logic- Design and Development
Four Yr. Course Alignment	IUB - CSCI-C 106: Introduction to Computers and Their Uses PFW - CS 11200: Computer Science for Everyone PNW - ITS 10000: Information Technology Fundamentals; ITS 14000: Intro to Computer Algorithms and Logic
Postsecondary Credential	IUB – B.S. Informatics (11.0104) PFW – A.S. Information Systems (11.0101) PNW - B.S. Cybersecurity (11.1003/11.0103) VU - CG Information Technology (11.0103) ITCC - TC Informatics

Liberal Arts/Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7183 Principles of Computing here.

Software and Cloud Foundations (New)		
Career Cluster	Digital Technology	
Program of Study		
NLPS Sequence	B	
Course Code	7488	
Course Description	*Software and Cloud Foundations introduces students to concepts and practices of programming languages and software development. Students will become familiar with algorithms and the development of tools used to document/implement computer logic. Students will compare different program languages, programming paradigms such as real-time processing, web/databased applications, and other integrated development environments. Students will learn how to implement structured programming concepts and explore the uses of different programming languages. Throughout the course, students will develop, test, and debug programs in an integrated development environment. In addition to programming, students will gain a general understanding of cloud computing concepts, core services, security, architecture, pricing, and support. The course provides students with workforce preparation focused on the AWS Cloud Practitioner certification.*	
Prerequisite(s)/ Corequisite(s)	Principles of Computing	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Counts as a quantitative reasoning course for CORE 40 diplomas Fulfills a science requirement for CORE 40 diplomas Counts as STEM-Focused credit for new diploma	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Business Education 7-12 ● Industrial Arts, Math or Science with Professional Development or additional training in Computer Science	

Rules 46-47	● Business Education 9-12 ● Business Education with Vocational Endorsement 9-12 ● Occupational Specialist: Business IT: Programming & Software Development 9-12 ● Occupational Specialist in "Computer Science" related course approved for a CTE pathway ● Industrial Technology/Education, Math or Science with Professional Development or additional training in Computer Science
Rules 2002	● Business with high school setting ● Computer Education with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist: Business IT: Programming & Software Development ● Workplace Specialist in "Computer Science" related course approved for a CTE pathway ● Technology Education, Math or Science with Professional Development or additional training in Computer Science
REPA/REPA 3	● Computer Education 5-12, P-12 ● Computer Science 5-12, P-12 ● Business 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● Workplace Specialist in related "Computer Science" course approved for a CTE pathway ● Technology Education, Math or Science with Professional Development or additional training in Computer Science
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	SDEV 140: Introduction to Software Development; SVAD 150: Cloud Fundamentals; SVAD 151: WP - AWS Cloud Practitioner
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	ITCC - Data Analytics
Liberal Arts/Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7488 Software and Cloud Foundations here.

AI and Data Fundamentals (NEW)		
Career Cluster	Digital Technology	
Program of Study	Informatics, Software Development, AI/Machine Learning, Data Analytics	
NLPS Sequence	C	
Course Code	7490	
Course Description	*AI and Data Fundamentals introduces students to the basic concepts of databases including the types of databases, general database environment, and the importance of data in the business world. This course will provide discussion with hands-on activities which include database design, normalization of tables, and development of tables, queries, reports, and applications. Students will be familiarized with the use of the ANSI Structured Query Language. Students will be introduced to data concepts such as data warehousing, data mining, data visualization, data analysis, and big data.*	
Prerequisite(s)/ Corequisite(s)	Principles of Computing, Software and Cloud Foundations	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Counts as Computer Science credit for new diploma (Student must also complete 7183)	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Business Education 7-12	
Rules 46-47	● Business Education 9-12 ● Business Education with Vocational Endorsement 9-12 ● Occupational Specialist: Business IT: Programming & Software Development 9-12	
Rules 2002	● Business with high school setting ● Computer Education with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist: Computer Operations & Programming: Management Info Systems ● Workplace Specialist: Information Technology: Information Support & Services	
REPA/REPA 3	● Computer Education 5-12, P-12 ● Computer Science 5-12, P-12 ● Business 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● Workplace Specialist: Computer Science 9-12 ● Workplace Specialist: Information Technology: Information Support & Services 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		

ITCC Course Alignment	DBMS 110: Introduction to Data Analytics; AAIT 110: Artificial Intelligence Essentials: AAIT 261: WP – AWS AI Practitioner
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	ITCC - TC Data Analytics
Liberal Arts/Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7490 AI and Data Fundamentals here.

Data Analytics Capstone (NEW)	
Career Cluster	Digital Technology
Program of Study	Data Analytics
NLPS Sequence	D
Course Code	7492
Course Description	*The Data Analytics Capstone examines American business through the study of business ownership, organization principles and problems, management, control facilities, administration, financial management, and development practices of American business enterprises. Students are introduced to Structured Query Language (SQL) which is a database computer language used to manage, query, retrieve and manipulate data. Students are introduced to SQL as a high-level tool in the management of data in client and server database environments. Students will use relational database management systems to develop SQL skills in a lab environment. The capstone course will introduce students to the concepts and tools used to visualize and analyze data. Students will connect to data stored in databases and spreadsheets, use data visualization software to gather, organize, categorize, and visualize data. Students will identify patterns in data through the creation of various charts and tables. Students will be introduced to technology and techniques used to effectively consolidate, arrange, and analyze vast amounts of data. The course places emphasis on learning how to mine large amounts of data using common business intelligence and decision support tools.*
Prerequisite(s)/ Corequisite(s)	Principles of Computing, Software and Cloud Foundations, AI and Data Fundamentals
Credits	2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum
Counts Toward	Counts as Computer Science credit for new diploma (Student must also complete 7183)

Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level II
Bulletin 400	● Business Education 7-12	
Rules 46-47	● Business Education 9-12 ● Business Education with Vocational Endorsement 9-12 ● Occupational Specialist: Business IT: Programming & Software Development 9-12	
Rules 2002	● Business with high school setting ● Computer Education with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist: Computer Operations & Programming: Management Info Systems ● Workplace Specialist: Information Technology: Information Support & Services	
REPA/REPA 3	● Computer Education 5-12, P-12 ● Computer Science 5-12, P-12 ● Business 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● Workplace Specialist: Computer Science 9-12 ● Workplace Specialist: Information Technology: Information Support & Services 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	DBMS 160: Data Visualization and Analysis; BUSN 101: Introduction to Business; DBMS 130: Data Management Using SQL; INFM 219: Business Intelligence and Reporting	
VU Course Alignment		
Four Yr. Course Alignment		
Postsecondary Credential	ITCC - TC Data Analytics	
Liberal Arts/Sciences Requirements		
Industry Credential		
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 7492 Data Analytics Capstone here.	

Digital Technology Informatics							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
7183	Principles of Computing	7180	Information Technology Fundamentals	7484	Data Analytics and Informatics Operations	7485	Informatics Capstone
		7488	Software and Cloud Foundations	7490	AI and Data Fundamentals		

Principles of Computing		
Career Cluster	Digital Technology	
Program of Study	AI/Machine Learning, Computer Science, Cybersecurity, Data Analytics, Informatics, IT Operations, Networking, Software Development,	
NLPS Sequence	A	
Course Code	7183	
Course Description	*Principles of Computing provides students the opportunity to explore how computers can be used in a wide variety of settings. The course will begin by exploring trends of computing and the necessary skills to implement information systems. Topics include operating systems, database technology, cybersecurity, cloud implementations and other concepts associated with applying the principles of good information management to the organization. Students will also have the opportunity to utilize basic programming skills to develop scripts designed to solve problems. Students will learn about algorithms, logic development and flowcharting.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Counts as a quantitative reasoning course for CORE 40 diplomas Fulfills a science requirement for CORE 40 diplomas Counts as STEM-Focused credit for new diploma	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Business Education 7- 12 ● Industrial Arts, Math or Science with Professional Development or additional training in Computer Science ● Standard Trade & Industrial: Engineering K-12	

Rules 46-47	● Business Education 9-12 ● Business Education with Vocational Endorsement 9- 12 ● Occupational Specialist: Business IT: Programming & Software Development 9-12 ● Occupational Specialist in "Computer Science" related course approved for a CTE pathway ● Industrial Technology/Education, Math or Science with Professional Development or additional training in Computer Science ● Standard Trade & Industrial: Engineering 9-12 ● Occupational Specialist I, II, or III: Engineering
Rules 2002	● Business with high school setting ● Computer Education with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist: Business IT: Programming & Software Development ● Workplace Specialist in "Computer Science" related course approved for a CTE pathway ● Technology Education, Math or Science with Professional Development or additional training in Computer Science ● CTE: Trade & Industrial: Engineering ● Workplace Specialist: Engineering
REPA/REPA 3	● Computer Education 5-12, P-12 ● Computer Science 5-12, P-12 ● Business 5-12 ● CTE: Business Services & Technology 5- 12 ● CTE: Business & Information Technology 5-12 ● Workplace Specialist in related "Computer Science" course approved for a CTE pathway ● Technology Education, Math or Science with Professional Development or additional training in Computer Science ● CTE: Trade & Industrial Engineering 5-12 ● Workplace Specialist: Engineering 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	SDEV 120: Computing Logic; INFM 109: Informatics Fundamentals
VU Course Alignment	COMP 177: Introduction to Programming Logic- Design and Development
Four Yr. Course Alignment	IUB - CSCI-C 106: Introduction to Computers and Their Uses PFW - CS 11200: Computer Science for Everyone PNW - ITS 10000: Information Technology Fundamentals; ITS 14000: Intro to Computer Algorithms and Logic
Postsecondary Credential	IUB – B.S. Informatics (11.0104) PFW – A.S. Information Systems (11.0101) PNW - B.S. Cybersecurity (11.1003/11.0103) VU - CG Information Technology (11.0103) ITCC - TC Informatics
Liberal Arts/Sciences Requirements	

Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7183 Principles of Computing here.

Information Technology Fundamentals		
Career Cluster	Digital Technology	
Program of Study	IT Operations, Networking, Cybersecurity, Informatics	
NLPS Sequence	B	
Course Code	7180	
Course Description	*Information Technology Fundamentals provides the necessary competencies required for an entry-level Information Technology professional. Students will have the knowledge required to assemble components based on customer requirements, install, configure and maintain devices/software for end users, understand the basics of networking and security, properly and safely diagnose, resolve and document common hardware and software issues while applying troubleshooting skills. Students will also learn appropriate customer support, understand the basics of virtualization, desktop imaging, and deployment. This course should also prepare students for the CompTia A+ Certification Exam.*	
Prerequisite(s)/ Corequisite(s)	Principles of Computing	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Counts as Computer Science credit for new diploma (Student must also complete 7183)	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Business Education 7-12	
Rules 46-47	● Business Education 9-12 ● Business Education with Vocational Endorsement 9-12 ● Occupational Specialist: Business IT: Programming & Software Development 9-12	
Rules 2002	● Business with high school setting ● Computer Education with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist: Computer Operations & Programming: Management Info Systems ● Workplace Specialist: Information Technology: Information Support & Services	
REPA/REPA 3	● Computer Education 5-12, P-12	

	● Computer Science 5-12, P-12 ● Business 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● Workplace Specialist: Computer Science 9-12 ● Workplace Specialist: Information Technology: Information Support & Services 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	ITSP 132: IT Support Essentials I; ITSP 134: IT Support Essentials II; ITSP 136: Workforce Preparation: CompTIA A+ Certification
VU Course Alignment	CMET 140: CompTIA A+□; CMET 185: CompTIA A+ Certification Prep□; CMET 195: CompTIA A+ Certification□
Four Yr. Course Alignment	PNW - ITS 13500: Operating Systems Technology, ITS 17000: Networking Technologies
Postsecondary Credential	ITCC - TC Informatics
Liberal Arts/Sciences Requirements	
Industry Credential	CompTIA A+
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7180 Information Technology Fundamentals here.

Software and Cloud Foundations *(NEW)*	
Career Cluster	Digital Technology
Program of Study	Informatics, Software Development, AI/Machine Learning, Data Analytics
NLPS Sequence	B
Course Code	7488
Course Description	*Software and Cloud Foundations introduces students to concepts and practices of programming languages and software development. Students will become familiar with algorithms and the development of tools used to document/implement computer logic. Students will compare different program languages, programming paradigms such as real-time processing, web/databased applications, and other integrated development environments. Students will learn how to implement structured programming concepts and explore the uses of different programming languages. Throughout the course, students will develop, test, and debug programs in an integrated development environment. In addition to programming, students will gain a general understanding of cloud computing concepts, core services, security, architecture, pricing, and support. The course provides students with workforce preparation focused on the AWS Cloud Practitioner certification. Students can use this course as preparation leading to the AWS Cloud Practitioner*

	certification.	
Prerequisite(s)/ Corequisite(s)	Principles of Computing	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Business Education 7-12	
Rules 46-47	● Business Education 9-12 ● Business Education with Vocational Endorsement 9-12 ● Occupational Specialist: Business IT: Programming & Software Development 9-12	
Rules 2002	● Business with high school setting ● Computer Education with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist: Computer Operations & Programming: Management Info Systems ● Workplace Specialist: Information Technology: Information Support & Services	
REPA/REPA 3	● Computer Education 5-12, P-12 ● Computer Science 5-12, P-12 ● Business 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● Workplace Specialist: Computer Science 9-12 ● Workplace Specialist: Information Technology: Information Support & Services 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	SDEV 140: Introduction to Software Development; SVAD 150: Cloud Fundamentals; SVAD 151: WP-AWS Cloud Practitioner	
VU Course Alignment		
Four Yr. Course Alignment		
Postsecondary Credential	ITCC – TC Informatics	
Liberal Arts/Sciences Requirements		
Industry Credential	CompTIA A+	
CONTENT STANDARDS AND COMPETENCIES		

Course Competencies	Access competencies for 7488 Information Technology Fundamentals here.

Data Analytics and Informatics Operations		
Career Cluster	Digital Technology	
Program of Study	Informatics	
NLPS Sequence	C	
Course Code	7484	
Course Description	*Data Analysis and Informatics Operations introduce students to the fundamentals of database structures, data management, and human-computer interaction (HCI). The course covers relational, hierarchical, network, and non-relational databases, along with data integrity, security, and unstructured data techniques such as Key-pair and JSON. Students will learn to use SQL commands for data manipulation and explore advanced concepts like big data, data warehousing, and data mining. Emphasis is placed on designing effective user interfaces, understanding user experience and usability, and applying HCI principles to create intuitive, accessible technologies. Through this course, students will develop the skills needed to analyze, design, and evaluate data systems and interactive interfaces in business settings.*	
Prerequisite(s)/ Corequisite(s)	Principles of Computing, Information Technology Fundamentals	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Counts as STEM-Focused credit for new diploma	
Dual Credit Status	X (PCL/CTE)	
Additional Notes	This course will be phased out after the 27-28 school year and replaced with 7490 – AI and Data Fundamentals. Districts may begin the course transition prior to the 27-28 school year.	
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Business Education 7-12	
Rules 46-47	● Business Education 9-12 ● Business Education with Vocational Endorsement 9-12 ● Occupational Specialist: Business IT: Programming & Software Development 9-12	
Rules 2002	● Business with high school setting ● Computer Education with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist: Computer Operations & Programming: Management Info Systems ● Workplace Specialist: Information Technology: Information Support & Services	

REPA/REPA 3	● Computer Education 5-12, P-12 ● Computer Science 5-12, P-12 ● Business 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● Workplace Specialist: Computer Science 9-12 ● Workplace Specialist: Information Technology: Information Support & Services 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	DBMS 110: Introduction to Data Analysis; INFM 209: Informatics and Human-Computer Interaction
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	ITCC: TC Informatics
Liberal Arts/Sciences Requirements	
Industry Credential	CompTIA A+
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7484 Data Analytics and Informatics Operations here.

AI and Data Fundamentals *(NEW)*	
Career Cluster	Digital Technology
Program of Study	Informatics, Software Development, AI/Machine Learning, Data Analytics
NLPS Sequence	C
Course Code	7490
Course Description	*AI and Data Fundamentals introduces students to the basic concepts of databases including the types of databases, general database environment, and the importance of data in the business world. This course will provide discussion with hands-on activities which include database design, normalization of tables, and development of tables, queries, reports, and applications. Students will be familiarized with the use of the ANSI Structured Query Language. Students will be introduced to data concepts such as data warehousing, data mining, data visualization, data analysis, and big data.*
Prerequisite(s)/ Corequisite(s)	Principles of Computing, Software and Cloud Foundations
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
Counts Toward	Counts as Computer Science credit for new diploma (Student must also complete

	7183)	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Business Education 7-12	
Rules 46-47	● Business Education 9-12 ● Business Education with Vocational Endorsement 9-12 ● Occupational Specialist: Business IT: Programming & Software Development 9-12	
Rules 2002	● Business with high school setting ● Computer Education with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist: Computer Operations & Programming: Management Info Systems ● Workplace Specialist: Information Technology: Information Support & Services	
REPA/REPA 3	● Computer Education 5-12, P-12 ● Computer Science 5-12, P-12 ● Business 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● Workplace Specialist: Computer Science 9-12 ● Workplace Specialist: Information Technology: Information Support & Services 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	DBMS 110: Introduction to Data Analytics; AAIT 110: Artificial Intelligence Essentials: AAIT 261: WP – AWS AI Practitioner	
VU Course Alignment		
Four Yr. Course Alignment		
Postsecondary Credential	ITCC: TC Informatics	
Liberal Arts/Sciences Requirements		
Industry Credential	Comp TIA A+	
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 7490 AI and Data Fundamentals here.	

Informatics Capstone		
Career Cluster	Digital Technology	
Program of Study	Informatics	
NLPS Sequence	D	
Course Code	7485	
Course Description	*The Informatics capstone course will introduce students to the concepts and tools used to visualize and analyze data. Students will connect to data stored in databases and spreadsheets, use data visualization software to gather, organize, categorize, and visualize data. Students will identify patterns in data through the creation of various charts and tables. The course places emphasis on learning how to mine large amounts of data using common business intelligence and decision support tools. The Informatics Capstone provides students with the opportunity to work at a job site that correlates to IT-related career objectives. Students will work within a team to identify and employ methodologies pertinent to the assessment, design, and operation of business computer information systems. Students will develop individual and team competencies working to employ current software tools to generate and illustrate the flow of the actual development of a project. The workforce preparation section of this course is focused on the CompTIA project certification.*	
Prerequisite(s)/ Corequisite(s)	Principles of Computing, Information Technology Fundamentals **AND** Data Analytics and Informatics Operations **OR** Software and Cloud Foundations **AND** AI and Data Fundamentals	
Credits	2 semester course, 2 semesters required, 1-3 credit per semester, 6 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level II
Bulletin 400	● Business Education 7-12	
Rules 46-47	● Business Education 9-12 ● Business Education with Vocational Endorsement 9-12 ● Occupational Specialist: Business IT: Programming & Software Development 9-12	
Rules 2002	● Business with high school setting ● Computer Education with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist: Computer Operations & Programming: Management Info Systems ● Workplace Specialist: Information Technology: Information Support & Services	
REPA/REPA 3	● Computer Education 5-12, P-12 ● Computer Science 5-12, P-12 ● Business 5-12	

	● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● Workplace Specialist: Computer Science 9-12 ● Workplace Specialist: Information Technology: Information Support & Services 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	INFM 219: Business Intelligence and Reporting; CPIN 269: IT Project Management; CPIN 270: WP: CompTIA Project+; CPIN 280: Computing and Informatics CO-OP/Internship/Externship
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	ITCC – TC Informatics
Liberal Arts/Sciences Requirements	
Industry Credential	Comp TIA A+
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7485 Informatics Capstone here.

Digital Technology Information Technology Operations							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
7183	Principles of Computing	7180	Information Technology Fundamentals	7181	Networking and Cybersecurity Operations	7245	IT Support Capstone
						7247	Cloud and Server Operations Capstone

Principles of Computing		
Career Cluster	Digital Technology	
Program of Study	AI/Machine Learning, Computer Science, Cybersecurity, Data Analytics, Informatics, IT Operations, Networking, Software Development,	
NLPS Sequence	A	
Course Code	7183	
Course Description	*Principles of Computing provides students the opportunity to explore how computers can be used in a wide variety of settings. The course will begin by exploring trends of computing and the necessary skills to implement information systems. Topics include operating systems, database technology, cybersecurity, cloud implementations and other concepts associated with applying the principles of good information management to the organization. Students will also have the opportunity to utilize basic programming skills to develop scripts designed to solve problems. Students will learn about algorithms, logic development and flowcharting.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Counts as a quantitative reasoning course for CORE 40 diplomas Fulfills a science requirement for CORE 40 diplomas Counts as STEM-Focused credit for new diploma	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Business Education 7- 12 ● Industrial Arts, Math or Science with Professional Development or additional training in Computer Science	

	● Standard Trade & Industrial: Engineering K-12
Rules 46-47	● Business Education 9-12 ● Business Education with Vocational Endorsement 9- 12 ● Occupational Specialist: Business IT: Programming & Software Development 9-12 ● Occupational Specialist in "Computer Science" related course approved for a CTE pathway ● Industrial Technology/Education, Math or Science with Professional Development or additional training in Computer Science ● Standard Trade & Industrial: Engineering 9-12 ● Occupational Specialist I, II, or III: Engineering
Rules 2002	● Business with high school setting ● Computer Education with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist: Business IT: Programming & Software Development ● Workplace Specialist in "Computer Science" related course approved for a CTE pathway ● Technology Education, Math or Science with Professional Development or additional training in Computer Science ● CTE: Trade & Industrial: Engineering ● Workplace Specialist: Engineering
REPA/REPA 3	● Computer Education 5-12, P-12 ● Computer Science 5-12, P-12 ● Business 5-12 ● CTE: Business Services & Technology 5- 12 ● CTE: Business & Information Technology 5-12 ● Workplace Specialist in related "Computer Science" course approved for a CTE pathway ● Technology Education, Math or Science with Professional Development or additional training in Computer Science ● CTE: Trade & Industrial Engineering 5-12 ● Workplace Specialist: Engineering 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	SDEV 120: Computing Logic; INFM 109: Informatics Fundamentals
VU Course Alignment	COMP 177: Introduction to Programming Logic- Design and Development
Four Yr. Course Alignment	IUB - CSCI-C 106: Introduction to Computers and Their Uses PFW - CS 11200: Computer Science for Everyone PNW - ITS 10000: Information Technology Fundamentals; ITS 14000: Intro to Computer Algorithms and Logic
Postsecondary Credential	IUB – B.S. Informatics (11.0104) PFW – A.S. Information Systems (11.0101) PNW - B.S. Cybersecurity (11.1003/11.0103) VU - CG Information Technology (11.0103) ITCC - TC Informatics; CT Information Technology Help Desk; TC Information Technical Support
Liberal	

Arts/Sciences Requirements	
Industry Credential	CompTIA A+
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7183 Principles of Computing here.

Information Technology Fundamentals		
Career Cluster	Digital Technology	
Program of Study	IT Operations, Cybersecurity, Networking, Informatics	
NLPS Sequence	B	
Course Code	7180	
Course Description	*Information Technology Fundamentals provides the necessary competencies required for an entry-level Information Technology professional. Students will have the knowledge required to assemble components based on customer requirements, install, configure and maintain devices/software for end users, understand the basics of networking and security, properly and safely diagnose, resolve and document common hardware and software issues while applying troubleshooting skills. Students will also learn appropriate customer support, understand the basics of virtualization, desktop imaging, and deployment. This course should also prepare students for the CompTIA A+ Certification Exam.*	
Prerequisite(s)/ Corequisite(s)	Principles of Computing	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Counts as Computer Science credit for new diploma (Student must also complete 7183)	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Business Education 7-12	
Rules 46-47	● Business Education 9-12 ● Business Education with Vocational Endorsement 9-12 ● Occupational Specialist: Business IT: Programming & Software Development 9-12	
Rules 2002	● Business with high school setting ● Computer Education with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist: Computer Operations & Programming: Management Info Systems	

	● Workplace Specialist: Information Technology: Information Support & Services
REPA/REPA 3	● Computer Education 5-12, P-12 ● Computer Science 5-12, P-12 ● Business 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● Workplace Specialist: Computer Science 9-12 ● Workplace Specialist: Information Technology: Information Support & Services 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	ITSP 132: IT Support Essentials I; ITSP 134: IT Support Essentials II; ITSP 136: Workforce Preparation: CompTIA A+ Certification
VU Course Alignment	CMET 140: CompTIA A+; CMET 185: CompTIA A+ Certification Prep; CMET 195: CompTIA A+ Certification
Four Yr. Course Alignment	PNW - ITS 13500: Operating Systems Technology, ITS 17000: Networking Technologies
Postsecondary Credential	PNW – B.S. in Cybersecurity (11.1003/11.0103) VU - CG Information Technology ITCC - CT Information Technology: Help Desk; TC Information Technology Support
Liberal Arts/Sciences Requirements	
Industry Credential	CompTIA A+
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7180 Information Technology Fundamentals here.

Networking and Cybersecurity Operations	
Career Cluster	Digital Technology
Program of Study	IT Operations, Cybersecurity
NLPS Sequence	C
Course Code	7181
Course Description	*Advanced Information Technology will provide students with the fundamental concepts in networking and cybersecurity. Students are introduced to the principles and concepts of computer networking, covering the architecture, components, and operations of routers and switches in a small network. Students learn how to configure a router and a switch for basic functionality. Students will be able to troubleshoot routers and switches and resolve common issues. The students will also explore the field of Cyber Security/Information Assurance focusing on the technical and managerial aspects of the discipline. Students will be introduced to the basic terminology, concepts, and best practices of*

	computer/network security and the roles and responsibilities of management/security personnel. The students will learn the technologies used and techniques involved in creating a secure computer networking environment including authentication and the types of attacks against an organization.	
Prerequisite(s)/ Corequisite(s)	Principles of Computing; Information Technology Fundamentals	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Fulfills a science requirement for CORE 40 diplomas Counts as Computer Science credit for new diploma (Student must also complete 7183)	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level I
Bulletin 400	● Business Education 7-12	
Rules 46-47	● Business Education 9-12 ● Business Education with Vocational Endorsement 9-12 ● Occupational Specialist: Business IT: Programming & Software Development 9-12	
Rules 2002	● Business with high school setting ● Computer Education with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist: Computer Operations & Programming: Management Info Systems ● Workplace Specialist: Information Technology: Information Support & Services	
REPA/REPA 3	● Computer Education 5-12, P-12 ● Computer Science 5-12, P-12 ● Business 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● Workplace Specialist: Computer Science 9-12 ● Workplace Specialist: Information Technology: Information Support & Services 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	NETI 104: Introduction to Networking, CSIA 105: Introduction to Cyber Security/Information Assurance	
VU Course Alignment		
Four Yr. Course Alignment	PNW - ITS 25000: Fundamentals of Information Assurance, ITS 27000: Internetworking Technologies	
Postsecondary Credential	ITCC: CT Information Technology: Help Desk; TC Technology Support PNW: B.S in Cybersecurity (11.1003/11.0103) VU: CG Information Technology	

Liberal Arts/Sciences Requirements	
Industry Credential	CompTIA A+
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7181 Networking and Cybersecurity Operations here.

IT Operations: Cloud and Server Operations Capstone		
Career Cluster	Digital Technology	
Program of Study	IT Operations	
NLPS Sequence	D	
Course Code	7247	
Course Description	*Cloud and Server Operations Capstone provides students with a general understanding of cloud computing concepts through a detailed overview of core services, security architecture, pricing, and support. Students will also learn to implement, administer, and troubleshoot Information systems using the Microsoft Windows clients and servers in an enterprise environment. Students will be introduced to managing applications, files, folders, and devices in a Windows active directory environment. Additionally, students have the chance to understand and apply Linux and Virtualization concepts as well as utilize modern network monitoring tools to enhance IT services.*	
Prerequisite(s)/ Corequisite(s)	Principles of Computing; Information Technology Fundamentals; Networking and Cybersecurity Operations	
Credits	2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum	
Counts Toward	Counts as STEM-focused credits for new diploma	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level II
Bulletin 400	● Business Education 7-12	
Rules 46-47	● Business Education 9-12 ● Business Education with Vocational Endorsement 9-12 ● Occupational Specialist: Business IT: Programming & Software Development 9-12	
Rules 2002	● Business with high school setting ● Computer Education with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist: Computer Operations & Programming: Management Info Systems	

	● Workplace Specialist: Information Technology: Information Support & Services
REPA/REPA 3	● Computer Education 5-12, P-12 ● Computer Science 5-12, P-12 ● Business 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● Workplace Specialist: Computer Science 9-12 ● Workplace Specialist: Information Technology: Information Support & Services 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	SVAD 111: Linux and Virtualization Tech, SVAD 121: Enterprise Computing, SVAD 150: Cloud Fundamentals*; SVAD 170: Monitoring and Issues Resolution; CPIN 280: Computing and Informatics CO-OP/Internship/Externship; NETI 114: Workforce Preparation: CompTIA Network+ Certification; CSIA 106: Workforce Preparation: CompTIA Security+ Certification
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	ITCC: CT Information Technology: Help Desk (11.1006), TC Information Technology Support (11.0103)
Liberal Arts/Sciences Requirements	
Industry Credential	CompTIA A+
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7247 IT Operations: Cloud and Server Operations Capstone here..

IT Operations: IT Support Capstone	
Career Cluster	Digital Technology
Program of Study	IT Operations
NLPS Sequence	D
Course Code	7245
Course Description	*IT Support Capstone students will acquire the skills and knowledge needed to provide tier 1 technical support services. The student will learn troubleshooting and problem solving in working with end users using various digital tools such as helpdesk software, knowledge bases, ticket management systems, and other tier 1 computer related support services. Students will also learn to implement, administer, and troubleshoot Information Systems using the Microsoft Windows clients and servers in an enterprise environment. Students will be introduced to managing applications, files, folders, and devices in a Windows active directory environment. Additionally, students*

	have the chance to understand and apply Linux and Virtualization concepts.
Prerequisite(s)/ Corequisite(s)	Principles of Computing; Information Technology Fundamentals; Networking and Cybersecurity Operations
Credits	2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum
Counts Toward	
Dual Credit Status	X (PCL/CTE)
Additional Notes	

ADDITIONAL COURSE INFO		
Funding	High Value	Level II
Bulletin 400	● Business Education 7-12	
Rules 46-47	● Business Education 9-12 ● Business Education with Vocational Endorsement 9-12 ● Occupational Specialist: Business IT: Programming & Software Development 9-12	
Rules 2002	● Business with high school setting ● Computer Education with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist: Computer Operations & Programming: Management Info Systems ● Workplace Specialist: Information Technology: Information Support & Services	
REPA/REPA 3	● Computer Education 5-12, P-12 ● Computer Science 5-12, P-12 ● Business 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● Workplace Specialist: Computer Science 9-12 ● Workplace Specialist: Information Technology: Information Support & Services 9-12	

POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	SVAD 121: Enterprise Computing; SVAD 111: Linux and Virtualization Tech; ITSP 175: IT Customer Support and Helpdesk Software; DBMS 110: Introduction to Data Analytics; CPIN 280: Computing and Informatics CO-OP/Internship/Externship; NETI 114: Workforce Preparation: CompTIA Network+ Certification; CSIA 106: Workforce Preparation: CompTIA Security+ Certification
VU Course Alignment	
Four Yr. Course Alignment	PNW - ITS 37200: System Administration and Management
Postsecondary Credential	ITCC - CT Information Technology: Help Desk (11.1006), TC Information Technology Support (11.0103) PNW – B.S. in Cybersecurity (11.1003/11.0103)
Liberal Arts/Sciences	ITCC - ENGL 111: English Composition, IVYT 115 Student Success in Computing and Informatics

Requirements	
Industry Credential	CompTIA A+
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7245 IT Support Capstone here.

Digital Technology Networking							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
7183	Principles of Computing	7180	Information Technology Fundamentals	7182	Networking Fundamentals	7251	Networking Capstone
				7181	Networking and Cybersecurity Operations		

Principles of Computing		
Career Cluster	Digital Technology	
Program of Study	AI/Machine Learning, Computer Science, Cybersecurity, Data Analytics, Informatics, IT Operations, Networking, Software Development,	
NLPS Sequence	A	
Course Code	7183	
Course Description	*Principles of Computing provides students the opportunity to explore how computers can be used in a wide variety of settings. The course will begin by exploring trends of computing and the necessary skills to implement information systems. Topics include operating systems, database technology, cybersecurity, cloud implementations and other concepts associated with applying the principles of good information management to the organization. Students will also have the opportunity to utilize basic programming skills to develop scripts designed to solve problems. Students will learn about algorithms, logic development and flowcharting.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Counts as a quantitative reasoning course for CORE 40 diplomas Fulfills a science requirement for CORE 40 diplomas Counts as STEM-Focused credit for new diploma	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Business Education 7- 12 ● Industrial Arts, Math or Science with Professional Development or additional training in Computer Science ● Standard Trade & Industrial: Engineering K-12	

Rules 46-47	● Business Education 9-12 ● Business Education with Vocational Endorsement 9- 12 ● Occupational Specialist: Business IT: Programming & Software Development 9-12 ● Occupational Specialist in "Computer Science" related course approved for a CTE pathway ● Industrial Technology/Education, Math or Science with Professional Development or additional training in Computer Science ● Standard Trade & Industrial: Engineering 9-12 ● Occupational Specialist I, II, or III: Engineering
Rules 2002	● Business with high school setting ● Computer Education with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist: Business IT: Programming & Software Development ● Workplace Specialist in "Computer Science" related course approved for a CTE pathway ● Technology Education, Math or Science with Professional Development or additional training in Computer Science ● CTE: Trade & Industrial: Engineering ● Workplace Specialist: Engineering
REPA/REPA 3	● Computer Education 5-12, P-12 ● Computer Science 5-12, P-12 ● Business 5-12 ● CTE: Business Services & Technology 5- 12 ● CTE: Business & Information Technology 5-12 ● Workplace Specialist in related "Computer Science" course approved for a CTE pathway ● Technology Education, Math or Science with Professional Development or additional training in Computer Science ● CTE: Trade & Industrial Engineering 5-12 ● Workplace Specialist: Engineering 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	SDEV 120: Computing Logic; INFM 109: Informatics Fundamentals
VU Course Alignment	COMP 177: Introduction to Programming Logic- Design and Development
Four Yr. Course Alignment	IUB - CSCI-C 106: Introduction to Computers and Their Uses PFW - CS 11200: Computer Science for Everyone PNW - ITS 10000: Information Technology Fundamentals; ITS 14000: Intro to Computer Algorithms and Logic
Postsecondary Credential	IUB – B.S. Informatics (11.0104) PFW – A.S. Information Systems (11.0101) PNW - B.S. Cybersecurity (11.1003/11.0103) VU - CG Information Technology (11.0103) ITCC - TC Informatics; TC Network Infrastructure
Liberal Arts/Sciences Requirements	

Industry Credential	Cisco Certified Network Associate (CCNA); CompTIA Network+; CompTIA A+
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7183 Principles of Computing here.

Information Technology Fundamentals		
Career Cluster	Digital Technology	
Program of Study	IT Operations, Cybersecurity, Networking, Informatics	
NLPS Sequence	B	
Course Code	7180	
Course Description	*Information Technology Fundamentals provides the necessary competencies required for an entry-level Information Technology professional. Students will have the knowledge required to assemble components based on customer requirements, install, configure and maintain devices/software for end users, understand the basics of networking and security, properly and safely diagnose, resolve and document common hardware and software issues while applying troubleshooting skills. Students will also learn appropriate customer support, understand the basics of virtualization, desktop imaging, and deployment. This course should also prepare students for the CompTIA A+ Certification Exam.*	
Prerequisite(s)/ Corequisite(s)	Principles of Computing	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Counts as Computer Science credit for new diploma (Student must also complete 7183)	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Business Education 7-12	
Rules 46-47	● Business Education 9-12 ● Business Education with Vocational Endorsement 9-12 ● Occupational Specialist: Business IT: Programming & Software Development 9-12	
Rules 2002	● Business with high school setting ● Computer Education with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist: Computer Operations & Programming: Management Info Systems ● Workplace Specialist: Information Technology: Information Support & Services	
REPA/REPA 3	● Computer Education 5-12, P-12	

	● Computer Science 5-12, P-12 ● Business 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● Workplace Specialist: Computer Science 9-12 ● Workplace Specialist: Information Technology: Information Support & Services 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	ITSP 132: IT Support Essentials I; ITSP 134: IT Support Essentials II; ITSP 136: Workforce Preparation: CompTIA A+ Certification
VU Course Alignment	CMET 140: CompTIA A+□; CMET 185: CompTIA A+ Certification Prep□; CMET 195: CompTIA A+ Certification□
Four Yr. Course Alignment	PNW - ITS 13500: Operating Systems Technology, ITS 17000: Networking Technologies
Postsecondary Credential	ITCC - TC Network Infrastructure (11.0901) PNW – B.S. Cybersecurity (11.1003/11.0103)
Liberal Arts/Sciences Requirements	
Industry Credential	Cisco Certified Network Associate (CCNA); CompTIA Network+; CompTIA A+
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7180 Information Technology Fundamentals here..

Networking Fundamentals	
Career Cluster	Digital Technology
Program of Study	Networking
NLPS Sequence	C
Course Code	7182
Course Description	*Networking Fundamentals describes, explores, and demonstrates how a network operates in our everyday lives. The course covers the technical pieces and parts of a network and also societal implications such as security and data integrity. Using hands-on lab work, this course offers students the critical information needed for a role as an Information Technology professional who supports computer networks. Concepts covered include the TCP/IP model, OS administration, designing a network topology, configuring the TCP/IP protocols, managing network devices and clients, configuring routers and switches, wireless technology and troubleshooting. Provides students the ability to implement, administer, and troubleshoot information systems that incorporate the Microsoft Windows clients and servers in an enterprise environment. Students will be introduced to managing applications, files, folders, and devices in a windows active directory environment.*

Prerequisite(s)/ Corequisite(s)	Principles of Computing; Information Technology Fundamentals	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Counts as Computer Science credit for new diploma (Student must also complete 7183)	
Dual Credit Status	X (PCL/CTE)	
Additional Notes	This course will be phased out after the 27-28 school year and replaced with 7181 – Networking and Cybersecurity. Districts may begin the course transition prior to the 27-28 school year.	
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Business Education 7-12	
Rules 46-47	● Business Education 9-12 ● Business Education with Vocational Endorsement 9-12 ● Occupational Specialist: Business IT: Programming & Software Development 9-12	
Rules 2002	● Business with high school setting ● Computer Education with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist: Computer Operations & Programming: Management Info Systems ● Workplace Specialist: Information Technology: Information Support & Services	
REPA/REPA 3	● Computer Education 5-12, P-12 ● Computer Science 5-12, P-12 ● Business 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● Workplace Specialist: Computer Science 9-12 ● Workplace Specialist: Information Technology: Information Support & Services 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	NETI 109: Networking I; SVAD 121: Enterprise Computing	
VU Course Alignment	CPNS 175: Microsoft Certification ; CNET 215: CompTIA Network+ VU/EC – CPNS 175: Microsoft Certification	
Four Yr. Course Alignment		
Postsecondary Credential	ITCC: TC Network Infrastructure (11.0901)	
Liberal Arts/Sciences Requirements		
Industry Credential	Cisco Certified Network Associate (CCNA); CompTIA Network+; CompTIA A+	

CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7182 Networking Fundamentals here.

Networking and Cybersecurity Operations		
Career Cluster	Digital Technology	
Program of Study	IT Operations, Cybersecurity (ITCC)	
NLPS Sequence	C	
Course Code	7181	
Course Description	*Networking and Cybersecurity Operations will provide students with the fundamental concepts in networking and cybersecurity. Students are introduced to the principles and concepts of computer networking, covering the architecture, components, and operations of routers and switches in a small network. Students learn how to configure a router and a switch for basic functionality. Students will be able to troubleshoot routers and switches and resolve common issues. The students will also explore the field of Cyber Security/Information Assurance focusing on the technical and managerial aspects of the discipline. Students will be introduced to the basic terminology, concepts, and best practices of computer/network security and the roles and responsibilities of management/security personnel. The students will learn the technologies used and techniques involved in creating a secure computer networking environment including authentication and the types of attacks against an organization.*	
Prerequisite(s)/ Corequisite(s)	Principles of Computing; Information Technology Fundamentals	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Fulfills a science requirement for CORE 40 diplomas Counts as Computer Science credit for new diploma (Student must also complete 7183)	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level I
Bulletin 400	● Business Education 7-12	
Rules 46-47	● Business Education 9-12 ● Business Education with Vocational Endorsement 9-12 ● Occupational Specialist: Business IT: Programming & Software Development 9-12	
Rules 2002	● Business with high school setting ● Computer Education with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist: Computer Operations & Programming: Management Info	

	Systems ● Workplace Specialist: Information Technology: Information Support & Services
REPA/REPA 3	● Computer Education 5-12, P-12 ● Computer Science 5-12, P-12 ● Business 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● Workplace Specialist: Computer Science 9-12 ● Workplace Specialist: Information Technology: Information Support & Services 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	NETI 104: Introduction to Networking, CSIA 105: Introduction to Cyber Security/Information Assurance
VU Course Alignment	
Four Yr. Course Alignment	PNW - ITS 25000: Fundamentals of Information Assurance, ITS 27000: Internetworking Technologies
Postsecondary Credential	ITCC: TC Network Infrastructure
Liberal Arts/Sciences Requirements	
Industry Credential	Cisco Certified Network Associate (CCNA); CompTIA Network+; CompTIA A+
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7181 Networking and Cybersecurity Operations here.

Networking Capstone	
Career Cluster	Digital Technology
Program of Study	Networking
NLPS Sequence	D
Course Code	7251
Course Description	*The Networking Capstone course is designed as a dual-purpose course to provide students with the necessary skills to learn and apply fundamental concepts through project-based exercises. Students will be introduced to managing applications, files, folders, and devices in a window active directory environment. The Networking Capstone provides students with the ability to implement, administer, and troubleshoot information systems that incorporate the Linux operating system, Microsoft Windows clients, and servers in an enterprise environment, as well as application programming interfaces (API) and configuration management tools enable network automation. This course includes activities using Packet Tracer, hands-on lab work, and a wide array of*

	assessment types and tools. Students can use this course as preparation leading into the Implementing and Administering Cisco Solutions Cisco Certified Network Associate (CCNAv1.0) Certification, 200-301.
Prerequisite(s)/ Corequisite(s)	Principles of Computing; Information Technology Fundamentals; Networking Fundamentals OR Networking and Cybersecurity Operations
Credits	2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum
Counts Toward	
Dual Credit Status	X (PCL/CTE)
Additional Notes	
ADDITIONAL COURSE INFO	
Funding	High Value | Level II
Bulletin 400	● Business Education 7-12
Rules 46-47	● Business Education 9-12 ● Business Education with Vocational Endorsement 9-12 ● Occupational Specialist: Business IT: Programming & Software Development 9-12
Rules 2002	● Business with high school setting ● Computer Education with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist: Computer Operations & Programming: Management Info Systems ● Workplace Specialist: Information Technology: Information Support & Services
REPA/REPA 3	● Computer Education 5-12, P-12 ● Computer Science 5-12, P-12 ● Business 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● Workplace Specialist: Computer Science 9-12 ● Workplace Specialist: Information Technology: Information Support & Services 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	SVAD 111: Linux and Virtualization Technologies Fundamentals; NETI 119: Network II; NETI 124: CCNA Bridge Course; NETI 209: Networking III; CPIN 280: Computing and Informatics CO-OP/Internship/Externship; NETI 114: Workforce Preparation: CompTIA Network+ Certification; CSIA 106: Workforce Preparation: CompTIA Security+ Certification
VU Course Alignment	CPNS 101: LAN Basics and OSI Model□; CPNS 102: WAN Basics and Routers□; ELEC 130: Digital Logic I□; ELEC 105: Electronic Circuit Analysis I□
Four Yr. Course Alignment	
Postsecondary Credential	ITCC: TC Network Infrastructure (11.0901)

Liberal Arts/Sciences Requirements	
Industry Credential	Cisco Certified Network Associate (CCNA); CompTIA Network+; CompTIA A+
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7251 Networking Capstone here.

Digital Technology Software Development							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
7183	Principles of Computing	7185	Website and Database Development	7184	Software Development	7253	Software Development Capstone
		7488	Software and Cloud Foundations	7490	AI and Data Fundamentals		

Principles of Computing		
Career Cluster	Digital Technology	
Program of Study	AI/Machine Learning, Computer Science, Cybersecurity, Data Analytics, Informatics, IT Operations, Networking, Software Development,	
NLPS Sequence	A	
Course Code	7183	
Course Description	*Principles of Computing provides students the opportunity to explore how computers can be used in a wide variety of settings. The course will begin by exploring trends of computing and the necessary skills to implement information systems. Topics include operating systems, database technology, cybersecurity, cloud implementations and other concepts associated with applying the principles of good information management to the organization. Students will also have the opportunity to utilize basic programming skills to develop scripts designed to solve problems. Students will learn about algorithms, logic development and flowcharting.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Counts as a quantitative reasoning course for CORE 40 diplomas Fulfills a science requirement for CORE 40 diplomas Counts as STEM-Focused credit for new diploma	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Business Education 7- 12 ● Industrial Arts, Math or Science with Professional Development or additional training in Computer Science ● Standard Trade & Industrial: Engineering K-12	

Rules 46-47	● Business Education 9-12 ● Business Education with Vocational Endorsement 9- 12 ● Occupational Specialist: Business IT: Programming & Software Development 9-12 ● Occupational Specialist in "Computer Science" related course approved for a CTE pathway ● Industrial Technology/Education, Math or Science with Professional Development or additional training in Computer Science ● Standard Trade & Industrial: Engineering 9-12 ● Occupational Specialist I, II, or III: Engineering
Rules 2002	● Business with high school setting ● Computer Education with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist: Business IT: Programming & Software Development ● Workplace Specialist in "Computer Science" related course approved for a CTE pathway ● Technology Education, Math or Science with Professional Development or additional training in Computer Science ● CTE: Trade & Industrial: Engineering ● Workplace Specialist: Engineering
REPA/REPA 3	● Computer Education 5-12, P-12 ● Computer Science 5-12, P-12 ● Business 5-12 ● CTE: Business Services & Technology 5- 12 ● CTE: Business & Information Technology 5-12 ● Workplace Specialist in related "Computer Science" course approved for a CTE pathway ● Technology Education, Math or Science with Professional Development or additional training in Computer Science ● CTE: Trade & Industrial Engineering 5-12 ● Workplace Specialist: Engineering 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	SDEV 120: Computing Logic; INFM 109: Informatics Fundamentals
VU Course Alignment	COMP 177: Introduction to Programming Logic- Design and Development
Four Yr. Course Alignment	IUB - CSCI-C 106: Introduction to Computers and Their Uses PFW - CS 11200: Computer Science for Everyone PNW - ITS 10000: Information Technology Fundamentals; ITS 14000: Intro to Computer Algorithms and Logic
Postsecondary Credential	ITCC: TC Informatics; TC Software Development IUB: B.S. Informatics (11.0104) PFW: A.S. Information Systems (11.0101) PNW: B.S. Cybersecurity (11.1003/11.0103) VU: CG Information Technology (11.0103); CPC Database Certificate
Liberal Arts/Sciences Requirements	

Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7183 Principles of Computing here.

Website and Database Development		
Career Cluster	Digital Technology	
Program of Study	Software Development	
NLPS Sequence	B	
Course Code	7185	
Course Description	*Website and Database Development will provide students a basic understanding of the essential Web and Database skills and business practices that directly relate to Internet technologies used in Web site and Database design and development. Students will learn to develop Web sites using Hypertext Markup Language (HTML) and Cascading Style Sheets (CSS). Additionally, students will be introduced to the basic concepts of databases including types of databases, general database environments, database design, normalization and development of tables, queries, reports, and applications. Students will be familiarized with the use of ANSI Standard Structured Query Language. Students will be introduced to data concepts such as data warehousing, data mining, and BIG Data. Students will develop a business application using database software such as Microsoft Access.*	
Prerequisite(s)/ Corequisite(s)	Principles of Computing	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Counts as a quantitative reasoning course for CORE 40 diplomas Fulfills a science requirement for CORE 40 diplomas Counts as STEM-Focused credit for new diploma Counts as Computer Science credit for new diploma (Student must also complete 7183)	
Dual Credit Status	X (PCL/CTE)	
Additional Notes	This course will be phased out after the 27-28 school year and replaced with 7488 – Software and Cloud Foundations. Districts may begin the course transition prior to the 27-28 school year.	
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Business Education 7-12	
Rules 46-47	● Business Education 9-12 ● Business Education with Vocational Endorsement 9-12 ● Occupational Specialist: Business IT: Programming & Software Development 9-12	

Rules 2002	● Business with high school setting ● Computer Education with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist: Business IT: Programming & Software Development & Network Systems
REPA/REPA 3	● Computer Education 5-12, P-12 ● Computer Science 5-12, P-12 ● Business 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● Workplace Specialist: Computer Science 9-12 ● Workplace Specialist: Networking 9-12 ● Workplace Specialist: Info Technology: Program & Software Development 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	SDEV 153: Website Development; DBMS 110: Introduction to Data Analytics
VU Course Alignment	COMP 107: Web Page Design□; COMP 185: Introduction to Databases□
Four Yr. Course Alignment	
Postsecondary Credential	ITCC: TC Software Development (11.0101) VU: CG Information Technology (11.0103); CPC Database Certificate
Liberal Arts/Sciences Requirements	ITCC - ENGL 111: English Composition, COMM 101: Fundamentals of Public Speaking, IVYT 115: Student Success in Computing and Informatics, MATH 136+ College Algebra or Higher VU - ENGL 101: English Composition I, ENGL 102: English Composition II, MATH 103: Quantitative Reasoning
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7185 Website and Database Development here.

Software and Cloud Foundations (New)	
Career Cluster	Digital Technology
Program of Study	AI/Machine Learning, Data Analytics, Informatics, Software Development
NLPS Sequence	B
Course Code	7488
Course Description	*Software and Cloud Foundations introduces students to concepts and practices of programming languages and software development. Students will become familiar with algorithms and the development of tools used to document/implement computer logic. Students will compare different program languages, programming paradigms such as real-time processing, web/databased applications, and other integrated development environments.*

	Students will learn how to implement structured programming concepts and explore the uses of different programming languages. Throughout the course, students will develop, test, and debug programs in an integrated development environment. In addition to programming, students will gain a general understanding of cloud computing concepts, core services, security, architecture, pricing, and support. The course provides students with workforce preparation focused on the AWS Cloud Practitioner certification.
Prerequisite(s)/ Corequisite(s)	Principles of Computing
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
Counts Toward	
Dual Credit Status	X (PCL/CTE)
Additional Notes	
ADDITIONAL COURSE INFO	
Funding	High Value | Level I
Bulletin 400	● Business Education 7-12 ● Industrial Arts, Math or Science with Professional Development or additional training in Computer Science
Rules 46-47	● Business Education 9-12 ● Business Education with Vocational Endorsement 9-12 ● Occupational Specialist: Business IT: Programming & Software Development 9-12 ● Occupational Specialist in “Computer Science” related course approved for a CTE pathway ● Industrial Technology/Education, Math or Science with Professional Development or additional training in Computer Science
Rules 2002	● Business with high school setting ● Computer Education with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist: Business IT: Programming & Software Development ● Workplace Specialist in “Computer Science” related course approved for a CTE pathway ● Technology Education, Math or Science with Professional Development or additional training in Computer Science
REPA/REPA 3	● Computer Education 5-12, P-12 ● Computer Science 5-12, P-12 ● Business 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● Workplace Specialist in related “Computer Science” course approved for a CTE pathway ● Technology Education, Math or Science with Professional Development or additional training in Computer Science

POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	SDEV 140: Introduction to Software Development; SVAD 150: Cloud Fundamentals; SVAD 151: WP - AWS Cloud Practitioner
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	ITCC: TC Software Development
Liberal Arts/Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7488 Software and Cloud Foundations here.

Software Development	
Career Cluster	Digital Technology
Program of Study	Software Development
NLPS Sequence	C
Course Code	7184
Course Description	*Software Development introduces students to concepts and practices of programming languages and software development. Students are introduced to algorithms and development tools used to document/implement computer logic. Discusses the history of software development, the different types of programming such as real time processing, web/database applications, and different program development environments. Concepts will be applied using different programming languages, and students will develop and test working programs in an integrated system.*
Prerequisite(s)/ Corequisite(s)	Principles of Computing
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
Counts Toward	Counts as a quantitative reasoning course for CORE 40 diplomas Fulfills a science requirement for CORE 40 diplomas Counts as STEM-Focused credit for new diploma
Dual Credit Status	X (PCL/CTE)
Additional Notes	This course will be phased out after the 27-28 school year and replaced with 7490 – AI and Data Fundamentals. Districts may begin the course transition prior to the 27-28 school year.
ADDITIONAL COURSE INFO	

Funding	High Value	Level II
Bulletin 400	● Business Education 7-12	
Rules 46-47	● Business Education 9-12 ● Business Education with Vocational Endorsement 9-12 ● Occupational Specialist: Business IT: Programming & Software Development 9-12	
Rules 2002	● Business with high school setting ● Computer Education with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist: Business IT: Programming & Software Development & Network Systems	
REPA/REPA 3	● Computer Education 5-12, P-12 ● Computer Science 5-12, P-12 ● Business 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● Workplace Specialist: Computer Science 9-12 ● Workplace Specialist: Networking 9-12 ● Workplace Specialist: Info Technology: Program & Software Development 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	SDEV 140: Introduction to Software Development. CSCI 179: Computer Science Bridging Course	
VU Course Alignment	VU-EC - COMP 203: Object Oriented Programming	
Four Yr. Course Alignment	PFW - CS 11400: Introduction to Visual Basic	
Postsecondary Credential	ITCC: TC Software Development (11.0101) VU/EC: CG Information Technology (11.0103); CPC Database Certificate PFW: Certificate Computer Information Systems (11.0101)	
Liberal Arts/Sciences Requirements	ITCC - ENGL 111: English Composition, COMM 101: Fundamentals of Public Speaking, IVYT 115: Student Success in Computing and Informatics, MATH 136+ College Algebra or Higher VU - ENGL 101: English Composition I, ENGL 102: English Composition II, MATH 103: Quantitative Reasoning	
Industry Credential		
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 7184 Software Development here.	

AI and Data Fundamentals *(NEW)*	
Career Cluster	Digital Technology
Program of Study	AI/Machine Learning, Data Analytics, Informatics, Software Development,

NLPS Sequence	C	
Course Code	7490	
Course Description	AI and Data Fundamentals introduce students to the basic concepts of databases including the types of databases, general database environment, and the importance of data in the business world. This course will provide discussion with hands-on activities which include database design, normalization of tables, and development of tables, queries, reports, and applications. Students will be familiarized with the use of the ANSI Structured Query Language. Students will be introduced to data concepts such as data warehousing, data mining, data visualization, data analysis, and big data.	
Prerequisite(s)/ Corequisite(s)	Principles of Computing, Software and Cloud Foundations	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Business Education 7-12	
Rules 46-47	● Business Education 9-12 ● Business Education with Vocational Endorsement 9-12 ● Occupational Specialist: Business IT: Programming & Software Development 9-12	
Rules 2002	● Business with high school setting ● Computer Education with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist: Computer Operations & Programming: Management Info Systems ● Workplace Specialist: Information Technology: Information Support & Services	
REPA/REPA 3	● Computer Education 5-12, P-12 ● Computer Science 5-12, P-12 ● Business 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● Workplace Specialist: Computer Science 9-12 ● Workplace Specialist: Information Technology: Information Support & Services 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	DBMS 110: Introduction to Data Analytics; AAIT 110: Artificial Intelligence Essentials: AAIT 261: WP – AWS AI Practitioner	
VU Course Alignment		

Four Yr. Course Alignment	
Postsecondary Credential	ITCC: TC Software Development
Liberal Arts/Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7490 AI and Data Fundamentals here.

Software Development Capstone	
Career Cluster	Digital Technology
Program of Study	Software Development
NLPS Sequence	D
Course Code	7253
Course Description	*The Software Development Capstone provides students with basic programming concepts such as sequence, iteration and decision structures, variables and constants, and functions and advances concepts such as searches, sorts, collections, dictionaries, arrays, and linked lists. This course focuses on logical program design using a modular approach involving task-oriented program functions such as methods, attributes, inheritance, exception handling, and polymorphism. Students will develop a basic understanding of the fundamental concepts involved when using the Java programming development language. This capstone course also provides fundamental and advanced concepts of the Python programming language. Students are required to demonstrate course objectives through the appropriate Oracle Java Certification exam preparation materials. This course covers topics in C++ programming language with an emphasis on classes, advanced debugging techniques, pointers, dynamic memory allocation, and data allocation. Students will be introduced to object-oriented design and programming concepts using C++ language features. The Software Development Capstone course provides an understanding of fundamental and advanced concepts of the C# programming language. The course emphasis will be on creating industry standard programs using current programming design software.*
Prerequisite(s)/ Corequisite(s)	Principles of Computing; Website and Database Development; Software Development
Credits	2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum
Counts Toward	Fulfills a science requirement for CORE 40 diplomas Counts as STEM-Focused credit for new diploma
Dual Credit Status	X (PCL/CTE)
Additional Notes	

ADDITIONAL COURSE INFO		
Funding	High Value	Level II
Bulletin 400	● Business Education 7-12	
Rules 46-47	● Business Education 9-12 ● Business Education with Vocational Endorsement 9-12 ● Occupational Specialist: Business IT: Programming & Software Development 9-12	
Rules 2002	● Business with high school setting ● Computer Education with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist: Business IT: Programming & Software Development & Network Systems	
REPA/REPA 3	● Computer Education 5-12, P-12 ● Computer Science 5-12, P-12 ● Business 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● Workplace Specialist: Computer Science 9-12 ● Workplace Specialist: Networking 9-12 ● Workplace Specialist: Info Technology: Program & Software Development 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	SDEV 200: Software Development using Java; SDEV 210: Software Development using Visual Basic; SDEV 220: Software Development Using Python; SDEV 230: Software Development using C++, SDEV 240: Software Development Using C#; SDEV 250: Client-Side Scripting Languages and Tools	
VU Course Alignment	COMP 257: Advanced Web Page Design□ VU/EC - CNET 151: Information and Data Security I□; COMP 275: Mobile Application Development□	
Four Yr. Course Alignment		
Postsecondary Credential	ITCC: TC Software Development (11.0101) VU: CG Information Technology (11.0103); CPC Database Certificate	
Liberal Arts/Sciences Requirements	ITCC - ENGL 111: English Composition, COMM 101: Fundamentals of Public Speaking, IVYT 115: Student Success in Computing and Informatics, MATH 136+ College Algebra or Higher VU: ENGL 101: English Composition I, ENGL 102: English Composition II, MATH 103: Quantitative Reasoning	
Industry Credential		
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 7253 Software Development Capstone here.	

Education

Exploring Education Professions		
Career Cluster	Education and Training	
Program of Study		
NLPS Sequence	Introductory	
Course Code	5415	
Course Description	*Exploring Education Professions is for students interested in a career in (or exploring possibilities in) education. This course is an introduction to the education field and does not have prerequisites. Exploring Education Professions includes the history of education, an introduction to education professions, qualities and responsibilities of effective teachers, and student evaluation of aptitudes. The course will include exploration of early childhood, elementary, and secondary fields. A project-based approach that utilizes higher order thinking, communication, leadership, management, and fundamentals to college and career success is recommended. Direct, concrete mathematics and language arts proficiencies will be applied. Service learning, introductory laboratory/field experiences in a variety of education settings, and other authentic applications are strongly recommended. This course provides a foundation for continuing and postsecondary education in all career areas related to children, child development, and nurturing of children.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	1 or 2 semester course, 1 credit per semester, 2 credits max	
Counts Toward		
Dual Credit Status		
Additional Notes	When offered as applied: 2 units maximum; counts as an employability applied unit for alternate diploma This course qualifies for funding at the 8th grade level	
ADDITIONAL COURSE INFO		
Funding	Introductory	Available for 8th grade
Bulletin 400	• Any valid teaching license with proof of 5 years teaching experience	
Rules 46-47	• Any valid teaching license with proof of 5 years teaching experience	
Rules 2002	• Any valid teaching license with proof of 5 years teaching experience	
REPA/REPA 3	• Any valid teaching license with proof of 5 years teaching experience	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment		

VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 5415 Exploring Education Professions here.

Education and Training: Special Topics	
Career Cluster	Education and Training
Program of Study	
NLPS Sequence	
Course Code	5976
Course Description	*Education and Training: Special Topics is an extended learning experience designed to address the advancement and specialization of careers within the career cluster through the provision of a specialized course for a specific workforce in the school's region. The learning experience is at a qualified site, and is designed to give the student the opportunity to practice technical skills previously learned in the classroom while working under the direction of the appropriately licensed professional. Throughout the course, students will focus on learning about employment opportunities at a variety of entry levels, an overview of the career cluster, teams, and legal and ethical considerations; and obtaining the knowledge, skills and attitudes essential for success in specific occupations. Course standards and curriculum must be tailored to the specific profession, preparing students to advance in this career field, and where applicable, provide students with opportunities for certification or dual credit. This course also provides students with the knowledge, attitudes, and skills needed to make the transition from high school, to postsecondary opportunities, and to work in a variety of careers. Students are encouraged to focus on self-analysis to aid in their career selection. Job seeking and job maintenance skills, personal management skills, and completion of the application process for admission into a postsecondary program are also areas of focus. Participation in a related CTSO encourages the development of leadership, communication and career related skills, and opportunities for community service.*
Prerequisite(s)/ Corequisite(s)	None Recommended: CTE courses that would help prepare the student for success in this area
Credits	1 semester course, up to 3 credits per semester, may be offered for successive semesters up to 12 credits

Counts Toward	
Dual Credit Status	X
Additional Notes	Schools must have an approved Nonstandard Course Waiver on file to be eligible for CTE funding
ADDITIONAL COURSE INFO	
Funding	Pilot
Bulletin 400	● Appropriate Vocational License ● Vocational Home Economics K-12 ● Any valid teaching license with proof of 5 years teaching experience
Rules 46-47	● Appropriate Vocational License ● Consumer Homemaking Education 9-12 ● Occupational Education (FACS) 9-12 ● Any valid teaching license with proof of 5 years teaching experience
Rules 2002	● Appropriate CTE License ● CTE: Family & Consumer Sciences with high school setting ● Any valid teaching license with proof of 5 years teaching experience
REPA/REPA 3	● Appropriate CTE License ● CTE: Family & Consumer Sciences 5-12 ● Workplace Specialist: Education Professions 9-12 ● Any valid teaching license with proof of 5 years teaching experience
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	

Advanced Career & Technical Education, College Credit: Education and Training	
Career Cluster	Education and Training
Program of Study	
NLPS Sequence	

Course Code	6140
Course Description	*Advanced Career and Technical Education, College Credit is a course title covering any CTE advanced course offered for credit by an accredited postsecondary institution through an adjunct agreement with a secondary school. The intent of this course is to allow students to earn college credit for courses with content that goes beyond that currently approved for high school credit. This course may be used for any dual enrollment course, including a joint program of study involving a postsecondary partnership.*
Prerequisite(s)/ Corequisite(s)	None
Credits	1 semester course, up to 3 credits per semester, may be offered for successive semesters up to 12 credits
Counts Toward	
Dual Credit Status	X
Additional Notes	A student should earn at least 3 postsecondary credits for each high school credit. Schools must have an approved Nonstandard Course Waiver on file to be eligible for CTE funding.
ADDITIONAL COURSE INFO	
Funding	Pilot
Bulletin 400	● Vocational Home Economics K-12 ● A teacher with an Elementary, Early Childhood or Psychology license with proof of 5 years teaching experience
Rules 46-47	● Consumer Homemaking Education 9-12 ● Occupational Education (FACS) 9-12 ● A teacher with an Elementary, Early Childhood or Psychology license with proof of 5 years teaching experience
Rules 2002	● CTE: Family & Consumer Sciences with high school setting ● Workplace Specialist: Early Childhood Education and Services ● A teacher with an Elementary, Early Childhood or Psychology license with proof of 5 years teaching experience
REPA/REPA 3	● CTE: Family & Consumer Sciences 5-12 ● Workplace Specialist: Early Childhood Education and Services 9-12 ● A teacher with an Elementary, Early Childhood or Psychology license with proof of 5 years teaching experience
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	

Liberal Arts/Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	

Education Early Childhood Education							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
7160	Principles of Early Childhood Education	7158	Early Childhood Education Curriculum	7159	Early Childhood Education Guidance	7259	Early Childhood Education Capstone

Principles of Early Childhood Education		
Career Cluster	Education	
Program of Study	Early Childhood	
NLPS Sequence	A	
Course Code	7160	
Course Description	*This course provides students with an overview of skills and strategies necessary to successfully complete a certificate. Additionally, it provides an overview of the history, theory, and foundations of early childhood education as well as exposure to types of programs, curricula and services available to young children. This course also examines basic principles of child development, Developmentally Appropriate Practices (DAP), importance of family, licensing, and elements of quality care of young children with an emphasis on the learning environment related to health, safety, and nutrition. Students may be required to complete observations and field experiences with children as part of this course.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Less than Moderate Value	Level I
Bulletin 400	● Vocational Home Economics K-12 ● A teacher with an Elementary, Early Childhood or Psychology license with proof of 5 years teaching experience	
Rules 46-47	● Consumer Homemaking Education 9-12 ● Occupational Education (FACS) 9-12 ● A teacher with an Elementary, Early Childhood or Psychology license with proof of 5 years teaching experience	
Rules 2002	● CTE: Family & Consumer Sciences with high school setting	

	● Workplace Specialist: Early Childhood Education and Services ● A teacher with an Elementary, Early Childhood or Psychology license with proof of 5 years teaching experience
REPA/REPA 3	● CTE: Family & Consumer Sciences 5-12 ● Workplace Specialist: Early Childhood Education and Services 9-12 ● A teacher with an Elementary, Early Childhood or Psychology license with proof of 5 years teaching experience
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	ECED 100: Introduction to Early Childhood Education; ECED 101: Health, Safety, and Nutrition
VU Course Alignment	EDUC 260: Childhood Health, Safety, and Nutrition
Four Yr. Course Alignment	PNW - EDST 27000: Early Childhood Education BSU – ECYF 100: Introduction to Early Childhood, Youth, and Family Studies ISU – ELED 100: Foundations of Early Childhood Education
Postsecondary Credential	ITCC: CT Early Childhood Education: CDA Process, TC Early Childhood Education (13.1210) BSU: B.A./B.S. Early Childhood Education (13.1210) ISU: B.A./B.S. in Early Childhood Education (13.1210) VU: A.S. Education - Early Childhood Concentration (13.1210)
Liberal Arts/Sciences Requirements	ITCC - ENGL 111: English Composition, IVYT 111: Student Success for University Transition, PSYC 101: Introduction to Psychology or SOCI 111: Introduction to Sociology
Industry Credential	Child Development Associate (CDA)
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7160 Principles of Early Childhood here.

Early Childhood Education Curriculum	
Career Cluster	Education
Program of Study	Early Childhood
NLPS Sequence	B
Course Code	7158
Course Description	*Early Childhood Education Curriculum examines developmentally appropriate environments and activities in various childcare settings while exploring the varying developmental levels and cultural backgrounds of children. Students may be required to complete observations and field experiences with children as part of this course.*
Prerequisite(s)/ Corequisite(s)	Principles of Early Childhood Education
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum

Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level I
Bulletin 400	● Vocational Home Economics K-12 ● A teacher with an Elementary, Early Childhood or Psychology license with proof of 5 years teaching experience	
Rules 46-47	● Consumer Homemaking Education 9-12 ● Occupational Education (FACS) 9-12 ● A teacher with an Elementary, Early Childhood or Psychology license with proof of 5 years teaching experience	
Rules 2002	● CTE: Family & Consumer Sciences with high school setting ● Workplace Specialist: Early Childhood Education and Services ● A teacher with an Elementary, Early Childhood or Psychology license with proof of 5 years teaching experience	
REPA/REPA 3	● CTE: Family & Consumer Sciences 5-12 ● Workplace Specialist: Early Childhood Education and Services 9-12 ● A teacher with an Elementary, Early Childhood or Psychology license with proof of 5 years teaching experience	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	ECED 103: Curriculum in the Early Childhood Classroom; ECED 104: Supportive Interactions and Behavior Guidance	
VU Course Alignment		
Four Yr. Course Alignment	BSU - ECYF 252: Creative Experiences for Young Children ISU – ELED 220: Integrated Curriculum for Young Children	
Postsecondary Credential	ITCC: CT Early Childhood Education: CDA Process, TC Early Childhood Education (13.1210) BSU: B.A./B.S. Early Childhood Education (13.1210) VU: A.S. Education - Early Childhood Concentration (13.1210) ISU: B.A./B.S. in Early Childhood Education (13.1210)	
Liberal Arts/Sciences Requirements	ITCC - ENGL 111: English Composition, IVYT 111: Student Success for University Transition, PSYC 101: Introduction to Psychology or SOCI 111: Introduction to Sociology	
Industry Credential	Child Development Associate (CDA)	
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 7158 Early Childhood Education Curriculum here.	

Early Childhood Education Guidance		
Career Cluster	Education	
Program of Study	Early Childhood	
NLPS Sequence	C	
Course Code	7159	
Course Description	*This course allows students to analyze developmentally appropriate guidance, theory and implementation for various early care and education settings. It also provides a basic understanding of the anti-bias/multicultural emphasis in the field of early childhood. Students may be required to complete observations and field experiences with children as part of this course.*	
Prerequisite(s)/ Corequisite(s)	Principles of Early Childhood Education; Early Childhood Curriculum	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level I
Bulletin 400	● Vocational Home Economics K-12 ● A teacher with an Elementary, Early Childhood or Psychology license with proof of 5 years teaching experience	
Rules 46-47	● Consumer Homemaking Education 9-12 ● Occupational Education (FACS) 9-12 ● A teacher with an Elementary, Early Childhood or Psychology license with proof of 5 years teaching experience	
Rules 2002	● CTE: Family & Consumer Sciences with high school setting ● Workplace Specialist: Early Childhood Education and Services ● A teacher with an Elementary, Early Childhood or Psychology license with proof of 5 years teaching experience	
REPA/REPA 3	● CTE: Family & Consumer Sciences 5-12 ● Workplace Specialist: Early Childhood Education and Services 9-12 ● A teacher with an Elementary, Early Childhood or Psychology license with proof of 5 years teaching experience	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	ECED 130: Developmentally Appropriate Guidance in a Cultural Context; ECED 120: Child Growth and Development	
VU Course Alignment		
Four Yr. Course Alignment	BSU – ECYF 210: Promoting Prosocial Behavior in Young Children: Guidance and Cultural Factors ISU – ELED 432: Early Childhood Teaching in a Diverse Society; EPSY 202:	

	Psychology of Childhood Adolescence
Postsecondary Credential	ITCC: CT Early Childhood Education: CDA Process, TC Early Childhood Education (13.1210) BSU: B.A./B.S. Early Childhood Education (13.1210) ISU: B.A./B.S. in Early Childhood Education (13.121)
Liberal Arts/Sciences Requirements	ITCC - ENGL 111: English Composition, IVYT 111: Student Success for University Transition, PSYC 101: Introduction to Psychology or SOCI 111: Introduction to Sociology
Industry Credential	Child Development Associate (CDA)
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7159 Early Childhood Education Guidance here.

Early Childhood Education Capstone	
Career Cluster	Education
Program of Study	Early Childhood
NLPS Sequence	D
Course Code	7259
Course Description	*This course will prepare students to complete the application, CDA exam, and verification process for the Child Development Associate (CDA) credential. Students may also study the physical, social, emotional, cognitive, and moral development of children from conception to age twelve. Theories of child development, biological and environmental foundations, prenatal development, the birth process, and the newborn baby will be discussed. Additionally, students will explore the aspects of early literacy skill development in young children from birth through third grade. Students will explore techniques, technological tools and other learning opportunities that encourage positive attitudes in children regarding listening, speaking, reading and writing activities. In the course, students will research, examine and explore the use of observation in screening and assessment to promote healthy literacy development in early childhood education. Finally, students will be provided an introduction to caring for each exceptional child. This includes theories and practices for producing optimal developmental growth. Students may be required to complete observations and field experiences with children as part of this course.*
Prerequisite(s)/ Corequisite(s)	Principles of Early Childhood Education; Early Childhood Curriculum; Early Childhood Guidance
Credits	2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum
Counts Toward	
Dual Credit Status	X (PCL/CTE)
Additional Notes	
ADDITIONAL COURSE INFO	

Funding	Moderate Value	Level II
Bulletin 400	● Vocational Home Economics K-12 ● A teacher with an Elementary, Early Childhood or Psychology license with proof of 5 years teaching experience	
Rules 46-47	● Consumer Homemaking Education 9-12 ● Occupational Education (FACS) 9-12 ● A teacher with an Elementary, Early Childhood or Psychology license with proof of 5 years teaching experience	
Rules 2002	● CTE: Family & Consumer Sciences with high school setting ● Workplace Specialist: Early Childhood Education and Services ● A teacher with an Elementary, Early Childhood or Psychology license with proof of 5 years teaching experience	
REPA/REPA 3	● CTE: Family & Consumer Sciences 5-12 ● Workplace Specialist: Early Childhood Education and Services 9-12 ● A teacher with an Elementary, Early Childhood or Psychology license with proof of 5 years teaching experience	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	ECED 105: CDA Process; ECED 234: Literacy in the Early Child Classroom; ECED 230: The Exceptional Child*	
VU Course Alignment	EDUC 290: Initial Experiences in Education 6	
Four Yr. Course Alignment	BSU - EDPS 260: Human Growth and Development for Elementary Education, EDPS 254: Psychology of Early Childhood ISU – SPED 226: The Exceptional Learner in the Regular Classroom	
Postsecondary Credential	BSU: B.A./B.S. Early Childhood Education (13.1210) ITCC: CT Early Childhood Education: CDA Process, TC Early Childhood Education (13.1210) ISU: B.A./B.S. in Early Childhood Education (13.121) VU: A.S. Education - Early Childhood Concentration (13.1210)	
Liberal Arts/Sciences Requirements	ITCC - ENGL 111: English Composition, IVYT 111: Student Success for University Transition, PSYC 101: Introduction to Psychology or SOCI 111: Introduction to Sociology	
Industry Credential	Child Development Associate (CDA)	
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 7259 Early Childhood Education Capstone here.	

Education Education Professions							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
7161	Principles of Teaching	7157	Child and Adolescent Development	7162	Teaching and Learning	7267	Education Professions Capstone

Principles of Teaching		
Career Cluster	Education	
Program of Study	Education Professions	
NLPS Sequence	A	
Course Code	7161	
Course Description	*This course provides a general introduction to the field of teaching. Students will explore educational careers, teaching preparation, and professional expectations as well as requirements for teacher certification. Current trends and issues in education will be examined.* ***A minimum 20 hour classroom observation experience is required for successful completion of this course.***	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level I
Bulletin 400	● Vocational Home Economics K-12 ● Any valid teaching license with proof of 5 years teaching experience	
Rules 46-47	● Consumer Homemaking Education 9-12 ● Occupational Education (FACS) 9-12 ● Any valid teaching license with proof of 5 years teaching experience	
Rules 2002	● CTE: Family & Consumer Sciences with high school setting ● Any valid teaching license with proof of 5 years teaching experience	
REPA/REPA 3	● CTE: Family & Consumer Sciences 5-12 ● Workplace Specialist: Education Professions 9-12	

	● Any valid teaching license with proof of 5 years teaching experience
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	EDUC 101: Introduction to Teaching
VU Course Alignment	VU-EC: EDUC 292: Foundations of Educations ^
Four Yr. Course Alignment	IUB - EDUC F200: Examining Self as Teacher PFW - EDU 20000: Examining Self as Teacher PNW – EDST 20000: History and Philosophy of Education ISU - EDUC 200: Best Practices in Teaching BSU - EDEL 100: Education in a Democratic Society, EDSE 150: Basic Concepts of Secondary Education
Postsecondary Credential	ITCC: TC Elementary Education (13.1501) ISU: B.S. Elementary Education (13.1202) IUB: B.S. Elementary Education (13.1202), B.S. Secondary Education (13.1205) PFW: B.S.Ed. Elementary Education (13.1202) PNW: B.A. in Elementary Education (13.1210/13.1202) BSU: B.A./B.S. Exceptional Needs: Early Childhood Special Education (13.1015), B.A./B.S. Elementary Education (13.1202) VU/EC: Certificate of Program Completion in Education 1101, CPC
Liberal Arts/Sciences Requirements	ITCC - ENGL 111: English Composition, IVYT 111: Student Success for University Transition, PSYC 101: Introduction to Psychology or SOCI 111: Introduction to Sociology
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7161 Principles of Teaching here.

Child and Adolescent Development	
Career Cluster	Education
Program of Study	Education Professions
NLPS Sequence	B
Course Code	7157
Course Description	*Child and Adolescent Development examines the physical, social, emotional, cognitive, and moral development of the child from birth through adolescence with a focus on the middle years through adolescence. Basic theories of child development, biological and environmental foundations of development, and the study of children through observation and interviewing techniques are explored. The influence of parents, peers, the school environment, culture, and the media are discussed. An observation experience up to 20 hours may be required for completion of this course. This course has been approved to be offered for dual credit. Students pursuing this course for dual credit are still required to meet the minimum prerequisites for the course and pass the course with a C or better in*

	order for dual credit to be awarded.
Prerequisite(s)/ Corequisite(s)	Principles of Teaching
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
Counts Toward	
Dual Credit Status	X (PCL/CTE)
Additional Notes	
ADDITIONAL COURSE INFO	
Funding	Moderate Value | Level I
Bulletin 400	● Vocational Home Economics K-12 ● Any valid teaching license with proof of 5 years teaching experience
Rules 46-47	● Consumer Homemaking Education 9-12 ● Occupational Education (FACS) 9-12 ● Any valid teaching license with proof of 5 years teaching experience
Rules 2002	● CTE: Family & Consumer Sciences with high school setting ● Any valid teaching license with proof of 5 years teaching experience
REPA/REPA 3	● CTE: Family & Consumer Sciences 5-12 ● Workplace Specialist: Education Professions 9-12 ● Any valid teaching license with proof of 5 years teaching experience
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	EDUC 121: Child and Adolescent Development
VU Course Alignment	VU-EC: EDUC 242: Educational Psychology ^
Four Yr. Course Alignment	ISU - EPSY 202: Psychology of Childhood Adolescence BSU - EDPS 250: Human Growth and Development IUB - EDUC P250: General Educational Psychology PFW – EDU 24900: Early Childhood Development PNW - EDPS 22000: Psychology of Learning
Postsecondary Credential	ITCC: TC Elementary Education (13.1501) ISU: B.A./B.S. Elementary Education (13.1202) IUB: B.S. Elementary Education (13.1202) PFW: B.S.Ed. Elementary Education (13.1202) PNW: B.A. in Elementary Education (13.1210/13.1202) BSU: B.A./B.S. Early Childhood Education (13.1210)
Liberal Arts/Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7157 Child and Adolescent Development here.

Teaching and Learning		
Career Cluster	Education	
Program of Study	Education Professions	
NLPS Sequence	C	
Course Code	7162	
Course Description	*Teaching and Learning provides students the opportunity to apply many of the concepts that they have learned throughout the Education Professions pathway. In addition to a focus on best practices, this course will provide an introduction to the role that technology plays in the modern classroom. Through hands-on experience with educational software, utility packages, and commonly used microcomputer hardware, students will analyze ways to integrate technology as a tool for instruction, evaluation, and management.*	
Prerequisite(s)/ Corequisite(s)	Principles of Teaching	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level I
Bulletin 400	● Vocational Home Economics K-12 ● Any valid teaching license with proof of 5 years teaching experience	
Rules 46-47	● Consumer Homemaking Education 9-12 ● Occupational Education (FACS) 9-12 ● Any valid teaching license with proof of 5 years teaching experience	
Rules 2002	● CTE: Family & Consumer Sciences with high school setting ● Any valid teaching license with proof of 5 years teaching experience	
REPA/REPA 3	● CTE: Family & Consumer Sciences 5-12 ● Workplace Specialist: Education Professions 9-12 ● Any valid teaching license with proof of 5 years teaching experience	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	EDUC 201: Technology in Education	
VU Course Alignment		
Four Yr. Course Alignment	IUB - EDUC W200: Using Computers in Education PFW – EDU 20002: Using Computers in Education BSU – EDTE 250: Curricular Integration of Technology ISU – CIMT 272: Introduction to Classroom Computer Use	
Postsecondary	ITCC: TC Elementary Education (13.1501)	

Credential	IUB: B.S. Elementary Education (13.1202) PFW: B.S.Ed. Elementary Education (13.1202) BSU: B.A./B.S. Elementary Education (13.1202) ISU: B.A./B.S. Elementary Education (13.1202)
Liberal Arts/Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7162 Teaching and Learning here.

Education Professions Capstone		
Career Cluster	Education	
Program of Study	Education Professions	
NLPS Sequence	D	
Course Code	7267	
Course Description	*The Education Professions Capstone provides an extended opportunity for field experience to further apply concepts that have been presented throughout the pathway. Students will also have the opportunity to explore the topics of exceptional child and literacy development through children's literature. Students will gain a deeper understanding of inclusive teaching techniques along with policies, theories, and laws related to special education. Students interested in pursuing a career in Elementary Education are encouraged to also study the benefits of using children's literature in the classroom. This course may be further developed to include specific content for students interested in pursuing a career in secondary education. The course should include a significant classroom observation and assisting experience.*	
Prerequisite(s)/ Corequisite(s)	Principles of Teaching; Child and Adolescent Development; Teaching and Learning	
Credits	2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level II
Bulletin 400	● Vocational Home Economics K-12 ● Any valid teaching license with proof of 5 years teaching experience	
Rules 46-47	● Consumer Homemaking Education 9-12 ● Occupational Education (FACS) 9-12 ● Any valid teaching license with proof of 5 years teaching experience	

Rules 2002	● CTE: Family & Consumer Sciences with high school setting Any valid teaching license with proof of 5 years teaching experience
REPA/REPA 3	● CTE: Family & Consumer Sciences 5-12 ● Workplace Specialist: Education Professions 9-12 ● Any valid teaching license with proof of 5 years teaching experience
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	EDUC 230: The Exceptional Child; EDUC 235: Science of Reading I
VU Course Alignment	
Four Yr. Course Alignment	ISU - SPED 226: The Exceptional Learner in the Regular Classroom; EDUC 280: Children's Literature BSU - EDRD 204: Literature for Children; SPCE 201: Intro to Students with Exceptional Needs IUB - EDUC K205: Introduction to Exceptional Children
Postsecondary Credential	ITCC: TC Elementary Education (13.1501) VU: A.S. Education - Elementary Concentration (13.1210); A.S. Education - Early Childhood Concentration (13.1202) BSU: B.A/B.S. Early Childhood Education (13.1210) ISU: B.A./B.S. Elementary Education (13.1202), B.A./B.S. Early Childhood Education (13.1210) IUB: B.S. Elementary Education (13.1202)
Liberal Arts/Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7267 Education Professions Capstone here.

Energy & Natural Resources

Energy & Natural Resources Energy Technology							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
7203	Principles of Energy Technology	7200	Fundamentals of Electricity and Motors	7198	Electrical Power and Distribution	7268	Electrical Line Capstone
						7269	Industrial Wind Capstone
						7266	Natural Gas Capstone
						7365	Renewable Energy Alternatives

Principles of Energy Technology	
Career Cluster	Energy & Natural Resources
Program of Study	Energy Technology
NLPS Sequence	A
Course Code	7203
Course Description	*Principles of Energy Technology provides an overview of the electric and natural gas utility industry as well as the energy generation, transmission, and distribution infrastructure (commonly called the "largest machine in the world"), which forms the backbone of modern industry. The course covers topics such as business models, regulations, types of energy (and their conversion to useable energy such as electric power), how generated power is transmitted and distributed to the point of use, emerging technologies, and the connection to careers in the energy industry. Students are given instruction on workplace safety and other related topics including: Material Safety Data Sheets (MSDS), procedures for working in confined spaces, lock out/tag out, zero energy state, hazardous materials, storage of flammable materials, storage of fuel gas and high pressure gas cylinders, portable powered tool safety, hand tool safety, record keeping, training, employer enforcement of safety regulations, and right to know.*
Prerequisite(s)/ Corequisite(s)	None
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits

	maximum
Counts Toward	Counts as a directed elective or elective for all diplomas
Dual Credit Status	X (PCL/CTE)
Additional Notes	
ADDITIONAL COURSE INFO	
Funding	High Value | Level I
Bulletin 400	● Industrial Arts K-12
Rules 46-47	● Industrial Technology 9-12 ● Industrial Education K-12 ● Occupational Specialist I, II or III in related course approved for a CTE pathway
Rules 2002	● Technology Education ● Workplace Specialist I or II in related course approved for a CTE pathway
REPA/REPA 3	● CTE: Trade & Industry: Energy Industry 5-12 ● Technology Education 5-12 ● Workplace Specialist: Energy Industry 9-12 ● Workplace Specialist I or II in related course approved for a CTE pathway
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	ENRG 100: Energy Industry Fundamentals
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	TC Electric Line Technology (46.0301); TC Industrial Wind Technology (47.0399); TC Natural Gas Technology (15.0903); TC Renewable Energy Technology (15.1701)
Liberal Arts/Sciences Requirements	MATH 122: Applied Technical Mathematics; IVYT 113: Student Success – Advanced Manufacturing Engineering and Applied Sciences
Industry Credential	SACA C-201 Electrical Systems 1, SACA C-202 Electric Motor Control Systems 1, SACA C-206 Electrical System Installation 1
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7203 Principles of Energy Technology here.

Fundamentals of Electricity and Motors	
Career Cluster	Energy & Natural Resources
Program of Study	Energy Technology
NLPS Sequence	B
Course Code	7200
Course Description	*Fundamentals of Electricity and Motors introduces students to the basic electrical*

	laws and principles pertaining to DC and AC circuits and provides a general understanding of the common types of electric motors. Electricity topics include current, voltage, resistance, power, inductance, capacitance, and transformers. The course stresses the use of standard electrical tests, electrical equipment, and troubleshooting procedures. Topics covered include electrical motor theory, magnetism and how it affects motor rotation, motor starting components, and protective devices for motor circuits. Heat dissipation from a motor, motor slippage, how motors are wired to obtain different speeds, and how capacitors affect a motor circuit are also covered. Safety procedures and practices are emphasized.
Prerequisite(s)/ Corequisite(s)	Principles of Energy Technology
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
Counts Toward	Counts as a directed elective or elective for all diplomas Counts as a quantitative reasoning course
Dual Credit Status	X (PCL/CTE)
Additional Notes	
ADDITIONAL COURSE INFO	
Funding	High Value | Level I
Bulletin 400	● Industrial Arts K-12
Rules 46-47	● Industrial Technology 9-12 ● Industrial Education K-12 ● Occupational Specialist I, II or III in related course approved for a CTE pathway
Rules 2002	● Technology Education ● Workplace Specialist I or II in related course approved for a CTE pathway
REPA/REPA 3	● CTE: Trade & Industry: Energy Industry 5-12 ● Technology Education 5-12 ● Workplace Specialist: Energy Industry 9-12 ● Workplace Specialist I or II in related course approved for a CTE pathway
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	INDT 113: Industrial Electrical I
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	ITCC: TC Electric Line Technology (46.0301); TC Industrial Wind Technology (47.0399); TC Natural Gas Technology (15.0903); TC Renewable Energy Technology (15.1701)
Liberal Arts/Sciences Requirements	MATH 122: Applied Technical Mathematics; IVYT 113: Student Success – Advanced Manufacturing Engineering and Applied Sciences
Industry Credential	SACA C-201 Electrical Systems 1, SACA C-202 Electric Motor Control Systems 1,

	SACA C-206 Electrical System Installation 1
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7200 Fundamentals of Electricity and Motors here.

Electrical Power Distribution		
Career Cluster	Energy & Natural Resources	
Program of Study	Energy Technology	
NLPS Sequence	C	
Course Code	7198	
Course Description	*Electrical Power Distribution provides an introduction to the electrical grid and power distribution. It will cover the history of the current electrical grid and the future of the smart grid, basic electrical concepts, power generation, transmission, distribution, system operations, electrical market structures, regulation, restructuring, market dynamics, and most aspects of the electricity business. This course answers the questions of who creates the power we use, how it's distributed throughout the electrical grid, who determines the cost of electricity, and who controls the entire electrical infrastructure. Students will also study the principles and components required for the transmission and distribution of electric power.*	
Prerequisite(s)/ Corequisite(s)	Principles of Energy Technology; Fundamentals of Electricity and Motors	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Counts as a directed elective or elective for all diplomas Counts as a quantitative reasoning course*	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Industrial Arts K-12	
Rules 46-47	● Industrial Technology 9-12 ● Industrial Education K-12 ● Occupational Specialist I, II or III in related course approved for a CTE pathway	
Rules 2002	● Technology Education ● Workplace Specialist I or II in related course approved for a CTE pathway	
REPA/REPA 3	● CTE: Trade & Industry: Energy Industry 5-12 ● Technology Education 5-12 ● Workplace Specialist: Energy Industry 9-12 ● Workplace Specialist I or II in related course approved for a CTE pathway	

POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	ENRG 107: Transmission and Distribution of Electric Power; ENRG 112: Electrical Power Distribution; INDT 205: Industrial Wiring Principles; INDT 104: Fluid Power I
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	ITCC: TC Electrical Line Technology (46.0301); TC Industrial Wind Technology (47.0399); TC Natural Gas Technology (15.0903); TC Renewable Energy Technology (15.1701)
Liberal Arts/Sciences Requirements	MATH 122: Applied Technical Mathematics; IVYT 113: Student Success – Advanced Manufacturing Engineering and Applied Sciences
Industry Credential	SACA C-201 Electrical Systems 1, SACA C-202 Electric Motor Control Systems 1, SACA C-206 Electrical System Installation 1
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7198 Electrical Power Distribution here.

Electrical Line Capstone	
Career Cluster	Energy & Natural Resources
Program of Study	Energy Technology
NLPS Sequence	D
Course Code	7268
Course Description	*The Electrical Line Capstone builds upon the knowledge and skills developed in the Principles of Energy Technology, Fundamentals of Electricity and Motors, and Electrical Power Distribution courses by developing advanced skills that students can apply to the field. Students enrolled in this course will participate in instruction and lab activities that covers aspects proper care of climbing tools, and the mastering of climbing wood pole structures, electrical principles required for installation, maintenance and troubleshooting of power lines, rigging gear inspection, safe rigging procedures and load control, using almost any vertical or horizontal rigging system. Upon successful completion of this course, the student will be qualified in two methods of pole top rescue.*
Prerequisite(s)/ Corequisite(s)	Principles of Energy Technology; Fundamentals of Electricity and Motors; Electrical Power and Distribution
Credits	2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum
Counts Toward	Counts as a Directed Elective or Elective for all diplomas
Dual Credit Status	X
Additional Notes	
ADDITIONAL COURSE INFO	

Funding	High Value	Level II
Bulletin 400	● Industrial Arts K-12	
Rules 46-47	● Industrial Technology 9-12 ● Industrial Education K-12 ● Occupational Specialist I, II or III in related course approved for a CTE pathway	
Rules 2002	● Technology Education ● Workplace Specialist I or II in related course approved for a CTE pathway	
REPA/REPA 3	● CTE: Trade & Industry: Energy Industry 5-12 ● Technology Education 5-12 ● Workplace Specialist: Energy Industry 9-12 ● Workplace Specialist I or II in related course approved for a CTE pathway	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	ENRG 102: Climbing*; ENRG 103: Electrical Essentials for Powerline Workers*; ENRG 109: Rigging for Line Workers*	
VU Course Alignment		
Four Yr. Course Alignment		
Postsecondary Credential	ITCC: TC Electrical Line Technology (46.0303)	
Liberal Arts/Sciences Requirements	MATH 122: Applied Technical Mathematics; IVYT 113: Student Success – Advanced Manufacturing Engineering and Applied Sciences	
Industry Credential	SACA C-201 Electrical Systems 1, SACA C-202 Electric Motor Control Systems 1, SACA C-206 Electrical System Installation 1	
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 7268 Electrical Line Capstone here.	

Industrial Wind Capstone	
Career Cluster	Energy & Natural Resources
Program of Study	Energy Technology
NLPS Sequence	D
Course Code	7269
Course Description	*The Industrial Wind Capstone builds upon the knowledge and skills developed in the Principles of Energy Technology, Fundamentals of Electricity and Motors, and Electrical Power Distribution courses by developing advanced skills that students can apply to the field. Students enrolled in this course will participate in instruction and lab activities that cover aspects of site selection, topographic map reading, meteorology, wind turbine construction, wind power system components, and wind turbine safety. This course will cover general wind turbine systems and operations*

	including troubleshooting for the mechanical, hydraulic, and electrical systems as well as the interaction of wind turbine systems with technologies. Upon completion of this course students will be able to earn the Small Wind Installer - Level 1 (SWI1) certification.
Prerequisite(s)/ Corequisite(s)	Principles of Energy Technology; Fundamentals of Electricity and Motors; Electrical Power and Distribution
Credits	2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum
Counts Toward	Counts as a Directed Elective or Elective for all diplomas
Dual Credit Status	X (PCL/CTE)
Additional Notes	
ADDITIONAL COURSE INFO	
Funding	Moderate Value | Level II
Bulletin 400	● Industrial Arts K-12
Rules 46-47	● Industrial Technology 9-12 ● Industrial Education K-12 ● Occupational Specialist I, II or III in related course approved for a CTE pathway
Rules 2002	● Technology Education ● Workplace Specialist I or II in related course approved for a CTE pathway
REPA/REPA 3	● CTE: Trade & Industry: Energy Industry 5-12 ● Technology Education 5-12 ● Workplace Specialist: Energy Industry 9-12 ● Workplace Specialist I or II in related course approved for a CTE pathway
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	SUST 101: Wind Power; SUST 111: Wind Turbine Mechanical Systems I*; SUST 211: Wind Turbine Mechanical Systems II*
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	ITCC: TC Industrial Wind Technology (47.0399)
Liberal Arts/Sciences Requirements	MATH 122: Applied Technical Mathematics; IVYT 113: Advanced Manufacturing Engineering and Applied Sciences
Industry Credential	SACA C-201 Electrical Systems 1, SACA C-202 Electric Motor Control Systems 1, SACA C-206 Electrical System Installation 1
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7269 Industrial Wind Capstone here.

Natural Gas Capstone		
Career Cluster	Energy & Natural Resources	
Program of Study	Energy Technology	
NLPS Sequence	D	
Course Code	7266	
Course Description	*The Natural Gas Capstone builds upon the knowledge and skills developed in the Principles of Energy Technology, Fundamentals of Electricity and Motors, and Electrical Power Distribution courses by developing advanced skills that students can apply to the field. Students enrolled in this course will participate in instruction and lab activities involving the health, safety and environmental hazards and federal regulations surrounding natural gas. Students will participate in activities that cover the types of natural gas pipeline materials, joining techniques, and coating maintenance. Students will also be engaged in activities that cover methods used to locate and install natural gas lines, basic design theory, backfilling, purging, valve inspection and maintenance, pressure testing, customer regulations and relief design, explanation of hoop stress, shutting down the flow of gas, basic tapping and stopping techniques, construction equipment and current methods and common materials. As a capstone course, students should have the opportunity to apply their knowledge and use skills through an intensive work-based learning experience.*	
Prerequisite(s)/ Corequisite(s)	Principles of Energy Technology; Fundamentals of Electricity and Motors; Electrical Power and Distribution	
Credits	2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum	
Counts Toward	Counts as a Directed Elective or Elective for all diplomas	
Dual Credit Status	X	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level II
Bulletin 400	• Industrial Arts K-12	
Rules 46-47	• Industrial Technology 9-12 • Industrial Education K-12 • Occupational Specialist I, II or III in related course approved for a CTE pathway	
Rules 2002	• Technology Education • Workplace Specialist I or II in related course approved for a CTE pathway	
REPA/REPA 3	• CTE: Trade & Industry: Energy Industry 5-12 • Technology Education 5-12 • Workplace Specialist: Energy Industry 9-12 • Workplace Specialist I or II in related course approved for a CTE pathway	
POSTSECONDARY AND CREDENTIAL INFORMATION		

ITCC Course Alignment	NGAS 101: Fundamentals of Natural Gas*; NGAS 102: Gas Pipe Joining*; NGAS 203: Natural Gas Regulatory and Compliance Issues*; NGAS 204: Natural Gas Construction Techniques*
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	ITCC: TC Natural Gas Technology (15.0903)
Liberal Arts/Sciences Requirements	MATH 122: Applied Technical Mathematics; IVYT 113: Advanced Manufacturing Engineering and Applied Sciences
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7266 Natural Gas Capstone here.

Renewable Energy Alternatives	
Career Cluster	Energy & Natural Resources
Program of Study	Energy Technology
NLPS Sequence	D
Course Code	7365
Course Description	*The Renewable Energy Alternative Capstone builds upon the knowledge and skills developed in the Principles of Energy Technology, Fundamentals of Electricity and Motors, and Electrical Power Distribution courses by developing advanced skills that students can apply in the field. Students enrolled in this course will participate in instruction and lab activities that cover aspects of installation and maintenance of residential and commercial scale solar power and heat, wind power, and geothermal heat systems. Students will participate in activities that cover site selection, topographic map reading, meteorology, wind turbine construction, wind power system components, and wind turbine safety, leading technologies in the solar industry, photovoltaic system safety and PPE requirements, electrical circuits and multimeter practices, PV module function and build, charge controller and inverter operation, battery systems, and PV system wiring and code requirements. Upon completion of this course students will be able to earn the Small Wind Installer - Level 1 (SWI1) certification and the Photovoltaic Installer – Level I (PVI1) certification.*
Prerequisite(s)/ Corequisite(s)	Principles of Energy Technology; Fundamentals of Electricity and Motors; Electrical Power and Distribution
Credits	2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum
Counts Toward	Counts as a Directed Elective or Elective for all diplomas
Dual Credit Status	X (PCL/CTE)
Additional Notes	

ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level II
Bulletin 400	● Industrial Arts K-12	
Rules 46-47	● Industrial Technology 9-12 ● Industrial Education K-12 ● Occupational Specialist I, II or III in related course approved for a CTE pathway	
Rules 2002	● Technology Education ● Workplace Specialist I or II in related course approved for a CTE pathway	
REPA/REPA 3	● CTE: Trade & Industry: Energy Industry 5-12 ● Technology Education 5-12 ● Workplace Specialist: Energy Industry 9-12 ● Workplace Specialist I or II in related course approved for a CTE pathway	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	SUST 101: Wind Power; SUST 102: Solar Wind Geothermal Systems*; ENRG 111: Smart Grid Home Integration*; ENRG 202: Photovoltaic System Installation*	
VU Course Alignment		
Four Yr. Course Alignment		
Postsecondary Credential	ITCC: TC Renewable Energy Technology (15.1701)	
Liberal Arts/Sciences Requirements	MATH 122: Applied Technical Mathematics; IVYT 113: Advanced Manufacturing Engineering and Applied Sciences	
Industry Credential	SACA C-201 Electrical Systems 1, SACA C-202 Electric Motor Control Systems 1, SACA C-206 Electrical System Installation 1	
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 7365 Renewable Energy Alternatives here.	

Energy & Natural Resources Natural Resources							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
7117	Principles of Agriculture	5180	Natural Resources	7270	Forestry and Wildlife Management	7262	Agricultural Research Capstone
				7271	Soil and Water Management		
				5229	Sustainable Energy Alternatives		

Principles of Agriculture		
Career Cluster	Agriculture	
Program of Study	Ag Mechanical and Engineering, Agri-Science – Plants or Animals, Horticulture, Landscaping, Natural Resources, Precision Agriculture	
NLPS Sequence	A	
Course Code	7117	
Course Description	*Principles of Agriculture is a two-semester course that will cover the diversity of the agricultural industry and agribusiness concepts. Students will develop an understanding of the role of agriculture in the United States and globally. Students will explore Agriculture, Food, and Natural Resource (AFNR) systems related to the production of food, fiber and fuel and the associated health, safety and environmental management systems. Topics covered in the course range from animals, plants, food, natural resources, ag power, structures and technology, and agribusiness. Participation in FFA and Supervised Agricultural Experiences (SAE) will be an integral part of this course in order to develop leadership and career ready skills.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level I
Bulletin 400	● Vocational Agriculture K-12	
Rules 46-47	● Any Agribusiness License 9-12	

	● Any Standard Agriculture license ● Occupational Specialist I, II, or III in related course approved for a CTE pathway with a balance of all Agriculture relatable subject matter
Rules 2002	● CTE: Agriculture with high school setting ● Workplace Specialist: Agriculture Education in Agribusiness Management ● Workplace Specialist I or II in related course approved for a CTE pathway with a balance of all Agriculture relatable subject matter
REPA/REPA 3	● CTE: Agriculture 9-12 ● Workplace Specialist: Agribusiness 9-12 ● Workplace Specialist I or II in related course approved for a CTE pathway with a balance of all Agriculture relatable subject matter
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	AGRI 100: Introduction to Agriculture; AGRI 102: Agricultural Business and Farm Management
VU Course Alignment	AGBS 101: Introduction to Agribusiness Management
Four Yr. Course Alignment	
Postsecondary Credential	ITCC: CT Urban Horticulture (1.0601), CT Landscaping Technician (1.0605), TC Precision Agriculture Specialist (1.0201) VU: CG Agribusiness (1.0101), CPC Agribusiness Certificate (1.0101)
Liberal Arts/Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7117 Principles of Agriculture here.

Natural Resources	
Career Cluster	Energy & Natural Resources
Program of Study	Natural Resources
NLPS Sequence	B
Course Code	5180
Course Description	*Natural Resources provides students with a background in environmental science and conservation. Course work includes hands-on learning activities that encourage students to investigate areas of environmental concern. Students are introduced to the following areas of natural resources: soils, the water cycle, air quality, outdoor recreation, forestry, minerals, interrelationships between humans and natural systems, wetlands, wildlife, safety, careers, leadership, and supervised agricultural experience programs.*
Prerequisite(s)/	Principles of Agriculture

Corequisite(s)		
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Fulfills a science requirement for CORE 40 diplomas Counts as STEM-Focused credit for new diploma	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level I
Bulletin 400	● Vocational Agriculture K-12	
Rules 46-47	● Any Agribusiness License 9- 12 Any Standard Agriculture license ● Any Occupational Specialist I, II, or III in Natural Resources 9-12	
Rules 2002	● CTE: Agriculture with high school setting ● Workplace Specialist: Agriculture Education in Natural Resources Management	
REPA/REPA 3	● CTE: Agriculture 5-12 ● Workplace Specialist: Natural Resources 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	AGRI 115: Natural Resources Management	
VU Course Alignment		
Four Yr. Course Alignment		
Postsecondary Credential		
Liberal Arts/Sciences Requirements		
Industry Credential		
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 5180 Natural Resources here.	

Forestry and Wildlife Management	
Career Cluster	Energy & Natural Resources
Program of Study	Natural Resources
NLPS Sequence	C
Course Code	7270
Course Description	*Forestry and Wildlife Management provides students with opportunities to participate in a variety of activities including laboratory work. Students will explore*

	concepts related to environmental and ecological impacts, forestry management, timber harvesting, tree production, and wood utilization, as well as environmental issues and career exploration.
Prerequisite(s)/ Corequisite(s)	Principles of Agriculture
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
Counts Toward	Fulfills a science requirement for CORE 40 diplomas Counts as STEM-Focused credit for new diploma
Dual Credit Status	X
Additional Notes	
ADDITIONAL COURSE INFO	
Funding	Moderate Value | Level I
Bulletin 400	● Vocational Agriculture K-12
Rules 46-47	● Any Agribusiness License 9- 12 ● Any Standard Agriculture license ● Any Occupational Specialist I, II, or III in Agriculture 9-12
Rules 2002	● CTE: Agriculture with high school setting ● Workplace Specialist: Agriculture Education in Landscape Management ● Workplace Specialist: Ornamental Horticulture
REPA/REPA 3	● CTE: Agriculture 5-12 ● Workplace Specialist: Landscape Management 9-12 ● Workplace Specialist: Ornamental Horticulture 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7270 Forestry and Wildlife Management here.

Soil and Water Management		
Career Cluster	Energy & Natural Resources	
Program of Study	Natural Resources	
NLPS Sequence	C	
Course Code	7271	
Course Description	*Soil and Water Management provides students with opportunities to participate in a variety of activities including laboratory work. Students will explore concepts related to geological information system mapping (GIS), soil and land use, water and aquatic ecology, as well as environmental issues and career exploration.*	
Prerequisite(s)/ Corequisite(s)	Principles of Agriculture	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Fulfills a science requirement for CORE 40 diplomas Counts as STEM-Focused credit for new diploma	
Dual Credit Status	X	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level I
Bulletin 400	● Vocational Agriculture K-12	
Rules 46-47	● Any Agribusiness License 9- 12 Any Standard Agriculture license ● Any Occupational Specialist I, II, or III in Natural Resources 9-12	
Rules 2002	● CTE: Agriculture with high school setting ● Workplace Specialist: Agriculture Education in Natural Resources Management	
REPA/REPA 3	● CTE: Agriculture 5-12 ● Workplace Specialist: Natural Resources 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment		
VU Course Alignment		
Four Yr. Course Alignment		
Postsecondary Credential		
Liberal Arts/Sciences Requirements		
Industry Credential		
CONTENT STANDARDS AND COMPETENCIES		
Course	Access competencies for 7271 Soil and Water Management here.	

Competencies	

Sustainable Energy Alternatives		
Career Cluster	Energy & Natural Resources	
Program of Study	Natural Resources	
NLPS Sequence	C	
Course Code	5229	
Course Description	*Sustainable Energy Alternatives broadens a student's understanding of environmentally-friendly energies. In this course students will use a combination of classroom, laboratory, and field experiences to analyze, critique, and design alternative energy systems. Class content and activities center on renewability and sustainability for our planet. Topics covered in this course include the following types of alternative energies: solar, wind, geothermal, biomass, and other emerging technologies. Leadership development, supervised agricultural experiences, and career exploration opportunities are explored in this course.*	
Prerequisite(s)/ Corequisite(s)	Principles of Agriculture	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Fulfills a science course requirement for all diplomas Counts as STEM-Focused credit for new diploma	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level I
Bulletin 400	● Vocational Agriculture K-12	
Rules 46-47	● Any Standard Agriculture license	
Rules 2002	● CTE: Agriculture with high school setting	
REPA/REPA 3	● CTE: Agriculture 5-12 ● Workplace Specialist: Sustainable Energy 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	AGRI 119: Sustainable and Alternative Energy	
VU Course Alignment		
Four Yr. Course Alignment		
Postsecondary Credential		
Liberal Arts/Sciences		

Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 5229 Sustainable Energy Alternatives here.

Agricultural Research Capstone		
Career Cluster	Agriculture, Energy & Natural Resources	
Program of Study	Agri-Science – Plants or Animals; Ag Mechanical and Engineering	
NLPS Sequence	D	
Course Code	7262	
Course Description	*Agricultural Research Capstone course includes extended laboratory, field, and literature investigations in one or more specialized agricultural science disciplines, such as animal, plant, food, natural resources, biotechnology, engineering, etc. Students enrolled in this course will apply scientific applications, concepts, principles, and design processes to solve complex, real-world issues in agriculture. Students will become familiar with laboratory procedures used in an educational, research, or industrial setting. Students will complete an end-of-course project and presentation, such as a scientific research paper, agriscience fair project, or some other suitable presentation of their findings.*	
Prerequisite(s)/ Corequisite(s)	Any Agriculture Concentrator Sequence	
Credits	2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits max	
Counts Toward	Counts as a quantitative reasoning course for CORE 40 diploma Counts as STEM-Focused credit for new diploma	
Dual Credit Status	X	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Less than Moderate Value	Level II
Bulletin 400	● Vocational Agriculture K-12 ● Science/Biology 9-12	
Rules 46-47	● Vocational Agriculture K-12 ● Any Standard Agriculture license ● Biology 9-12	
Rules 2002	● CTE: Agriculture with high school setting ● Life Science with high school setting	
REPA/REPA 3	● CTE: Agriculture 5-12 ● Life Science 5-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course		

Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7262 Agricultural Research Capstone here.

Financial Services

Financial Services Accounting							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
4562	Principles of Business Management	4524	Accounting Fundamentals	4522	Advanced Accounting	7252	Accounting Capstone

Principles of Business Management		
Career Cluster	Business Management; Financial Services; Marketing, Sales, & Entrepreneurship, Supply Chain & Transportation	
Program of Study	Accounting, Business Administration, Finance and Investment, Insurance, Marketing and Sales, Supply Chain and Logistics	
NLPS Sequence	A	
Course Code	4562	
Course Description	*Principles of Business Management examines business ownership, organization principles and problems, management, control facilities, administration, financial management, and development practices of business enterprises. This course will also emphasize the identification and practice of the appropriate use of technology to communicate and solve business problems and aid in decision making. Attention will be given to developing business communication, problem-solving, and decision-making skills using spreadsheets, word processing, data management, and presentation software.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Business Education 7-12 ● Distributive Education K-12	
Rules 46-47	● Business Education 9-12 ● Marketing Education 9-12	

	● Distributive Education K-12 ● Business Education with Vocational Endorsement 9-12 ● Occupational Specialist I, II or III in related course approved for a CTE pathway
Rules 2002	● Business with high school setting ● CTE: Marketing with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist I or II in related course approved for a CTEpathway
REPA/REPA 3	● Business 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● CTE: Marketing 5-12 ● Workplace Specialist: Advanced Business Management 9-12 ● Workplace Specialist I or II in related course approved for a CTE pathway
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	BUSN 101: Introduction to Business, OTEC 207: Integrated Microsoft Office Applications **OR** OTEC 107: Introduction to Microsoft Office
VU Course Alignment	MGMT 100: Introduction to Business, COMP 110: Introduction to Computer Concepts
Four Yr. Course Alignment	BSU – ISOM 125: Introduction to Business Computer Applications ISU - BUS 100: Introduction to Contemporary Business, BUS 180: Business Information Tools IUB - BUS X-100: Introduction to Business IUN/S/K/N - BUS W-100: Introduction to Business IUSB - BUS B-190: Introduction to Business PFW - BUS 10001: Principles of Business Administration PNW - BUSM 10100: Introduction to Business USI - MNGT 201: Survey of Management
Postsecondary Credential	ITCC: CT Business Administration, CT Professional Bookkeeping and Payroll, TC Business Administration (52.0201), TC Accounting VU - Management Training Certificate, CPC; A.S. Business Administration (52.0201), A.S. Business Management (52.0101) ISU - B.S. in Insurance and Risk Management (52.1701) IUB/K/N/S/SB – B.S. Business (52.0101) PFW – B.S. Business (52.0101)
Liberal Arts/Sciences Requirements	ITCC - ENGL 111: English Composition, IVYT 114: Student Success in Business, Humanities/ Social & Behavioral 3-4 hours
Industry Credential	Certiport: QuickBooks Certified User
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 4562 Principles of Business Management here.

Accounting Fundamentals		
Career Cluster	Business Management; Financial Services	
Program of Study	Business Administration, Accounting, Finance and Investment	
NLPS Sequence	B	
Course Code	4524	
Course Description	*Accounting Fundamentals introduces the language of business using Generally Accepted Accounting Principles (GAAP) and procedures for proprietorships and partnerships using double-entry accounting. Emphasis is placed on accounting principles as they relate to both manual and automated financial systems. This course involves understanding, analyzing, and recording business transactions and preparing, analyzing, and interpreting financial reports as a basis for decision-making.*	
Prerequisite(s)/ Corequisite(s)	Principles of Business Management	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Business Education 7-12 ● Distributive Education K-12	
Rules 46-47	● Business Education 9-12 ● Marketing Education 9-12 ● Distributive Education K-12 ● Business Education with Vocational Endorsement 9- 12 ● Occupational Specialist I, II or III in related course approved for a CTE pathway	
Rules 2002	● Business with high school setting ● CTE: Marketing with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist: Accounting & Finance 9-12	
REPA/REPA 3	● Business 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● CTE: Marketing 5-12 ● Workplace Specialist: Accounting & Finance 9-12 ● CTE: Trade & Industrial: Accounting & Finance 5-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	ACCT 101: Financial Accounting	

VU Course Alignment	ACCT 100: Basic College Accounting
Four Yr. Course Alignment	ISU - BUS 201: Principles of Accounting I PNW - ACC 20000: Introductory Accounting BSU – ACC 201: Principles of Finance and Accounting
Postsecondary Credential	BSU: B.A./B.S. in Accounting (52.0301) ISU: B.S. Business Administration (52.0101) ITCC: CT Business Administration, CT Professional Bookkeeping and Payroll, TC Business Administration (52.0201), TC Accounting PNW: B.S. Accounting (52.0101) VU: CPC Accounting; CG Accounting (52.0305)
Liberal Arts/Sciences Requirements	ITCC - ENGL 111: English Composition, IVYT 114: Student Success in Business, Humanities/Social & Behavioral 3-4 hours
Industry Credential	Certiport: QuickBooks Certified User
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 4524 Accounting Fundamentals here.

Advanced Accounting		
Career Cluster	Financial Services	
Program of Study	Accounting	
NLPS Sequence	C	
Course Code	4522	
Course Description	*Advanced Accounting expands on the Generally Accepted Accounting Principles (GAAP) and procedures for various forms of business ownership using double-entry accounting covered in Accounting Fundamentals, including an emphasis on payroll accounting. Topics covered include calculating gross pay, withholdings, net pay, direct deposits, journalizing payroll transactions and preparing individual earnings records and payroll registers. Emphasis is placed on applying Generally Accepted Accounting Principles through hands-on practice with popular commercial accounting software packages that are currently used in business.*	
Prerequisite(s)/ Corequisite(s)	Principles of Business Management; Accounting Fundamentals	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Counts as a quantitative reasoning course for CORE 40 diplomas	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Business Education 7-12	

	● Distributive Education K-12
Rules 46-47	● Business Education 9-12 ● Marketing Education 9-12 ● Distributive Education K-12 ● Business Education with Vocational Endorsement 9-12
Rules 2002	● Business with high school setting ● CTE: Marketing with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist: Business: Accounting & Finance
REPA/REPA 3	● Business 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● CTE: Marketing 5-12 ● Workplace Specialist: Accounting & Finance 9-12 ● CTE: Trade & Industrial: Accounting & Finance 5-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	ACCT 122: Accounting Systems Application, ACCT 106: Payroll Accounting
VU Course Alignment	ACCT 206: Payroll Accounting, ACCT 291: Accounting with QuickBooks
Four Yr. Course Alignment	
Postsecondary Credential	ITCC: CT Business Administration, CT Professional Bookkeeping and Payroll, TC Business Administration (52.0201), TC Accounting VU: CPC Accounting; CG Accounting (52.0305)
Liberal Arts/Sciences Requirements	ITCC - ENGL 111: English Composition, Humanities/Social & Behavioral Science (3-4), IVYT 111: Student Success for University Transfer VU - ENGL 101: English Composition I, COMM 143: Speech, MATT 109: Business Mathematics or MATH 102: College Algebra
Industry Credential	Certiport: QuickBooks Certified User
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 4522 Advanced Accounting here.

Accounting Capstone	
Career Cluster	Financial Services
Program of Study	Accounting
NLPS Sequence	D
Course Code	7252
Course Description	*The Accounting Capstone course emphasizes Managerial Accounting concepts and Income Tax Accounting for individuals and sole proprietorships. Topics include general versus cost accounting systems, cost behavior, cost-volume profit*

	analysis, budgeting, standard cost systems, responsibility accounting, incremental analysis, and capital investment analysis. Offers an overview of federal and state income tax law for individuals including taxable income, capital gains and losses, adjustments, standard and itemized deductions, tax credits and appropriate tax forms. When offered for multiple credits per semester, the Accounting Capstone may be used to provide students the opportunity to participate in an intensive WBL experience and/or to complete additional coursework in using spreadsheets to solve accounting cases and to complete a Postsecondary Credential from ITCC or VU.
Prerequisite(s)/ Corequisite(s)	Principles of Business Management; Accounting Fundamentals; Advanced Accounting
Credits	2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum
Counts Toward	
Dual Credit Status	X(PCL/CTE)
Additional Notes	
ADDITIONAL COURSE INFO	
Funding	High Value | Level II
Bulletin 400	● Business Education 7-12 ● Distributive Education K-12
Rules 46-47	● Business Education 9-12 ● Marketing Education 9-12 ● Distributive Education K-12 ● Business Education with Vocational Endorsement 9-12
Rules 2002	● Business with high school setting ● CTE: Marketing with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist: Business: Accounting & Finance
REPA/REPA 3	● Business 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● CTE: Marketing 5-12 ● Workplace Specialist: Accounting & Finance 9-12 ● CTE: Trade & Industrial: Accounting & Finance 5-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	ACCT 102: Managerial Accounting, ACCT 205: Income Tax, OTEC 118: Microsoft Excel
VU Course Alignment	VU-EC - COMP 242: Creating a Personal Brand and e-Portfolio□, OADM 233: Spreadsheets□
Four Yr. Course Alignment	BSU – ACC 202: Principles of Managerial Accounting
Postsecondary Credential	BSU: B.A./B.S. in Accounting (52.0301) ITCC: CT Business Administration, CT Professional Bookkeeping and Payroll, TC Business Administration (52.0201), TC Accounting

	VU/EC: CG Accounting (52.0305)
Liberal Arts/Sciences Requirements	ITCC - ENGL 111: English Composition, Humanities/Social & Behavioral Science (3-4), IVYT 111: Student Success for University Transfer VU - ENGL 101: English Composition, COMM 143: Speech, MATT 109: Business Mathematics or MATH 102 College Algebra
Industry Credential	Certiport: QuickBooks Certified User
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7252 Accounting Capstone here.

Financial Services Finance and Investment							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
4562	Principles of Business Management	7150	Personal Finance and Banking	5258	Finance and Investment	7265	Finance and Investment Capstone
		4524	Accounting Fundamentals				

Principles of Business Management		
Career Cluster	Business Management; Financial Services; Marking, Sales, & Entrepreneurship, Supply Chain & Transportation	
Program of Study	Accounting, Business Administration, Finance and Investment, Insurance, Marketing and Sales, Supply Chain and Logistics	
NLPS Sequence	A	
Course Code	4562	
Course Description	*Principles of Business Management examines business ownership, organization principles and problems, management, control facilities, administration, financial management, and development practices of business enterprises. This course will also emphasize the identification and practice of the appropriate use of technology to communicate and solve business problems and aid in decision making. Attention will be given to developing business communication, problem-solving, and decision-making skills using spreadsheets, word processing, data management, and presentation software.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Business Education 7-12 ● Distributive Education K-12	
Rules 46-47	● Business Education 9-12 ● Marketing Education 9-12 ● Distributive Education K-12 ● Business Education with Vocational Endorsement 9-12	

	● Occupational Specialist I, II or III in related course approved for a CTE pathway
Rules 2002	● Business with high school setting ● CTE: Marketing with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist I or II in related course approved for a CTEpathway
REPA/REPA 3	● Business 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● CTE: Marketing 5-12 ● Workplace Specialist: Advanced Business Management 9-12 ● Workplace Specialist I or II in related course approved for a CTE pathway
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	BUSN 101: Introduction to Business, OTEC 207: Integrated Microsoft Office Applications **OR** OTEC 107: Introduction to Microsoft Office
VU Course Alignment	MGMT 100: Introduction to Business, COMP 110: Introduction to Computer Concepts
Four Yr. Course Alignment	BSU – ISOM 125: Introduction to Business Computer Applications ISU - BUS 100: Introduction to Contemporary Business, BUS 180: Business Information Tools IUB - BUS X-100: Introduction to Business IUN/S/K/N - BUS W-100: Introduction to Business IUSB - BUS B-190: Introduction to Business PFW - BUS 10001: Principles of Business Administration PNW - BUSM 10100: Introduction to Business USI - MNGT 201: Survey of Management
Postsecondary Credential	IUB/K/N/S/SB: B.S. Business (52.0101) ISU: B.S. in Finance (52.0801) ITCC: CT Business Administration, CT Professional Bookkeeping and Payroll, TC Business Administration (52.0201), TC Accounting PFW: B.S. Business (52.0101) VU: Management Training Certificate, CPC; A.S. Business Administration (52.0201), A.S. Business Management (52.0101)
Liberal Arts/Sciences Requirements	ITCC - ENGL 111: English Composition, IVYT 114: Student Success in Business, Humanities/ Social & Behavioral 3-4 hours
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 4562 Principles of Business Management here.

Accounting Fundamentals		
Career Cluster	Business Management; Financial Services	
Program of Study	Finance and Investment, Accounting, Business Administration	
NLPS Sequence	B	
Course Code	4524	
Course Description	*Accounting Fundamentals introduces the language of business using Generally Accepted Accounting Principles (GAAP) and procedures for proprietorships and partnerships using double-entry accounting. Emphasis is placed on accounting principles as they relate to both manual and automated financial systems. This course involves understanding, analyzing, and recording business transactions and preparing, analyzing, and interpreting financial reports as a basis for decision-making.*	
Prerequisite(s)/ Corequisite(s)	Principles of Business Management	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Business Education 7-12 ● Distributive Education K-12	
Rules 46-47	● Business Education 9-12 ● Marketing Education 9-12 ● Distributive Education K-12 ● Business Education with Vocational Endorsement 9- 12 ● Occupational Specialist I, II or III in related course approved for a CTE pathway	
Rules 2002	● Business with high school setting ● CTE: Marketing with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist: Accounting & Finance 9-12	
REPA/REPA 3	● Business 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● CTE: Marketing 5-12 ● Workplace Specialist: Accounting & Finance 9-12 ● CTE: Trade & Industrial: Accounting & Finance 5-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	ACCT 101: Financial Accounting	

VU Course Alignment	ACCT 100: Basic College Accounting
Four Yr. Course Alignment	ISU - BUS 201: Principles of Accounting I PNW - ACC 20000: Introductory Accounting BSU – ACC 201: Principles of Finance and Accounting
Postsecondary Credential	BSU: B.A./B.S. in Accounting (52.0301) ISU: B.S. in Finance (52.0301) ITCC: CT Business Administration, CT Professional Bookkeeping and Payroll, TC Business Administration (52.0201), TC Accounting VU: CG Accounting (52.0305) PNW: B.S. Accounting (52.0101) VU: CG Accounting (52.0305)
Liberal Arts/Sciences Requirements	ITCC - ENGL 111: English Composition, IVYT 114: Student Success in Business, Humanities/Social & Behavioral 3-4 hours
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 4524 Accounting Fundamentals here.

Personal Finance and Banking		
Career Cluster	Financial Services	
Program of Study	Finance and Investment	
NLPS Sequence	B	
Course Code	7150	
Course Description	*Personal Finance and Banking emphasizes management of individual financial resources for growth and maintenance of personal wealth. Covers home buying and mortgage financing, installment financing, life and health insurance, securities, commodities and other investment opportunities. Students will gain an overview of the banking industry and the financial services provided by banks for individuals and businesses.*	
Prerequisite(s)/ Corequisite(s)	Principles of Business Management	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Business Education 7-12 ● Distributive Education K-12	
Rules 46-47	● Business Education 9-12	

	● Marketing Education 9-12 ● Distributive Education K-12 ● Business Education with Vocational Endorsement 9-12
Rules 2002	● Business with high school setting ● CTE: Marketing with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist: Business: Accounting & Finance
REPA/REPA 3	● Business 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● CTE: Marketing 5-12 ● Workplace Specialist: Accounting & Finance 9-12 ● CTE: Trade & Industrial: Accounting & Finance 5-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	BUSN 108: Personal Finance
VU Course Alignment	FINC 100: Introduction to Financial Institutions* VU-EC - ECON 208: Personal Financial Management
Four Yr. Course Alignment	BSU - FIN 110: Personal Finance ISU - FIN 108: Personal Financial Management
Postsecondary Credential	BSU: B.A./B.S. Finance (52.0801) ISU: B.S. Finance (51.0801) ITCC: CT Business Administration, CT Professional Bookkeeping and Payroll, TC Business Administration (52.0201), TC Accounting VU/EC: CPC Banking (Jasper) (52.0803)
Liberal Arts/Sciences Requirements	VU - MATT 109: Business Mathematics
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7150 Personal Finance and Banking here.

Finance and Investment	
Career Cluster	Financial Services
Program of Study	Finance and Investment
NLPS Sequence	C
Course Code	5258
Course Description	*Finance and Investments addresses the need of schools in areas that have workforce demand in the finance industry. It analyzes and synthesizes high-level skills needed for a multitude of careers in the banking and investment industry. Students learn banking, investments, and other finance fundamentals and applications related to financial institutions, business and personal financial*

	services, investment and securities, risk management products, and corporate finance.
Prerequisite(s)/ Corequisite(s)	Principles of Business Management; Personal Finance and Banking or Accounting Fundamentals
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
Counts Toward	Counts as a quantitative reasoning course for CORE 40 diplomas
Dual Credit Status	X
Additional Notes	
ADDITIONAL COURSE INFO	
Funding	High Value | Level I
Bulletin 400	● Business Education 7-12 ● Distributive Education K-12
Rules 46-47	● Business Education 9-12 ● Marketing Education 9-12 ● Distributive Education K-12 ● Business Education with Vocational Endorsement 9-12
Rules 2002	● Business with high school setting ● CTE: Marketing with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist: Business: Accounting & Finance
REPA/REPA 3	● Business 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● CTE: Marketing 5-12 ● Workplace Specialist: Accounting & Finance 9-12 ● CTE: Trade & Industrial: Accounting & Finance 5-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	BUSN 130: Principles of Banking*, BUSN 211: Investments*
VU Course Alignment	FINC 205: Money and Banking*, FINC 245: Introduction to Investments*
Four Yr. Course Alignment	ISU - FIN 200: Fundamentals of Finance
Postsecondary Credential	ISU: B.S. Finance (52.0801) ITCC: CT Business Administration, CT Professional Bookkeeping and Payroll, TC Business Administration (52.0201), TC Accounting VU: CPC Banking (Jasper) (52.0803)
Liberal Arts/Sciences Requirements	VU - MATT 109 Business Mathematics
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	

Course Competencies	Access competencies for 5258 Finance and Investment here.

Finance and Investment Capstone		
Career Cluster	Financial Services	
Program of Study	Finance and Investment	
NLPS Sequence	D	
Course Code	7265	
Course Description	*The Finance and Investment Capstone course includes content on credit and collections, real estate, business law and investing.*	
Prerequisite(s)/ Corequisite(s)	Principles of Business Management; Personal Finance and Banking or Accounting Fundamentals; Finance and Investment	
Credits	2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum	
Counts Toward	Counts as a quantitative reasoning course for CORE 40 diplomas	
Dual Credit Status	X	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level II
Bulletin 400	● Business Education 7-12 ● Distributive Education K-12	
Rules 46-47	● Business Education 9-12 ● Marketing Education 9-12 ● Distributive Education K-12 ● Business Education with Vocational Endorsement 9-12	
Rules 2002	● Business with high school setting ● CTE: Marketing with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist: Business: Accounting & Finance	
REPA/REPA 3	● Business 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● CTE: Marketing 5-12 ● Workplace Specialist: Accounting & Finance 9-12 ● CTE: Trade & Industrial: Accounting & Finance 5-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment		
VU Course Alignment	BLAW 203: Legal Environment of Business*, FINC 220: Credit and Collections*, FINC 230: Real Estate Finance*	

Four Yr. Course Alignment	
Postsecondary Credential	ITCC: CT Business Administration, CT Professional Bookkeeping and Payroll, TC Business Administration (52.0201), TC Accounting VU: CPC Banking (Jasper) (52.0803)
Liberal Arts/Sciences Requirements	VU MATT 109 Business Mathematics
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7265 Finance and Investment Capstone here.

Financial Services Insurance							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
4562	Principles of Business Management	7149	Insurance Fundamentals	7151	Personal and Commercial Insurance	7201	Small Business Operations Capstone

Principles of Business Management		
Career Cluster	Business Management; Financial Services; Marketing, Sales, & Entrepreneurship; Supply Chain & Transportation	
Program of Study	Accounting, Business Administration, Finance and Investment, Insurance, Marketing and Sales, Supply Chain and Logistics	
NLPS Sequence	A	
Course Code	4562	
Course Description	*Principles of Business Management examines business ownership, organization principles and problems, management, control facilities, administration, financial management, and development practices of business enterprises. This course will also emphasize the identification and practice of the appropriate use of technology to communicate and solve business problems and aid in decision making. Attention will be given to developing business communication, problem-solving, and decision-making skills using spreadsheets, word processing, data management, and presentation software.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Business Education 7-12 ● Distributive Education K-12	
Rules 46-47	● Business Education 9-12 ● Marketing Education 9-12 ● Distributive Education K-12 ● Business Education with Vocational Endorsement 9-12 ● Occupational Specialist I, II or III in related course approved for a CTE pathway	
Rules 2002	● Business with high school setting	

	● CTE: Marketing with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist I or II in related course approved for a CTEpathway
REPA/REPA 3	● Business 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● CTE: Marketing 5-12 ● Workplace Specialist: Advanced Business Management 9-12 ● Workplace Specialist I or II in related course approved for a CTE pathway
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	BUSN 101: Introduction to Business, OTEC 207: Integrated Microsoft Office Applications or OTEC 107: Introduction to Microsoft Office
VU Course Alignment	MGMT 100: Introduction to Business, COMP 110: Introduction to Computer Concepts
Four Yr. Course Alignment	BSU – ISOM 125: Introduction to Business Computer Applications ISU - BUS 100: Introduction to Contemporary Business, BUS 180: Business Information Tools IUB - BUS X-100: Introduction to Business IUN/S/K/N - BUS W-100: Introduction to Business IUSB - BUS B-190: Introduction to Business PFW - BUS 10001: Principles of Business Administration PNW - BUSM 10100: Introduction to Business USI - MNGT 201: Survey of Management
Postsecondary Credential	IUB/K/N/S/SB: B.S. Business (52.0101) ISU: B.S. in Insurance and Risk Management (52.1701) ITCC: CT Insurance, CT Business Administration, TC Business Administration (52.0201) PFW: B.S. Business (52.0101) VU: Management Training Certificate, CPC; A.S. Business Administration (52.0201), A.S. Business Management (52.0101)
Liberal Arts/Sciences Requirements	ITCC - ENGL 111: English Composition, IVYT 114: Student Success in Business, Humanities/ Social & Behavioral 3-4 hours
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 4562 Principles of Business Management here.

Insurance Fundamentals	
Career Cluster	Financial Services
Program of Study	Insurance
NLPS Sequence	B

Course Code	7149
Course Description	*Insurance Fundamentals presents an introduction to professions within the insurance industry. The course includes an overview of the insurance industry, types of coverage that exist, insurance processes and expected outcomes. Students will also gain an understanding of the selling process including the psychology of selling and will develop skills through a series of selling situations.*
Prerequisite(s)/ Corequisite(s)	Principles of Business Management
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
Counts Toward	
Dual Credit Status	X (PCL/CTE)
Additional Notes	
ADDITIONAL COURSE INFO	
Funding	High Value | Level I
Bulletin 400	● Business Education 7-12 ● Distributive Education K-12
Rules 46-47	● Business Education 9-12 ● Marketing Education 9-12 ● Distributive Education K-12 ● Business Education with Vocational Endorsement 9-12
Rules 2002	● Business with high school setting ● CTE: Marketing with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist: Business: Accounting & Finance
REPA/REPA 3	● Business 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● CTE: Marketing 5-12 ● Workplace Specialist: Accounting & Finance 9-12 ● CTE: Trade & Industrial: Accounting & Finance 5-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	BUSN 160: Introduction to Insurance, MKTG 102: Principles of Selling
VU Course Alignment	VU-EC: MGMT 255: Principles of Salesmanship ^
Four Yr. Course Alignment	
Postsecondary Credential	ITCC: CT Insurance, CT Business Administration, TC Business Administration (52.0201) VU/EC: Entrepreneurship Certificate 5404, CPC
Liberal Arts/Sciences Requirements	

Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7149 Insurance Fundamentals here.

Personal and Commercial Insurance		
Career Cluster	Financial Services	
Program of Study	Insurance	
NLPS Sequence	C	
Course Code	7151	
Course Description	*Personal and Commercial Insurance provides an understanding of the basic principles of personal and property and liability insurance. Students will analyze personal loss exposures and insurance including homeowners and other dwelling coverages, personal liability, inland marine, auto, life, health insurance, and financial planning. Students will also explore commercial coverages including general liability and workers compensation.*	
Prerequisite(s)/ Corequisite(s)	Principles of Business Management; Insurance Fundamentals	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Business Education 7-12 ● Distributive Education K-12	
Rules 46-47	● Business Education 9-12 ● Marketing Education 9-12 ● Distributive Education K-12 ● Business Education with Vocational Endorsement 9-12	
Rules 2002	● Business with high school setting ● CTE: Marketing with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist: Business: Accounting & Finance	
REPA/REPA 3	● Business 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● CTE: Marketing 5-12 ● Workplace Specialist: Accounting & Finance 9-12 ● CTE: Trade & Industrial: Accounting & Finance 5-12	

POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	BUSN 262: Personal Insurance, BUSN 264: Commercial Insurance
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	ITCC: CT Insurance, CT Business Administration, TC Business Administration (52.0201)
Liberal Arts/Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7151 Personal and Commercial Insurance here.

Small Business Operations Capstone		
Career Cluster	Financial Services; Marketing, Sales, & Entrepreneurship	
Program of Study	Entrepreneurship; Insurance; Marketing and Sales	
NLPS Sequence	D	
Course Code	7201	
Course Description	*The Small Business Operations Capstone is an applied course, and students will be implementing the correct legal, business, human resources, operations, marketing and financial structures after de- risking their idea and launching their business.*	
Prerequisite(s)/ Corequisite(s)	Any CTE Business Concentrator Sequence except Business Administration	
Credits	2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes	Recommended Capstone course for Entrepreneurship, Insurance, and Marketing Programs of Study	
ADDITIONAL COURSE INFO		
Funding	High Value	Level II
Bulletin 400	● Business Education 7-12 ● Distributive Education K-12	
Rules 46-47	● Business Education 9-12 ● Marketing Education 9-12 ● Distributive Education K-12 ● Business Education with Vocational Endorsement 9-12	

	● Occupational Specialist I, II or III in related course approved for a CTE pathway
Rules 2002	● Business with high school setting ● CTE: Marketing with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist I or II in related course approved for a CTE pathway
REPA/REPA 3	● Business 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● CTE: Marketing 5-12 ● Workplace Specialist: Advanced Business Management 9-12 ● Workplace Specialist I or II in related course approved for a CTE pathway
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	BUSN 105: Principles of Management, BUSN 201: Business Law, ACCT 101: Financial Accounting, ENTR 279: Entrepreneurship Capstone, MKTG 102: Principles of Selling
VU Course Alignment	MGMT 250: Introduction to Management
Four Yr. Course Alignment	BSU – ACC 201: Principles of Financial Accounting, MGT 250: Lessons in Leadership
Postsecondary Credential	BSU: B.A. / B.S. Business Administration (52.0101) ITCC: CT Insurance, CT Business Administration, TC Business Administration (52.0201) VU: Management Training Certificate, CPC; A.S. Business Administration (52.0201), A.S. Business Management (52.0101)
Liberal Arts/Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7201 Small Business Operations Capstone here.

Health & Human Services

Introduction to Health Science Careers		
Career Cluster	Health & Human Services	
Program of Study		
NLPS Sequence	Introductory Course	
Course Code	5272	
Course Description	*Introduction to Health Science Careers is an exploratory course designed to provide students with an opportunity to investigate all aspects of the health science industry. Students will receive an introduction to healthcare systems and examine a variety of pathways in health science, and reflect on their own knowledge, skills, and interests, to begin to narrow the areas within health science they want to continue exploring, in preparation for further study in a health science principles course.*	
Prerequisite(s)/ Corequisite(s)	None Recommended: Preparing for College and Careers	
Credits	1 or 2 semester course, 1 credit per semester, maximum of 2 credits	
Counts Toward	Counts as a directed elective or elective for all diplomas	
Dual Credit Status		
Additional Notes	When offered as applied: 2 units maximum; counts as an employability applied unit for alternate diploma This course qualifies for funding at the 8th grade level	
ADDITIONAL COURSE INFO		
Funding	Introductory	Available for 8th grade
Bulletin 400	● No License Available	
Rules 46-47	● Any Standard Health Occupations License 9-12 ● Any Occupational Specialist I, II or III in Health Occupation 9-12	
Rules 2002	● CTE: Health Occupations with high school setting ● Workplace Specialist: Health Careers ● Workplace Specialist: Dental Careers	
REPA/REPA 3	● CTE: Health Occupations 5-12 ● Workplace Specialist: Any Health Careers license 9-12 ● Workplace Specialist: Dental Careers 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment		
VU Course Alignment		

Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 5272 Introduction to Health Science Careers here.

Health & Human Services: Special Topics	
Career Cluster	Health & Human Services
Program of Study	
NLPS Sequence	
Course Code	5286
Course Description	*Health & Human Services: Special Topics is an extended laboratory experience designed to address the advancement and specialization of healthcare careers through the provision of a specialized course for a specific healthcare workforce in the school's region. Practicum is at a qualified clinical site, and is designed to give the student the opportunity to practice technical skills previously learned in the classroom while working under the direction of an appropriately licensed healthcare professional. Throughout the course students will focus on learning about the healthcare system and employment opportunities at a variety of entry levels, an overview of the healthcare delivery systems, healthcare teams, and legal and ethical considerations, and obtaining the knowledge, skills, and attitudes essential for providing basic care in a variety of healthcare settings. Additionally, students will build their essential job related skills for providing basic care appropriate for their healthcare setting and audience. Course standards and curriculum must be tailored to the specific healthcare profession, preparing students to advance in this career field, and where applicable, provide students with opportunities for certification or dual credit. This course also provides students with the knowledge, attitudes, and skills needed to make the transition from high school to postsecondary opportunities, and to work in a variety of health science careers. Students are encouraged to focus on self-analysis to aid in their career selection. Job seeking and job maintenance skills, personal management skills, and completion of the application process for admission into a postsecondary program are also areas of focus. Participation in HOSA encourages the development of leadership, communication and career related skills, and opportunities for community service.*
Prerequisite(s)/ Corequisite(s)	None
Credits	2 semester course, 2 semesters required, 1-3 credits per semester, maximum of 6 credits

Counts Toward	Counts as a directed elective or elective for all diplomas
Dual Credit Status	X
Additional Notes	Schools must have an approved Nonstandard Course Waiver on file to be eligible for CTE funding.
ADDITIONAL COURSE INFO	
Funding	Pilot
Bulletin 400	● No License Available
Rules 46-47	● Any Standard Health Occupations License 9-12 ● Any Occupational Specialist I, II or III in Health Occupation 9-12
Rules 2002	● CTE: Health Occupations with high school setting ● Workplace Specialist: Health Careers ● Workplace Specialist: Dental Careers
REPA/REPA 3	● CTE: Health Occupations 5-12 ● Workplace Specialist: Any Health Careers license 9-12 ● Workplace Specialist: Dental Careers 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	

Advanced Career & Technical Education, College Credit: Health and Human Services	
Career Cluster	Health & Human Services
Program of Study	
NLPS Sequence	
Course Code	6138
Course Description	*Advanced Career and Technical Education, College Credit is a course title covering any CTE advanced course offered for credit by an accredited postsecondary institution through an adjunct agreement with a secondary school. The intent of this course is to allow students to earn college credit for courses with*

	content that goes beyond that currently approved for high school credit. This course may be used for any dual enrollment course, including a joint program of study involving a postsecondary partnership.
Prerequisite(s)/ Corequisite(s)	None
Credits	1 semester course, up to 3 credits per semester, May be offered for successive semesters up to 12 credits
Counts Toward	
Dual Credit Status	X
Additional Notes	A student should earn at least 3 postsecondary credits for each high school credit. Schools must have an approved Nonstandard Course Waiver on file to be eligible for CTE funding.
ADDITIONAL COURSE INFO	
Funding	Pilot
Bulletin 400	● No License Available
Rules 46-47	● Any Standard Health Occupations License 9-12 ● Any Occupational Specialist I, II or III in Health Occupation 9-12
Rules 2002	● CTE: Health Occupations with high school setting ● Workplace Specialist: Health Careers ● Workplace Specialist: Dental Careers
REPA/REPA 3	● CTE: Health Occupations 5-12 ● Workplace Specialist: Any Health Careers license 9-12 ● Workplace Specialist: Dental Careers 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	

Health & Human Services Biomedical Sciences and Technology							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
5218	Principles of Biomedical Sciences	5216	Human Body Systems	5217	Medical Interventions	5219	Biomedical Innovations
		5276	Anatomy and Physiology			7255	Healthcare Specialist Capstone

Principles of Biomedical Sciences	
Career Cluster	Health & Human Services
Program of Study	Biomedical Sciences and Technology
NLPS Sequence	A
Course Code	5218
Course Description	*Principles of Biomedical Sciences provides an introduction to this field through "hands-on" projects and problems. Student work involves the study of human medicine, research processes, and an introduction to bioinformatics. Students investigate the human body systems and various health conditions including heart disease, diabetes, hypercholesterolemia, and infectious diseases. A theme through the course is determining factors that led to the death of a fictional person. After determining the factors responsible for the death, the students investigate lifestyle choices and medical treatments that might have prolonged the person's life. Key biological concepts included in the curriculum are: homeostasis, metabolism, inheritance of traits, feedback systems, and defense against disease. Engineering principles such as the design process, feedback loops, fluid dynamics, and the relationship of structure to function will be included where appropriate. The course is designed to provide an overview of all courses in the Biomedical Sciences program and to lay the scientific foundation necessary for student success in the subsequent courses.* ***Note:** This course aligns with the PLTW Principles of Biomedical Sciences curriculum. Use of the PLTW Curriculum may require additional training and membership in the PLTW network.*
Prerequisite(s)/ Corequisite(s)	Biology I or concurrent enrollment in Biology I is required
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
Counts Toward	Fulfills a science requirement for CORE 40 diplomas
Dual Credit Status	

Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● No License Available	
Rules 46-47	● Any Standard Health Occupations License9-12 ● Any Occupational Specialist I, II or III in Health Occupation: ● Biology 9-12	
Rules 2002	● CTE: Health Occupations with high school setting ● Workplace Specialist: Health Careers ● Life Science with high school setting	
REPA/REPA 3	● CTE: Health Occupations 5-12 ● Workplace Specialist: Any Health Science license 9-12 ● Life Science 5-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment		
VU Course Alignment		
Four Yr. Course Alignment		
Postsecondary Credential		
Liberal Arts/Sciences Requirements		
Industry Credential		
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 5218 Principles of Biomedical Sciences here.	

Human Body Systems	
Career Cluster	Health & Human Services
Program of Study	Biomedical Sciences and Technology
NLPS Sequence	B
Course Code	5216
Course Description	*Human Body Systems is a course designed to engage students in the study of basic human physiology and the care and maintenance required to support the complex systems. Using a focus on human health, students will employ a variety of monitors to examine body systems (respiratory, circulatory, and nervous) at rest and under stress, and observe the interactions between the various body*

	systems. Students will use appropriate software to design and build systems to monitor body functions. ***Note:*** *This course aligns with the PLTW Human Body Systems curriculum. Use of the PLTW Curriculum may require additional training and membership in the PLTW network.*
Prerequisite(s)/ Corequisite(s)	Principles of Biomedical Sciences
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
Counts Toward	Fulfills a science requirement for CORE 40 diplomas Counts as Additional Science credits for new diploma
Dual Credit Status	X
Additional Notes	
ADDITIONAL COURSE INFO	
Funding	High Value | Level I
Bulletin 400	● No License Available
Rules 46-47	● Any Standard Health Occupations License 9-12 ● Any Occupational Specialist I, II or III in Health Occupation: ● Biology 9-12
Rules 2002	● CTE: Health Occupations with high school setting ● Workplace Specialist: Health Careers ● Life Science with high school setting
REPA/REPA 3	● CTE: Health Occupations 5-12 ● Workplace Specialist: Any Health Science license 9-12 ● Life Science 5-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 5216 Human Body Systems here.

Anatomy and Physiology		
Career Cluster	Health & Human Services	
Program of Study	Biomedical Sciences and Technology	
NLPS Sequence	B	
Course Code	5276	
Course Description	*Anatomy & Physiology is a course in which students investigate concepts related to Health Science, with emphasis on interdependence of systems and contributions of each system to the maintenance of a healthy body. It introduces students to the cell, which is the basic structural and functional unit of all organisms, and covers tissues, integument, skeletal, muscular and nervous systems as an integrated unit. Through instruction, including laboratory activities, students apply concepts associated with Human Anatomy & Physiology. Students will understand the structure, organization and function of the various components of the healthy body in order to apply this knowledge in all health-related fields.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	1 to 2 semester courses, 1 credit per semester, 2 credits maximum	
Counts Toward	Counts as Additional Science credits for new diploma	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● No License Available	
Rules 46-47	● Any Standard Health Occupations License 9-12 ● Any Occupational Specialist I, II or III in Health Occupation 9-12	
Rules 2002	● CTE: Health Occupations with high school setting ● Workplace Specialist: Health Careers ● Workplace Specialist: Dental Careers	
REPA/REPA 3	● Life Sciences 5-12 ● CTE: Health Occupations 5-12 ● Workplace Specialist: Any Health Careers license 9-12 ● Workplace Specialist: Dental Careers 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	APHY 101: Anatomy and Physiology I; APHY 102: Anatomy and Physiology II	
VU Course Alignment	BIOL 111/L (Lab): Anatomy & Physiology I□, BIOL 112/L (Lab): Anatomy & Physiology II□	
Four Yr. Course Alignment	BSU - ANAT 201: Fundamentals of Human Anatomy, PHYS 205: Fundamentals of Human Physiology, PHYS 215: Human Physiology ISU - BIO 231/L Human Anatomy & Lab, BIO 241/L: Human Physiology & Lab IUN - PHSL-P130/BIOL-N213: Human Biology w/ Lab	

Postsecondary Credential	BSU: B.S. in Respiratory Therapy (51.0908) ISU: Nursing (51.3801) ITCC: TC Healthcare Specialist (51.0711) IUN: B.S. in Nursing (51.3801) VU: C.G. Health Care Professional: Pre-Nursing CNA Track (51.3801)
Liberal Arts/Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 5276 Anatomy and Physiology here.

Medical Interventions		
Career Cluster	Health & Human Services	
Program of Study	Biomedical Sciences and Technology	
NLPS Sequence	C	
Course Code	5217	
Course Description	*Medical Interventions is a course that studies medical practices, including interventions, to support humans in treating disease and maintaining health. Using a project-based learning approach, students will investigate various medical interventions that extend and improve quality of life, including gene therapy, pharmacology, surgery, prosthetics, rehabilitation, and supportive care. Students will also study the design and development of various interventions. Lessons will cover the history of organ transplants and gene therapy with additional readings from current scientific literature addressing cutting edge developments.* ***Note:** This course aligns with the PLTW Medical Interventions curriculum. Use of the PLTW Curriculum may require additional training and membership in the PLTW network.*	
Prerequisite(s)/ Corequisite(s)	Principles of Biomedical Sciences	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Fulfills a science requirement for CORE 40 diplomas Counts as STEM-focused credits for new diploma	
Dual Credit Status		
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● No License Available	
Rules 46-47	● Any Standard Health Occupations License 9-12	

	● Any Occupational Specialist I, II or III in Health Occupation: ● Biology 9-12
Rules 2002	● CTE: Health Occupations with high school setting ● Workplace Specialist: Health Careers ● Life Science with high school setting
REPA/REPA 3	● CTE: Health Occupations 5-12 ● Workplace Specialist: Any Health Science license 9-12 ● Life Science 5-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 5217 Medical Interventions here.

Biomedical Innovations	
Career Cluster	Health & Human Services
Program of Study	Biomedical Sciences and Technology
NLPS Sequence	D
Course Code	5219
Course Description	*Biomedical Innovations is a capstone course designed to give students the opportunity to design innovative solutions for the health challenges of the 21st century as they work through progressively challenging open-ended problems, addressing topics such as clinical medicine, physiology, biomedical engineering, and public health. Students have the opportunity to work on an independent project and may work with a mentor or advisor from a healthcare or postsecondary industry. Throughout the course, students are expected to present their work to an adult audience that may include representatives from the local business and healthcare community.* ***Note:*** *This course aligns with the PLTW Biomedical Innovations curriculum. Use of the PLTW Curriculum may require additional training and membership in the*

	PLTW network.	
Prerequisite(s)/ Corequisite(s)	Principles of Biomedical Sciences; Human Body Systems or Anatomy and Physiology; Medical Interventions	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Counts as STEM-focused credits for new diplomas Counts as Additional Science credits for new diploma	
Dual Credit Status	X	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level II
Bulletin 400	● No License Available	
Rules 46-47	● Any Standard Health Occupations License 9-12 ● Any Occupational Specialist I, II or III in Health Occupation: ● Biology 9-12	
Rules 2002	● CTE: Health Occupations with high school setting ● Workplace Specialist: Health Careers ● Life Science with high school setting	
REPA/REPA 3	● CTE: Health Occupations 5-12 ● Workplace Specialist: Any Health Science license 9-12 ● Life Science 5-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment		
VU Course Alignment		
Four Yr. Course Alignment		
Postsecondary Credential		
Liberal Arts/Sciences Requirements		
Industry Credential		
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 5219 Biomedical Innovations here.	

Healthcare Specialist Capstone		
Career Cluster	Health & Human Services	
Program of Study	Biomedical Sciences and Technology, Pre-Nursing/Healthcare Specialist, Emergency Medical Services, Medical Assistant	
NLPS Sequence	D	
Course Code	7255	
Course Description	*The Healthcare Specialist Capstone course will facilitate healthcare students' acquisition of additional knowledge and skills necessary to work in a variety of healthcare settings beyond a long term care facility including hospitals, doctors' offices, and clinics. Students can accomplish this goal by completing coursework that will cover topics such as Medical Law and Ethics, Electronic Health Records, and/or Behavioral Health. Schools may offer additional healthcare certifications such as the Certified Clinical Medical Assistant (CCMA) or Phlebotomy along with the coursework or in place of the coursework.*	
Prerequisite(s)/ Corequisite(s)	Principles of Healthcare; Healthcare Fundamentals; Healthcare Specialist: CNA, EMT or Certified Clinical Medical Assistant (CCMA)	
Credits	2 semester course, 2 semester required, 1-3 credits per semester, 6 credits max	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level II
Bulletin 400	● No License Available	
Rules 46-47	● Any Standard Health Occupations License 9-12 ● Any Occupational Specialist I, II or III in Health Occupation: First Responder 9-12	
Rules 2002	● CTE: Health Occupations with high school setting ● Workplace Specialist: Health Careers	
REPA/REPA 3	● CTE: Health Occupations 5-12 ● Workplace Specialist: Health Science – Emergency Medical Services 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	HLHS 105: Medical Law and Ethics; HLHS 122: Electronic Health Records; HLHS 125: Behavioral Health	
VU Course Alignment		
Four Yr. Course Alignment		
Postsecondary Credential	ITCC: TC Healthcare Specialist (51.0711)	
Liberal Arts/Sciences		

Requirements	
Industry Credential	Certified Medical Assistant (CMA)
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7255 Healthcare Specialist Capstone here.

Health & Human Services Central Service Technician							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
7168	Principles of Healthcare	5274	Healthcare Fundamentals	7163	Central Service Technician Fundamentals	7257	Central Service Technician Capstone

Principles of Healthcare		
Career Cluster	Health & Human Services	
Program of Study	Central Services Technician, Certified Clinical Medical Assistant, Emergency Medical Services, Pharmacy, Pre-Nursing/Healthcare Specialist: Certified Nursing Aide (CNA)	
NLPS Sequence	A	
Course Code	7168	
Course Description	*Principles of Healthcare content examines skills common to specific health career topics such as patient nursing care, dental care, animal care, medical laboratory, public health, and an introduction to healthcare systems. Lab experiences are organized and planned around the activities associated with the student's career objectives.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● No License Available	
Rules 46-47	● Any Standard Health Occupations License 9-12 ● Any Occupational Specialist I, II or III in Health Occupation 9-12	
Rules 2002	● CTE: Health Occupations with high school setting ● Workplace Specialist: Health Careers	
REPA/REPA 3	● CTE: Health Occupations 5-12 ● Workplace Specialist: Any Health Careers license 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	HLHS 100: The Healthcare Delivery System and Healthcare Policy, HLHS 104:	

	CPR- Basic Life Support
VU Course Alignment	HSGN 102: Introduction to Health Careers
Four Yr. Course Alignment	USI - KIN 192: Concepts in Wellness and Fitness IUB - SPH B150: Introduction to Public Health
Postsecondary Credential	ITCC: TC Healthcare Specialist (51.0711); CT Central Service Technician IUB: B.S. in Public Health USI: B.S. in Community and Public Health (51.0701) VU: Pre-Healthcare Professional Certificate, CPC; C.G. Health Care Professional - Pre-Nursing CNA Track (51.3801)
Liberal Arts/Sciences Requirements	
Industry Credential	Certified Registered Central Service Technician (CRCST)
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7168 Principles of Healthcare here.

Healthcare Fundamentals	
Career Cluster	Health & Human Services
Program of Study	Central Service Technician, Certified Clinical Medical Assistant, Emergency Medical Services, Pharmacy, Pre-Nursing/Healthcare Specialist: Certified Nursing Aide (CNA)
NLPS Sequence	B
Course Code	5274
Course Description	*Healthcare Fundamentals prepares students with language skills necessary for effective, independent use of health and medical reference materials. It includes the study of health and medical abbreviations, symbols, and Greek and Latin word part meanings, all taught within the context of body systems. This course builds skills in pronouncing, spelling, and defining new words encountered in verbal and written information in the healthcare industry. Additionally, the course introduces cells, tissues, and human anatomy highlighting essential physiological principles through a systemic approach. Students have the opportunity to acquire essential skills for accurate and logical communication, and interpretation of medical records.*
Prerequisite(s)/ Corequisite(s)	Principles of Healthcare or Principles of Pharmacy Tech
Credits	2 semester course, 2 semesters required, 1 credit per semester, maximum of 2 credits
Counts Toward	Counts as STEM-focused credits for new diplomas
Dual Credit Status	X (PCL/CTE)
Additional Notes	
ADDITIONAL COURSE INFO	

Funding	High Value	Level I
Bulletin 400	● No License Available	
Rules 46-47	● Any Standard Health Occupations License 9-12 ● Any Occupational Specialist I, II or III in Health Occupation 9-12	
Rules 2002	● CTE: Health Occupations with high school setting ● Workplace Specialist: Health Careers ● Workplace Specialist: Dental Careers	
REPA/REPA 3	● CTE: Health Occupations 5-12 ● Workplace Specialist: Any Health Careers license 9-12 ● Workplace Specialist: Dental Careers 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	HLHS 101: Medical Terminology, HLHS 102: Essential Anatomy and Physiology	
VU Course Alignment	HIMT 110: Medical Terminology for Allied Health□ VU-EC – BIOL 107/L (Lab): Essentials of Human Anatomy and Physiology□	
Four Yr. Course Alignment	BSU - NUR 101: Terminology for Health Care Professionals USI - HP 115: Medical Terminology for Health Professionals	
Postsecondary Credential	BSU: B.S. Respiratory Therapy (51.0908) ITCC: TC Healthcare Specialist (51.0711); CT Central Service Technician USI: B.S. in Nursing (51.3801) VU/EC: Pre-Healthcare Professional Certificate, CPC; A.S. in Nursing (51.3801) VU: Pre-Healthcare Professional Certificate, CPC; C.G. Health Care Professional - Pre-Nursing CNA Track (51.3801)	
Liberal Arts/Sciences Requirements		
Industry Credential	Certified Registered Central Service Technician (CRCST)	
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 5274 Healthcare Fundamentals here.	

Central Service Technician Fundamentals	
Career Cluster	Health & Human Services
Program of Study	Central Service Technician
NLPS Sequence	C
Course Code	7163
Course Description	*The Central Service Technician Fundamentals course introduces students to the field of central service and prepares students to identify surgical instruments by category, type, and use. Students will learn the principles and importance of the flow of material along with the environmental control factors affecting the central service department. The students will differentiate between equipment*

	management systems and compare out-sourcing and insourcing.
Prerequisite(s)/ Corequisite(s)	Principles of Healthcare
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
Counts Toward	Counts as STEM-focused credits for new diplomas
Dual Credit Status	X (PCL/CTE)
Additional Notes	
ADDITIONAL COURSE INFO	
Funding	Less than Moderate Value | Level I
Bulletin 400	● No License Available
Rules 46-47	● Any Standard Health Occupations License 9-12 ● Any Occupational Specialist I, II or III in Health Occupation with exception of Nurse's Aide & Licensed Practical Nurse 9-12
Rules 2002	● CTE: Health Occupations with high school setting ● Workplace Specialist: Health Careers
REPA/REPA 3	● CTE: Health Occupations 5-12 ● Workplace Specialist: Health Science – Nursing 9-12 ● Workplace Specialist: Central Service Technician (Medical) 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	CSTC 102: Surgical Instrumentation, CSTC 105: Fundamentals of Central Service Technician Skills
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	ITCC: TC Healthcare Specialist (51.0711); CT Central Service Technician VU: Pre-Healthcare Professional Certificate, CPC; C.G. Health Care Professional - Pre-Nursing CNA Track (51.3801)
Liberal Arts/Sciences Requirements	ITCC - ENGL 111: English Composition, IVYT 112: Student Success in Healthcare
Industry Credential	Certified Registered Central Service Technician (CRCST)
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7163 Central Service Technician Fundamentals here.

Central Service Technician Capstone	
Career Cluster	Health & Human Services
Program of Study	Central Service Technician

NLPS Sequence	D	
Course Code	7257	
Course Description	*The Central Services Technician Capstone course emphasizes the practice of sterilization skills that have been learned in previous courses. Students will focus on high and low sterilization methods. Students will differentiate between the various sterilization methods. Students will learn the protocol for controlling infection and the spread of blood borne pathogens. Additionally, this course will provide students the opportunity to complete practical hours toward the hours required for the completion of the International Association of Healthcare Central Services Material Management Certification Exam.*	
Prerequisite(s)/ Corequisite(s)	Principles of Healthcare; Healthcare Fundamentals; Central Service Technician Fundamentals	
Credits	2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Less than Moderate Value	Level II
Bulletin 400	● No License Available	
Rules 46-47	● Any Standard Health Occupations License 9-12 ● Any Occupational Specialist I, II or III in Health Occupation with exception of Nurse's Aide & Licensed Practical Nurse 9-12	
Rules 2002	● CTE: Health Occupations with high school setting ● Workplace Specialist: Health Careers	
REPA/REPA 3	● CTE: Health Occupations 5-12 ● Workplace Specialist: Health Science – Nursing 9-12 ● Workplace Specialist: Central Service Technician (Medical) 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	CSTC 107: Applications of Central Service Technician Skills; CSTC 108: Clinical Experiential Seminar; HLHS 105: Medical Law and Ethics	
VU Course Alignment		
Four Yr. Course Alignment		
Postsecondary Credential	ITCC: TC Healthcare Specialist (51.0711); CT Central Service Technician VU: Pre-Healthcare Professional Certificate, CPC; C.G. Health Care Professional - Pre-Nursing CNA Track (51.3801)	
Liberal Arts/Sciences Requirements	ITCC - ENGL 111: English Composition, IVYT 112: Student Success in Healthcare	
Industry Credential	Certified Registered Central Service Technician (CRCST)	

CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7257 Central Service Technician Capstone here.

Health & Human Services Certified Clinical Medical Assistant							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
7168	Principles of Healthcare	5274	Healthcare Fundamentals	7164	Certified Clinical Medical Assistant (CCMA)	7255	Healthcare Specialist Capstone

Principles of Healthcare		
Career Cluster	Health & Human Services	
Program of Study	Central Service Technician, Certified Clinical Medical Assistant, Emergency Medical Services, Pharmacy, Pre-Nursing/Healthcare Specialist: Certified Nursing Aide (CNA)	
NLPS Sequence	A	
Course Code	7168	
Course Description	*Principles of Healthcare content examines skills common to specific health career topics such as patient nursing care, dental care, animal care, medical laboratory, public health, and an introduction to healthcare systems. Lab experiences are organized and planned around the activities associated with the student's career objectives.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● No License Available	
Rules 46-47	● Any Standard Health Occupations License 9-12 ● Any Occupational Specialist I, II or III in Health Occupation 9-12	
Rules 2002	● CTE: Health Occupations with high school setting ● Workplace Specialist: Health Careers	
REPA/REPA 3	● CTE: Health Occupations 5-12 ● Workplace Specialist: Any Health Careers license 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		

ITCC Course Alignment	HLHS 100: Intro to Healthcare, HLHS 104: CPR- Basic Life Support
VU Course Alignment	HSGN 102: Introduction to Health Careers
Four Yr. Course Alignment	USI - HP 211: The Healthcare Delivery System and Healthcare Policy, KIN 192: Concepts in Wellness and Fitness IUB - SPH B150: Introduction to Public Health
Postsecondary Credential	ITCC: TC Healthcare Specialist: Clinical Support (51.0711); CT CCMA Development Prep IUB: B.S. in Public Health USI: B.S. in Community and Public Health (51.0701) VU: CPC Pre-Healthcare Professional Certificate; C.G. Health Care Professional: Pre-Nursing CNA Track (51.3801)
Liberal Arts/Sciences Requirements	
Industry Credential	Certified Clinical Medical Assistant (CCMA); Certified Medical Assistant (CMA);
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7168 Principles of Healthcare here.

Healthcare Fundamentals	
Career Cluster	Health & Human Services
Program of Study	Central Service Technician, Certified Clinical Medical Assistant, Emergency Medical Services, Pharmacy, Pre-Nursing/Healthcare Specialist: Certified Nursing Aide (CNA)
NLPS Sequence	B
Course Code	5274
Course Description	*Healthcare Fundamentals prepares students with language skills necessary for effective, independent use of health and medical reference materials. It includes the study of health and medical abbreviations, symbols, and Greek and Latin word part meanings, all taught within the context of body systems. This course builds skills in pronouncing, spelling, and defining new words encountered in verbal and written information in the healthcare industry. Additionally, the course introduces cells, tissues, and human anatomy highlighting essential physiological principles through a systemic approach. Students have the opportunity to acquire essential skills for accurate and logical communication, and interpretation of medical records.*
Prerequisite(s)/ Corequisite(s)	Principles of Healthcare or Principles of Pharmacy Tech
Credits	2 semester course, 2 semesters required, 1 credit per semester, maximum of 2 credits
Counts Toward	Counts as STEM-focused credits for new diplomas
Dual Credit Status	X (PCL/CTE)

Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● No License Available	
Rules 46-47	● Any Standard Health Occupations License 9-12 ● Any Occupational Specialist I, II or III in Health Occupation 9-12	
Rules 2002	● CTE: Health Occupations with high school setting ● Workplace Specialist: Health Careers ● Workplace Specialist: Dental Careers	
REPA/REPA 3	● CTE: Health Occupations 5-12 ● Workplace Specialist: Any Health Careers license 9-12 ● Workplace Specialist: Dental Careers 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	HLHS 101: Medical Terminology, HLHS 102: Essential Anatomy and Physiology	
VU Course Alignment	HIMT 110: Medical Terminology for Allied Health□ VU-EC – BIOL 107/L (Lab): Essentials of Human Anatomy and Physiology□	
Four Yr. Course Alignment	BSU - NUR 101: Terminology for Health Care Professionals USI - HP 115: Medical Terminology for Health Professionals	
Postsecondary Credential	BSU: B.S. in Respiratory Therapy ITCC: TC Healthcare Specialist: Clinical Support (51.0711); CT CCMA Development Prep USI: B.S. in Nursing (51.3801) VU: CPC Pre-Healthcare Professional Certificate; C.G. Health Care Professional: Pre-Nursing CNA Track (51.3801)	
Liberal Arts/Sciences Requirements		
Industry Credential	Clinical Certified Medical Assistant (CCMA); Certified Medical Assistant (CMA)	
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 5274 Healthcare Fundamentals here.	

Certified Clinical Medical Assistant (CCMA)	
Career Cluster	Health & Human Services
Program of Study	Certified Clinical Medical Assistant
NLPS Sequence	C
Course Code	7164
Course Description	*The Certified Clinical Medical Assistant (CCMA) course will prepare students for the National Healthcare Association CCMA exam. Instruction includes taking and*

	recording vital signs, preparing patients for examination, patient education, and assisting the physician during the exam. The collecting and preparation of laboratory specimens and basic laboratory testing will be covered. The course prepares students for the administration of medication, venipuncture, ECG, and wound care and provides a basic understanding of the clinical and administrative duties and responsibilities pertinent to medical offices. Instruction in medical correspondence and records, case histories of patients, filing, telephone procedures, appointment scheduling, receptionist duties, and processing mail is also included. Written, verbal, and nonverbal communications according to patient needs are covered as well as documentation and associated legal and ethical boundaries.
Prerequisite(s)/ Corequisite(s)	Principles of Healthcare; Healthcare Fundamentals
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
Counts Toward	Counts as STEM-focused credits for new diplomas
Dual Credit Status	X (PCL/CTE)
Additional Notes	Schools are strongly encouraged to offer the CCMA course along with Principles of Healthcare and Healthcare Fundamentals as part of a 3 period block of time.
ADDITIONAL COURSE INFO	
Funding	High Value | Level I
Bulletin 400	● No License Available
Rules 46-47	● Any Standard Health Occupations License 9-12 ● Any Occupational Specialist I, II or III in Health Occupation with exception of Nurse's Aide & Licensed Practical Nurse 9-12
Rules 2002	● CTE: Health Occupations with high school setting ● Workplace Specialist: Health Careers
REPA/REPA 3	● CTE: Health Occupations 5-12 ● Workplace Specialist: Health Science – Nursing 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	MEAS 225: CCMA Workforce Development Prep
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	ITCC: TC Healthcare Specialist: Clinical Support (51.0711); CT CCMA Development Prep VU: CPC Pre-Healthcare Professional Certificate; C.G. Health Care Professional: Pre-Nursing CNA Track (51.3801)
Liberal Arts/Sciences Requirements	
Industry Credential	Certified Clinical Medical Assistant (CCMA); Certified Medical Assistant (CMA)

CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7164 Certified Clinical Medical Assistant (CCMA) here.

Healthcare Specialist Capstone		
Career Cluster	Health & Human Services	
Program of Study	Certified Clinical Medical Assistant, Pre-Nursing/Healthcare Specialist: Certified Nursing Aide (CNA), Emergency Medical Services	
NLPS Sequence	D	
Course Code	7255	
Course Description	*The Healthcare Specialist Capstone course will facilitate healthcare students' acquisition of additional knowledge and skills necessary to work in a variety of healthcare settings beyond a long-term care facility including hospitals, doctors' offices, and clinics. Students can accomplish this goal by completing coursework that will cover topics such as Medical Law and Ethics, Electronic Health Records, and/or Behavioral Health. Schools may offer additional healthcare certifications such as the Certified Clinical Medical Assistant (CCMA) or Phlebotomy along with the coursework or in place of the coursework.*	
Prerequisite(s)/ Corequisite(s)	Principles of Healthcare; Healthcare Fundamentals; Healthcare Specialist: CNA, EMT or Certified Clinical Medical Assistant (CCMA)	
Credits	2 semester course, 2 semester required, 1-3 credits per semester, 6 credits max	
Counts Toward	Counts as a directed elective or elective for all diplomas	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level II
Bulletin 400	● No License Available	
Rules 46-47	● Any Standard Health Occupations License 9-12 ● Any Occupational Specialist I, II or III in Health Occupation: First Responder 9-12	
Rules 2002	● CTE: Health Occupations with high school setting ● Workplace Specialist: Health Careers	
REPA/REPA 3	● CTE: Health Occupations 5-12 ● Workplace Specialist: Health Science – Emergency Medical Services 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	HLHS 105: Medical Law and Ethics, HLHS 122: Electronic Health Records, HLHS 125: Behavioral Health	
VU Course Alignment		

Four Yr. Course Alignment	
Postsecondary Credential	ITCC - TC Healthcare Specialist: Clinical Support (51.0711); CT CCMA Development Prep VU - CPC Pre-Healthcare Professional Certificate; C.G. Health Care Professional: Pre-Nursing CNA Track (51.3801)
Liberal Arts/Sciences Requirements	
Industry Credential	Certified Clinical Medical Assistant (CCMA); Certified Medical Assistant (CMA)
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7255 Healthcare Specialist Capstone here.

Health & Human Services Cosmetology and Barbering							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
7330	Principles of Barbering and Cosmetology	7331	Barbering and Cosmetology Fundamentals	7332	Advanced Cosmetology	7334	Barbering and Cosmetology Capstone
				7333	Advanced Barbering		

Principles of Barbering and Cosmetology		
Career Cluster	Health and Human Services	
Program of Study	Cosmetology and Barbering	
NLPS Sequence	A	
Course Code	7330	
Course Description	*Principles of Barbering and Cosmetology offers an introduction to cosmetology with emphasis on basic practical skills and theories including roller control, quick styling, shampooing, hair coloring, permanent waving, facials, manicuring, business and personal ethics, bacteriology, and sanitation. Successful completion of the course requires at least 375 Cosmetology studio hours.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X	
Additional Notes	Principles and Fundamentals should be concurrently enrolled if offering for Dual Credits. This course may require extended hours of participation in order to meet the 1500 hours required for the Cosmetology and Barbering exams.	
ADDITIONAL COURSE INFO		
Funding	Less than Moderate Value	Level I
Bulletin 400	● Standard Trade & Industrial: Cosmetology K-12	
Rules 46-47	● Standard Trade & Industrial: Cosmetology 9- 12 ● Occupational Specialist I, II or III: Cosmetology 9-12	
Rules 2002	● CTE: Trade & Industrial: Cosmetology ● Workplace Specialist: Cosmetology	
REPA/REPA 3	● CTE: Trade & Industrial Cosmetology 5- 12 ● Workplace Specialist: Cosmetology 9-12	

POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/Sciences Requirements	
Industry Credential	Indiana State Board of Cosmetology and Barber Examiners - 1500 Barbering Indiana State Board of Cosmetology and Barber Examiners - 1500 Cosmetology
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7330 Principles of Barbering and Cosmetology here.

Barbering and Cosmetology Fundamentals		
Career Cluster	Health and Human Services	
Program of Study	Cosmetology and Barbering	
NLPS Sequence	B	
Course Code	7331	
Course Description	*Barbering and Cosmetology Fundamentals focuses on the development of practical skills introduced in Principles of Barbering and Cosmetology. Clinical application and theory in the science of barbering and cosmetology are introduced. Successful completion of the course requires at least 375 Cosmetology studio hours.*	
Prerequisite(s)/ Corequisite(s)	Principles of Barbering and Cosmetology	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes	Principles and Fundamentals should be concurrently enrolled. This course may require extended hours of participation in order to meet the 1500 hours required for the Cosmetology and Barbering exams.	
ADDITIONAL COURSE INFO		
Funding	Less than Moderate Value	Level I
Bulletin 400	● Standard Trade & Industrial: Cosmetology K-12	
Rules 46-47	● Standard Trade & Industrial: Cosmetology 9- 12	

	● Occupational Specialist I, II or III: Cosmetology 9-12
Rules 2002	● CTE: Trade & Industrial: Cosmetology ● Workplace Specialist: Cosmetology
REPA/REPA 3	● CTE: Trade & Industrial Cosmetology 5- 12 ● Workplace Specialist: Cosmetology 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	COSM 100: Cosmetology I
Four Yr. Course Alignment	
Postsecondary Credential	VU: A.S. in Cosmetology Management (12.0401)
Liberal Arts/Sciences Requirements	
Industry Credential	Indiana State Board of Cosmetology and Barber Examiners - 1500 Barbering Indiana State Board of Cosmetology and Barber Examiners - 1500 Cosmetology
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7331 Barbering and Cosmetology Fundamentals here.

Advanced Cosmetology	
Career Cluster	Health and Human Services
Program of Study	Cosmetology and Barbering
NLPS Sequence	C
Course Code	7332
Course Description	*Advanced Cosmetology will emphasize the development of advanced skills in styling, hair coloring, permanent waving, facials, manicuring, chemical texturizing, and hair cutting techniques. Students will also further study anatomy and physiology as it applies to hair care professions. Successful completion of the course requires at least 375 studio hours.*
Prerequisite(s)/ Corequisite(s)	Principles of Barbering and Cosmetology; Barbering and Cosmetology Fundamentals
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
Counts Toward	
Dual Credit Status	X (PCL/CTE)
Additional Notes	This course should be co-enrolled with TSD. This course may require extended hours of participation in order to meet the 1500 hours required for the

	Cosmetology and Barbering exams.	
ADDITIONAL COURSE INFO		
Funding	Less than Moderate Value	Level I
Bulletin 400	● Standard Trade & Industrial: Cosmetology K-12	
Rules 46-47	● Standard Trade & Industrial: Cosmetology 9-12 ● Occupational Specialist I, II or III: Cosmetology 9-12	
Rules 2002	● CTE: Trade & Industrial: Cosmetology ● Workplace Specialist: Cosmetology	
REPA/REPA 3	● CTE: Trade & Industrial Cosmetology 5-12 ● Workplace Specialist: Cosmetology 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment		
VU Course Alignment	COSM 150: Cosmetology II	
Four Yr. Course Alignment		
Postsecondary Credential	VU: A.S. in Cosmetology Management (12.0401)	
Liberal Arts/Sciences Requirements		
Industry Credential	Indiana State Board of Cosmetology and Barber Examiners - 1500 Cosmetology	
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 7332 Advanced Cosmetology here.	

Advanced Barbering	
Career Cluster	Health and Human Services
Program of Study	Cosmetology and Barbering
NLPS Sequence	C
Course Code	7333
Course Description	*Advanced Barbering is a course with a particular focus on barbering styles and techniques. The emphasis will be toward the development of advanced skills in styling, hair coloring, permanent waving, facials and facial hair care. Students will also study anatomy and physiology as it applies to cosmetology. Upon completion of the course requirements, the students will be able to Perform basic manipulative skills including haircutting, hairstyling, perming, shaving, treatment of the skin and scalp, salon management, license laws, sanitation and retain knowledge relating to the history of barbering. Successful completion of the course requires at least 375 Cosmetology studio hours.*

Prerequisite(s)/ Corequisite(s)	Principles of Barbering and Cosmetology; Barbering and Cosmetology Fundamentals	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes	This course should be co-enrolled with TSD. This course may require extended hours of participation in order to meet the 1500 hours required for the Cosmetology and Barbering exams.	
ADDITIONAL COURSE INFO		
Funding	Less than Moderate Value	Level I
Bulletin 400	● Standard Trade & Industrial: Cosmetology K-12	
Rules 46-47	● Standard Trade & Industrial: Cosmetology 9-12 ● Occupational Specialist I, II or III: Cosmetology 9-12	
Rules 2002	● CTE: Trade & Industrial: Cosmetology ● Workplace Specialist: Cosmetology	
REPA/REPA 3	● CTE: Trade & Industrial Cosmetology 5-12 ● Workplace Specialist: Cosmetology 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment		
VU Course Alignment	COSM 150: Cosmetology II	
Four Yr. Course Alignment		
Postsecondary Credential	VU: Professional Barbering License (12.0401)	
Liberal Arts/Sciences Requirements		
Industry Credential	Indiana State Board of Cosmetology and Barber Examiners - 1500 Barbering	
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 7333 Advanced Barbering here.	

Barbering and Cosmetology Capstone	
Career Cluster	Health and Human Services
Program of Study	Cosmetology and Barbering
NLPS Sequence	D
Course Code	7334
Course Description	*Barbering and Cosmetology Capstone builds and improves previously developed*

	skills with emphasis on developing individual techniques. Professionalism, shop management, psychology in relation to barbering and cosmetology, and preparation for state board examinations are stressed. Successful completion of the course requires at least 375 studio hours.
Prerequisite(s)/ Corequisite(s)	Principles of Barbering and Cosmetology; Barbering and Cosmetology Fundamentals; Advanced Cosmetology or Advanced Barbering
Credits	2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum
Counts Toward	
Dual Credit Status	X (PCL/CTE)
Additional Notes	This course may require extended hours of participation in order to meet the 1500 hours required for the Cosmetology and Barbering exams.
ADDITIONAL COURSE INFO	
Funding	Less than Moderate Value | Level II
Bulletin 400	● Standard Trade & Industrial: Cosmetology K-12
Rules 46-47	● Standard Trade & Industrial: Cosmetology 9-12 ● Occupational Specialist I, II or III: Cosmetology 9-12
Rules 2002	● CTE: Trade & Industrial: Cosmetology ● Workplace Specialist: Cosmetology
REPA/REPA 3	● CTE: Trade & Industrial Cosmetology 5-12 ● Workplace Specialist: Cosmetology 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	COSM 200: Cosmetology III□; COSM 250: Cosmetology IV□
Four Yr. Course Alignment	
Postsecondary Credential	VU: A.S. in Cosmetology Management (12.0401)
Liberal Arts/Sciences Requirements	
Industry Credential	Indiana State Board of Cosmetology and Barber Examiners – 1500 Cosmetology Indiana State Board of Cosmetology and Barber Examiners – 1500 Barbering
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7334 Barbering and Cosmetology Capstone here.

Health & Human Services Dental Careers							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
7315	Principles of Dental Careers	7316	Dental Careers Fundamentals	7317	Advanced Dental Careers	7318	Dental Careers Capstone

Principles of Dental Careers		
Career Cluster	Health & Human Services	
Program of Study	Dental Careers	
NLPS Sequence	A	
Course Code	7315	
Course Description	*Principles of Dental Careers will provide the foundational knowledge and skills necessary to pursue a career in the dental field. A focus will be placed on the role of the modern dental assistant and will cover key pre-clinical procedures and beginning dental terminology.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level I
Bulletin 400	● No License Available	
Rules 46-47	● Any Standard Health Occupations License 9-12 ● Any Occupational Specialist I, II or III in Health Occupation 9-12	
Rules 2002	● CTE: Health Occupations with high school setting ● Workplace Specialist: Dental Assisting	
REPA/REPA 3	● CTE: Health Occupations 5-12 ● Workplace Specialist: Dental 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	DENT 171: Dental Terminology	
VU Course Alignment		

Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/Sciences Requirements	
Industry Credential	DANB Chairside Radiation Health and Safety (RHS)
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7315 Principles of Dental Careers here.

Dental Careers Fundamentals		
Career Cluster	Health & Human Services	
Program of Study	Dental Careers	
NLPS Sequence	B	
Course Code	7316	
Course Description	*Dental Careers Fundamentals will build upon the knowledge and skills in the principles course. Students will understand and practice beginning chairside functions of the dental assistant along with a focus on the anatomy and physiology of the head, neck, and oral cavity. Students will also study tooth anatomy, physiology, and morphology. This part of the program will prepare students for the Anatomy, Morphology, and Physiology exam of the NELDA certification.*	
Prerequisite(s)/ Corequisite(s)	Principles of Dental Careers	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Counts as STEM-focused credits for new diplomas	
Dual Credit Status	X	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level I
Bulletin 400	● No License Available	
Rules 46-47	● Any Standard Health Occupations License 9-12 ● Any Occupational Specialist I, II or III in Health Occupation 9-12	
Rules 2002	● CTE: Health Occupations with high school setting ● Workplace Specialist: Dental Assisting	
REPA/REPA 3	● CTE: Health Occupations 5-12 ● Workplace Specialist: Dental 9-12	

POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	HLHS 101 - Medical Terminology*; DENT 171: Dental Terminology
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/Sciences Requirements	
Industry Credential	DANB Chairside Radiation Health and Safety (RHS)
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7316 Dental Careers Fundamentals here.

Advanced Dental Careers		
Career Cluster	Health & Human Services	
Program of Study	Dental Careers	
NLPS Sequence	C	
Course Code	7317	
Course Description	*Advanced Dental Careers will build upon the knowledge and skills developed in the first two courses. Students will study more advanced chairside assisting functions along with advanced infection control techniques. Additionally, students will explore preventive dentistry practices and dental emergencies. This course will prepare students for the ICE exam of the NELDA certification.*	
Prerequisite(s)/ Corequisite(s)	Principles of Dental Careers; Dental Careers Fundamentals	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Counts as STEM-focused credits for new diplomas	
Dual Credit Status	X	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level I
Bulletin 400	● No License Available	
Rules 46-47	● Any Standard Health Occupations License 9-12 ● Any Occupational Specialist I, II or III in Health Occupation 9-12	
Rules 2002	● CTE: Health Occupations with high school setting	

	● Workplace Specialist: Dental Assisting
REPA/REPA 3	● CTE: Health Occupations 5-12 ● Workplace Specialist: Dental 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/Sciences Requirements	
Industry Credential	DANB Chairside Radiation Health and Safety (RHS)
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7317 Advanced Dental Careers here.

Dental Careers Capstone		
Career Cluster	Health & Human Services	
Program of Study	Dental Careers	
NLPS Sequence	D	
Course Code	7318	
Course Description	*Dental Careers Capstone will provide the opportunity for increased skill development in clinical support through work-based learning experiences. Students will also prepare for Radiation, Health, and Safety which is the third and final part of the NELDA certification. The capstone course may also provide the opportunity to review and prepare for the entire NELDA certification.*	
Prerequisite(s)/ Corequisite(s)	Principles of Dental Careers; Dental Careers Fundamentals; Advanced Dental Careers	
Credits	2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum	
Counts Toward		
Dual Credit Status	X	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level II
Bulletin 400	● No License Available	

Rules 46-47	● Any Standard Health Occupations License 9-12 ● Any Occupational Specialist I, II or III in Health Occupation 9-12
Rules 2002	● CTE: Health Occupations with high school setting ● Workplace Specialist: Dental Assisting
REPA/REPA 3	● CTE: Health Occupations 5-12 ● Workplace Specialist: Dental 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/Sciences Requirements	
Industry Credential	DANB Chairside Radiation Health and Safety (RHS)
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7318 Dental Careers Capstone here.

Health & Human Services Emergency Medical Services							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
7168	Principles of Healthcare	5274	Healthcare Fundamentals	7165	Emergency Medical Tech	7255	Healthcare Specialist Capstone

Principles of Healthcare		
Career Cluster	Health & Human Services	
Program of Study	Central Service Technician, Certified Clinical Medical Assistant, Emergency Medical Services, Pharmacy, Pre-Nursing/Healthcare Specialist: Certified Nursing Aide (CNA)	
NLPS Sequence	A	
Course Code	7168	
Course Description	*Principles of Healthcare content examines skills common to specific health career topics such as patient nursing care, dental care, animal care, medical laboratory, public health, and an introduction to healthcare systems. Lab experiences are organized and planned around the activities associated with the student's career objectives.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● No License Available	
Rules 46-47	● Any Standard Health Occupations License 9-12 ● Any Occupational Specialist I, II or III in Health Occupation 9-12	
Rules 2002	●CTE: Health Occupations with high school setting ● Workplace Specialist: Health Careers	
REPA/REPA 3	● CTE: Health Occupations 5-12 ● Workplace Specialist: Any Health Careers license 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	HLHS 100: Intro to Healthcare, HLHS 104: CPR- Basic Life Support	

VU Course Alignment	HSGN 102: Introduction to Health Careers
Four Yr. Course Alignment	USI - HP 211: The Healthcare Delivery System and Healthcare Policy, KIN 192: Concepts in Wellness and Fitness IUB - SPH B150: Introduction to Public Health
Postsecondary Credential	ITCC - TC Healthcare Specialist (51.0711); CT Emergency Medical Technician (51.081) VU - C.G. Health Care Professional - Pre-Nursing CNA Track (51.3801); CPC Pre-Health Care Professional (51.0899) USI - B.S. in Community and Public Health (51.0701) IUB - B.S. in Public Health
Liberal Arts/Sciences Requirements	
Industry Credential	Certified Medical Assistant (CMA); Emergency Medical Responder; Emergency Medical Technician - Basic (EMT)
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7168 Principles of Healthcare here.

Healthcare Fundamentals	
Career Cluster	Health & Human Services
Program of Study	Central Service Technician, Certified Clinical Medical Assistant, Emergency Medical Services, Pharmacy, Pre-Nursing/Healthcare Specialist: Certified Nursing Aide (CNA)
NLPS Sequence	B
Course Code	5274
Course Description	*Healthcare Fundamentals prepares students with language skills necessary for effective, independent use of health and medical reference materials. It includes the study of health and medical abbreviations, symbols, and Greek and Latin word part meanings, all taught within the context of body systems. This course builds skills in pronouncing, spelling, and defining new words encountered in verbal and written information in the healthcare industry. Additionally, the course introduces cells, tissues, and human anatomy highlighting essential physiological principles through a systemic approach. Students have the opportunity to acquire essential skills for accurate and logical communication, and interpretation of medical records.*
Prerequisite(s)/ Corequisite(s)	Principles of Healthcare or Principles of Pharmacy Tech
Credits	2 semester course, 2 semesters required, 1 credit per semester, maximum of 2 credits
Counts Toward	Counts as STEM-focused credits for new diplomas
Dual Credit Status	X (PCL/CTE)
Additional Notes	

ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● No License Available	
Rules 46-47	● Any Standard Health Occupations License 9-12 ● Any Occupational Specialist I, II or III in Health Occupation 9-12	
Rules 2002	● CTE: Health Occupations with high school setting ● Workplace Specialist: Health Careers ● Workplace Specialist: Dental Careers	
REPA/REPA 3	● CTE: Health Occupations 5-12 ● Workplace Specialist: Any Health Careers license 9-12 ● Workplace Specialist: Dental Careers 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	HLHS 101: Medical Terminology, HLHS 102: Essential Anatomy and Physiology	
VU Course Alignment	HIMT 110: Medical Terminology for Allied Health VU-EC – BIOL 107/L (Lab): Essentials of Human Anatomy and Physiology	
Four Yr. Course Alignment	BSU - NUR 101: Terminology for Health Care Professionals	
Postsecondary Credential	ITCC - TC Healthcare Specialist (51.0711); CT Emergency Medical Technician (51.081) VU - C.G. Health Care Professional - Pre-Nursing CNA Track (51.3801); CPC Pre-Health Care Professional (51.0899) BSU - B.S. in Respiratory Therapy (51.0908)	
Liberal Arts/Sciences Requirements		
Industry Credential	Certified Medical Assistant (CMA); Emergency Medical Responder; Emergency Medical Technician - Basic (EMT)	
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 5274 Healthcare Fundamentals here.	

Emergency Medical Tech	
Career Cluster	Health & Human Services
Program of Study	Emergency Medical Services
NLPS Sequence	C
Course Code	7165
Course Description	*The Emergency Medical Technician (EMT) course is based on the training program developed by the Department of Transportation and the Emergency Medical Services Commission of Indiana. It covers theories, techniques, and operational aspects of pre-hospital emergency care within the scope and*

	responsibility of the emergency medical technician (EMT). It requires laboratory practice and clinical observation in a hospital emergency room and ambulance. Successful completion of the course meets national requirements to test for certification as an NREMT.
Prerequisite(s)/ Corequisite(s)	Principles of Healthcare; Healthcare Fundamentals
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
Counts Toward	Counts as STEM-focused credits for new diplomas
Dual Credit Status	X (PCL/CTE)
Additional Notes	Schools are strongly encouraged to offer the EMT course along with Principles of Healthcare and Healthcare Fundamentals as part of a 3 period block of time.
ADDITIONAL COURSE INFO	
Funding	Moderate Value | Level I
Bulletin 400	● No License Available
Rules 46-47	● Any Standard Health Occupations License 9-12 ● Any Occupational Specialist I, II or III in Health Occupation: First Responder 9-12
Rules 2002	● CTE: Health Occupations with high school setting ● Workplace Specialist: Health Careers
REPA/REPA 3	● CTE: Health Occupations 5-12 ● Workplace Specialist: Health Science – Emergency Medical Services 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	PARM 102: Emergency Medical Tech
VU Course Alignment	EMTB 212: Emergency Medical Technician
Four Yr. Course Alignment	
Postsecondary Credential	ITCC: TC Healthcare Specialist (51.0711); CT Emergency Medical Technician (51.081) VU: C.G. Health Care Professional - Pre-Nursing CNA Track (51.3801); CPC Pre-Health Care Professional (51.0899)
Liberal Arts/Sciences Requirements	ITCC - ENGL 111: English Composition, IVYT 112: Student Success in Healthcare
Industry Credential	Certified Medical Assistant (CMA); Emergency Medical Responder; Emergency Medical Technician - Basic (EMT)
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7165 Emergency Medical Tech here.

Healthcare Specialist Capstone		
Career Cluster	Health & Human Services	
Program of Study	Pre-Nursing/Healthcare Specialist: Certified Nursing Aide (CNA), Emergency Medical Services, Certified Clinical Medical Assistant	
NLPS Sequence	D	
Course Code	7255	
Course Description	*The Healthcare Specialist Capstone course will facilitate healthcare students' acquisition of additional knowledge and skills necessary to work in a variety of healthcare settings beyond a long-term care facility including hospitals, doctors' offices, and clinics. Students can accomplish this goal by completing coursework that will cover topics such as Medical Law and Ethics, Electronic Health Records, and/or Behavioral Health. Schools may offer additional healthcare certifications such as the Certified Clinical Medical Assistant (CCMA) or Phlebotomy along with the coursework or in place of the coursework.*	
Prerequisite(s)/ Corequisite(s)	Principles of Healthcare; Healthcare Fundamentals; Healthcare Specialist: CNA, EMT or Certified Clinical Medical Assistant (CCMA)	
Credits	2 semester course, 2 semester required, 1-3 credits per semester, 6 credits max	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level II
Bulletin 400	● No License Available	
Rules 46-47	● Any Standard Health Occupations License 9-12 ● Any Occupational Specialist I, II or III in Health Occupation: First Responder 9-12	
Rules 2002	● CTE: Health Occupations with high school setting ● Workplace Specialist: Health Careers	
REPA/REPA 3	● CTE: Health Occupations 5-12 ● Workplace Specialist: Health Science – Emergency Medical Services 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	HLHS 105:Medical Law and Ethics, HLHS 122: Electronic Health Records, HLHS 125: Behavioral Health	
VU Course Alignment		
Four Yr. Course Alignment		
Postsecondary Credential	ITCC: TC Healthcare Specialist (51.0711); CT Emergency Medical Technician (51.081)	
Liberal Arts/Sciences Requirements		
Industry Credential	Certified Medical Assistant (CMA); Emergency Medical Responder; Emergency	

	Medical Technician - Basic (EMT)
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7255 Healthcare Specialist Capstone here.

Health & Human Services Exercise Science/Physical Therapy							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
7320	Principles of Exercise Science	7321	Kinesiology	7322	Human Performance	7323	Physical Therapy
						7324	Fitness Management Capstone

Principles of Exercise Science		
Career Cluster	Health & Human Services	
Program of Study	Exercise Science/Physical Therapy	
NLPS Sequence	A	
Course Code	7320	
Course Description	*Principles of Exercise Science provides an introduction to the science of exercise and human movement. Special topics include exercise physiology, sport biomechanics, sports medicine, and motor integration. Additionally, the course will examine career options in sport, health and wellness, education, and the medical fields such as personal training, athletic training, and physical therapy.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level I
Bulletin 400	● No License Available	
Rules 46-47	● Any Standard Health Occupations License 9-12 ● Any Occupational Specialist I, II or III in Health Occupation 9-12	
Rules 2002	● CTE: Health Occupations with high school setting ● Workplace Specialist: Health Careers ● Workplace Specialist: Physical Therapy	
REPA/REPA 3	● CTE: Health Occupations: Athletic Training 5-12 ● Workplace Specialist: Health Science – Athletic Training 9-12 ● Workplace Specialist: Physical Therapy 9-12	

POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	HLHS 111: Health and Wellness for Life*
VU Course Alignment	PFWL 100: Lifetime Fitness/Wellness, HLTH 201: Personal Health Science VU-EC: HLTH 211: First Aid ^
Four Yr. Course Alignment	ISU – KIN 101: Fitness for Life USI – KIN 281: Personal Health Science; KIN 282: CPR for the Healthcare Provider and Sports Injury Prevention
Postsecondary Credential	ISU: B.S. in Kinesiology (31.0505) USI: B.A./B.S. in Kinesiology (31.0505) VU/EC: CPC Physical Fitness Leadership
Liberal Arts/Sciences Requirements	
Industry Credential	Certified Personal Trainer (NASM)
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7320 Principles of Exercise Science here.

Kinesiology	
Career Cluster	Health & Human Services
Program of Study	Exercise Science/Physical Therapy
NLPS Sequence	B
Course Code	7321
Course Description	*Kinesiology students will study fundamental concepts concerning the interaction of biological and mechanical aspects of the musculoskeletal and neuromuscular structures. An emphasis on practical applications of the concepts will be accomplished through an introduction to fitness training methods and modalities for developing specific conditioning effects in individuals. Laboratory sessions focus on anatomy and physiology of the musculoskeletal and cardiovascular systems, theories on fitness programming, and injury avoidance in fitness environments.*
Prerequisite(s)/ Corequisite(s)	Principles of Exercise Science Recommended: Anatomy and Physiology
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
Counts Toward	Fulfills a science requirement for CORE 40 diplomas Counts as STEM-focused credits for new diplomas
Dual Credit Status	X (PCL/CTE)
Additional Notes	
ADDITIONAL COURSE INFO	

Funding	Moderate Value	Level I
Bulletin 400	● No License Available	
Rules 46-47	● Any Standard Health Occupations License 9-12 ● Any Occupational Specialist I, II or III in Health Occupation 9-12	
Rules 2002	● CTE: Health Occupations with high school setting ● Workplace Specialist: Health Careers ● Workplace Specialist: Physical Therapy	
REPA/REPA 3	● CTE: Health Occupations: Athletic Training 5-12 ● Workplace Specialist: Health Science – Athletic Training 9-12 ● Workplace Specialist: Physical Therapy 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	HLHS 102: Essential Anatomy & Physiology*; CPTR 205: Fundamental Kinesiology*	
VU Course Alignment	PHED 150: Intro to Kinesiology & Sport	
Four Yr. Course Alignment	ISU – KIN 201: Introduction to Kinesiology USI - KIN 188: Introduction to Kinesiology & Sport	
Postsecondary Credential	ISU: B.S. in Kinesiology (31.0505) USI: B.A./B.S. in Exercise Science (31.0505) VU/EC: CPC Physical Fitness Leadership	
Liberal Arts/Sciences Requirements	ENGL 111: English Composition, COMM 101: Fundamentals of Public Speaking or COMM 102: Introduction to Interpersonal Communication, IVYT 112: Student Success – Healthy Sciences and Nursing	
Industry Credential	Certified Personal Trainer (NASM)	
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 7321 Kinesiology here.	

Human Performance	
Career Cluster	Health & Human Services
Program of Study	Exercise Science/Physical Therapy
NLPS Sequence	C
Course Code	7322
Course Description	*Students in Human Performance will learn basic human physiology relating to exercise and how the body adapts to acute and chronic physical activity. Systems covered include cellular metabolic processes, energy systems, and the effects of exercise on the respiratory, nervous, cardiovascular, endocrine, skeletal, and muscular systems. The course will also study the basic nutritional principles needed for optimal athletic and human performance.*
Prerequisite(s)/	Principles of Exercise Science

Corequisite(s)	Recommended: Kinesiology	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Counts as STEM-focused credits for new diplomas	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level I
Bulletin 400	● No License Available	
Rules 46-47	● Any Standard Health Occupations License 9-12 ● Any Occupational Specialist I, II or III in Health Occupation 9-12	
Rules 2002	● CTE: Health Occupations with high school setting ● Workplace Specialist: Health Careers ● Workplace Specialist: Physical Therapy	
REPA/REPA 3	● CTE: Health Occupations: Athletic Training 5-12 ● Workplace Specialist: Health Science – Athletic Training 9-12 ● Workplace Specialist: Physical Therapy 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	CPTR 206: Modern Concepts in Exercise & Fitness*; CPTR 212: Foundations in Exercise Science*	
VU Course Alignment	PHED 212: Intro to Exercise Science	
Four Yr. Course Alignment		
Postsecondary Credential	VU: CPC Physical Fitness Leadership	
Liberal Arts/Sciences Requirements	ENGL 111: English Composition, COMM 101: Fundamentals of Public Speaking or COMM 102: Introduction to Interpersonal Communication, IVYT 112: Student Success – Healthy Sciences and Nursing	
Industry Credential	Certified Personal Trainer (NASM)	
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 7322 Human Performance here.	

Physical Therapy Capstone	
Career Cluster	Health & Human Services
Program of Study	Exercise Science/Physical Therapy
NLPS Sequence	D
Course Code	7323
Course Description	*The Physical Therapy Capstone course is designed to provide students the*

	opportunity to explore the role of a physical therapy assistant and to practice technical skills previously learned in the classroom. It prepares students with the knowledge, skills, and attitudes essential for providing basic care in extended care facilities, hospitals, and home health agencies under the direction of licensed physical therapists. In addition, students will learn skills specific to physical therapy including observing patients' progress, helping patients do specific exercises, using massage and stretching for treatment, aiding patients with devices for movement, educating patients and families, and basic assisting in cleaning treatment areas and clerical work.
Prerequisite(s)/ Corequisite(s)	Principles of Exercise Science; Kinesiology; Human Performance; or Any Healthcare Specialist CTE Concentrator Sequence (EMT, CNA, CCMA)
Credits	2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum
Counts Toward	Fulfills a science requirement for CORE 40 diplomas Counts as STEM-focused credits for new diplomas
Dual Credit Status	X
Additional Notes	
ADDITIONAL COURSE INFO	
Funding	Moderate Value | Level II
Bulletin 400	● No License Available
Rules 46-47	● Any Standard Health Occupations License 9-12 ● Any Occupational Specialist I, II or III in Health Occupation 9-12
Rules 2002	● CTE: Health Occupations with high school setting ● Workplace Specialist: Health Careers
REPA/REPA 3	● CTE: Health Occupations 5-12 ● Workplace Specialist: Health Science – Physical Therapy 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	PTAS 101: Introduction to the Physical Therapist Assistant*
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/Sciences Requirements	ITCC - APHY 101: Anatomy and Physiology I, APHY 102: Anatomy and Physiology II, ENGL 111: English Composition
Industry Credential	Certified Personal Trainer (NASM)
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7323 Physical Therapy Capstone here.

Fitness Management Capstone		
Career Cluster	Health & Human Services	
Program of Study	Exercise Science/Physical Therapy	
NLPS Sequence	D	
Course Code	7324	
Course Description	*The Fitness Management Capstone course will focus on the knowledge and skills needed to be a personal trainer. This course will focus on the fundamental concepts in personal training for healthy general populations including topics of group fitness instruction and the principles and skills involved in management within the the health and fitness industry.*	
Prerequisite(s)/ Corequisite(s)	Principles of Exercise Science; Kinesiology; Human Performance	
Credits	2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level II
Bulletin 400	● No License Available	
Rules 46-47	● Any Standard Health Occupations License 9-12 ● Any Occupational Specialist I, II or III in Health Occupation 9-12	
Rules 2002	● CTE: Health Occupations with high school setting ● Workplace Specialist: Health Careers ● Workplace Specialist: Physical Therapy	
REPA/REPA 3	● CTE: Health Occupations: Athletic Training 5-12 ● Workplace Specialist: Health Science – Athletic Training 9-12 ● Workplace Specialist: Physical Therapy 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	HLHS 211: Nutrition*; CPTR 220: Health Screening and Exercise Program Design Across Populations*	
VU Course Alignment		
Four Yr. Course Alignment	USI - EXSC 396: Fitness Management	
Postsecondary Credential	USI - B.A./B.S. in Exercise Science (31.0505)	
Liberal Arts/Sciences Requirements	ENGL 111: English Composition, COMM 101: Fundamentals of Public Speaking or COMM 102: Introduction to Interpersonal Communication, IVYT 112: Student Success – Healthy Sciences and Nursing	
Industry Credential	Certified Person Trainer (NASM)	

CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7324 Fitness Management Capstone here.

Health & Human Services Pharmacy							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
7137	Principles of Pharmacy Tech	5274	Healthcare Fundamentals	7167	Pharmacy Tech	7310	Pharmacy Capstone

Principles of Pharmacy Tech		
Career Cluster	Health & Human Services	
Program of Study	Pharmacy	
NLPS Sequence	A	
Course Code	7137	
Course Description	*Principles of Pharmacy Tech is an introduction to the principles of pharmacotherapy including basic pharmacology, medication management, and safety. Students will be introduced to various systems of the human body and the most important drugs affecting these systems. Students will develop an understanding of drug classes and their mechanism of action when prescribed for a particular disease state. This course will also introduce the essential mathematical concepts and skills needed for pharmacy practice. Students will be introduced to metric, avoirdupois, and apothecary systems of measurements. Other calculation methods that will be studied are ratio and proportion, dimensional analysis, and calculations for compounded products.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level I
Bulletin 400	● No License Available	
Rules 46-47	● Any Standard Health Occupations License 9-12 ● Any Occupational Specialist I, II or III in Health Occupation 9-12	
Rules 2002	● CTE: Health Occupations with high school setting ● Workplace Specialist: Health Careers	
REPA/REPA 3	● CTE: Health Occupations 5-12 ● Workplace Specialist: Health Science – Pharmacy 9-12	

POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	PHRM 105: Pharmacology□; PHRM 220: Pharmacy Calculations□
Four Yr. Course Alignment	
Postsecondary Credential	VU: Pre-Healthcare Professional Certificate, CPC; C.G. Healthcare Professional Pre-Nursing CNA Track
Liberal Arts/Sciences Requirements	
Industry Credential	Certified Pharmacy Tech (CPhT) - Pharmacy Technician Certification Board Certified Pharmacy Tech (CPhT) - National Healthcare Association
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7137 Principles of Pharmacy Tech here.

Healthcare Fundamentals	
Career Cluster	Health & Human Services
Program of Study	Central Service Technician, Certified Clinical Medical Assistant, Emergency Medical Services, Pharmacy, Pre-Nursing/Healthcare Specialist: Certified Nursing Aide (CNA)
NLPS Sequence	B
Course Code	5274
Course Description	*Healthcare Fundamentals prepares students with language skills necessary for effective, independent use of health and medical reference materials. It includes the study of health and medical abbreviations, symbols, and Greek and Latin word part meanings, all taught within the context of body systems. This course builds skills in pronouncing, spelling, and defining new words encountered in verbal and written information in the healthcare industry. Additionally, the course introduces cells, tissues, and human anatomy highlighting essential physiological principles through a systemic approach. Students have the opportunity to acquire essential skills for accurate and logical communication, and interpretation of medical records.*
Prerequisite(s)/ Corequisite(s)	Principles of Healthcare or Principles of Pharmacy Tech
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
Counts Toward	Counts as STEM-focused credits for diplomas
Dual Credit Status	X (PCL/CTE)
Additional Notes	
ADDITIONAL COURSE INFO	

Funding	High Value	Level I
Bulletin 400	● No License Available	
Rules 46-47	● Any Standard Health Occupations License 9-12 ● Any Occupational Specialist I, II or III in Health Occupation 9-12	
Rules 2002	● CTE: Health Occupations with high school setting ● Workplace Specialist: Health Careers ● WS Dental Careers	
REPA/REPA 3	● CTE: Health Occupations 5-12 ● Workplace Specialist: Any Health Careers license 9-12 ● Workplace Specialist: Dental Careers 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	HLHS 101: Medical Terminology, HLHS 102: Essential Anatomy and Physiology	
VU Course Alignment	HIMT 110: Medical Terminology for Allied Health□ VU-EC – BIOL 107/L (Lab): Essentials of Human Anatomy and Physiology□	
Four Yr. Course Alignment	VU – CPC Pre-Healthcare Professional Certificate; C.G. Healthcare Professional Pre-Nursing CNA Track BSU - NUR 101: Terminology for Health Care Professionals USI - HP 115: Medical Terminology for Health Professionals	
Postsecondary Credential	BSU: B.S. Respiratory Therapy (51.0908) ITCC: TC Healthcare Specialist (51.0711) VU/EC: Pre-Healthcare Professional Certificate, CPC; C.G. Health Care Professional - Pre-Nursing CNA Track (51.3801)USI – B.S. Nursing (51.3801)	
Liberal Arts/Sciences Requirements		
Industry Credential	Certified Pharmacy Tech (CPhT) - Pharmacy Technician Certification Board Certified Pharmacy Tech (CPhT) - National Healthcare Association	
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 5274 Healthcare Fundamentals here.	

Pharmacy Tech	
Career Cluster	Health & Human Services
Program of Study	Pharmacy
NLPS Sequence	C
Course Code	7167
Course Description	*The Pharmacy Technician course introduces the student to the hands-on foundational principles, career concepts, and entry-level skills and duties typically performed by a pharmacy technician in community/retail, hospital/health system, and other pharmacy practice settings before actual onsite experiential training.*

	Students will see computerized applications of prescription data entry, record keeping, and hands-on experience with drug distribution systems. Classroom and lab activities will provide opportunities for students to learn both administrative and clinical procedures such as filling prescriptions and compounding medications. This course will also provide hands-on instruction in the principles and preparations of sterile compounding and aseptic technique for compounded sterile products in a simulated lab setting. This includes experiences in mixing products under a laminar flow hood, practicing proper technique, and using proper supplies and equipment.
Prerequisite(s)/ Corequisite(s)	Principles of Pharmacy Tech
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
Counts Toward	Counts as a quantitative reasoning course for CORE 40 diplomas Fulfills a science requirement for CORE 40 diplomas Counts as STEM-Focused credit for new diploma Counts as Additional Science credits for new diploma
Dual Credit Status	X (PCL/CTE)
Additional Notes	
ADDITIONAL COURSE INFO	
Funding	Moderate Value | Level I
Bulletin 400	● No License Available
Rules 46-47	● Any Standard Health Occupations License 9-12 ● Any Occupational Specialist I, II or III in Health Occupation 9-12
Rules 2002	● CTE: Health Occupations with high school setting ● Workplace Specialist: Health Careers
REPA/REPA 3	● CTE: Health Occupations 5-12 ● Workplace Specialist: Health Science – Pharmacy 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	VU/EC - PHRM 212: Pharmacy Simulation and Skills Lab□**;** PHRM 206; Advanced Pharmacology□; PHRM 115: Pharmacy Law and Ethics for Technicians
Four Yr. Course Alignment	
Postsecondary Credential	VU: Pharmacy Technology CPC, C.G. Pharmacy Technology (51.0805)
Liberal Arts/Sciences Requirements	ENGL 101: English Composition I; MATT 107: Applied Mathematics or MATT 109: Business Mathematics
Industry Credential	Certified Pharmacy Tech (CPhT) - Pharmacy Technician Certification Board Certified Pharmacy Tech (CPhT) - National Healthcare Association
CONTENT STANDARDS AND COMPETENCIES	

Course Competencies	Access competencies for 7167 Pharmacy Tech here.

Pharmacy Capstone		
Career Cluster	Health & Human Services	
Program of Study	Pharmacy	
NLPS Sequence	D	
Course Code	7310	
Course Description	*The Pharmacy Capstone course builds upon the foundational knowledge learned in the Pharmacy Tech course. In addition to advanced pharmacology and dispensing labs, students will also explore Pharmacy law and ethics, management, and advanced pharmacology. Time is built into the capstone course to allow students to complete their practicum as well.*	
Prerequisite(s)/ Corequisite(s)	Principles of Pharmacy Tech; Healthcare Fundamentals; Pharmacy Tech	
Credits	2 semester course, 2 semesters required, 1-3 credit per semester, 6 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level II
Bulletin 400	● No License Available	
Rules 46-47	● Any Standard Health Occupations License 9-12 ● Any Occupational Specialist I, II or III in Health Occupation 9-12	
Rules 2002	● CTE: Health Occupations with high school setting ● Workplace Specialist: Health Careers	
REPA/REPA 3	● CTE: Health Occupations 5-12 ● Workplace Specialist: Health Science – Pharmacy 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment		
VU Course Alignment	PHRM 200: Pharmacy Management□; PHRM 226: Applied Pharmacy Technology Program□; PHRM 225: Practicum for Advanced Level	
Four Yr. Course Alignment		
Postsecondary Credential	VU/EC: Pharmacy Technology, CPC; C.G. Pharmacy Technology (51.0805)	
Liberal Arts/Sciences Requirements	ENGL 101: English Composition I; MATT 107: Applied Mathematics or MATT 109: Business Mathematics	

Industry Credential	Certified Pharmacy Tech (CPhT) - Pharmacy Technician Certification Board Certified Pharmacy Tech (CPhT) - National Healthcare Association
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7310 Pharmacy Capstone here.

Health & Human Services Pre-Nursing / Healthcare Specialist: Certified Nursing Aide (CNA)							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
7168	Principles of Healthcare	5274	Healthcare Fundamentals	7166	Healthcare Specialist: CNA	7255	Healthcare Specialist Capstone

Principles of Healthcare		
Career Cluster	Health & Human Services	
Program of Study	Central Service Technician, Certified Clinical Medical Assistant, Emergency Medical Services, Pharmacy, Pre-Nursing/Healthcare Specialist: Certified Nursing Aide (CNA)	
NLPS Sequence	A	
Course Code	7168	
Course Description	*Principles of Healthcare content examines skills common to specific health career topics such as patient nursing care, dental care, animal care, medical laboratory, public health, and an introduction to healthcare systems. Lab experiences are organized and planned around the activities associated with the student's career objectives.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● No License Available	
Rules 46-47	● Any Standard Health Occupations License 9-12 ● Any Occupational Specialist I, II or III in Health Occupation 9-12	
Rules 2002	● CTE: Health Occupations with high school setting ● Workplace Specialist: Health Careers	
REPA/REPA 3	● CTE: Health Occupations 5-12 ● Workplace Specialist: Any Health Careers license 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	HLHS 100: Intro to Healthcare, HLHS 104: CPR- Basic Life Support	

VU Course Alignment	HSGN 102: Introduction to Health Careers
Four Yr. Course Alignment	USI - HP 211: The Healthcare Delivery System and Healthcare Policy, KIN 192: Concepts in Wellness and Fitness IUB - SPH B150: Introduction to Public Health
Postsecondary Credential	ITCC: TC Healthcare Specialist (51.0711); CT Certified Nursing Aide VU: Pre-Healthcare Professional Certificate, CPC; CG Healthcare Professional: Pre-Nursing CNA Track (51.3801)
Liberal Arts/Sciences Requirements	
Industry Credential	Certified Medical Assistant (CMA); Certified Nursing Assistant (CNA)
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7168 Principles of Healthcare here.

Healthcare Fundamentals	
Career Cluster	Health & Human Services
Program of Study	Central Service Technician, Certified Clinical Medical Assistant, Emergency Medical Services, Pharmacy, Pre-Nursing/Healthcare Specialist: Certified Nursing Aide (CNA)
NLPS Sequence	B
Course Code	5274
Course Description	*Healthcare Fundamentals prepares students with language skills necessary for effective, independent use of health and medical reference materials. It includes the study of health and medical abbreviations, symbols, and Greek and Latin word part meanings, all taught within the context of body systems. Introduces cells, tissues, and human anatomy highlighting essential physiological principles through a systemic approach. Additionally, the course provides a general overview of basic concepts and terminology used in anatomy and physiology as applicable to health sciences and healthcare occupations. This course builds skills in pronouncing, spelling, and defining new words encountered in verbal and written information in the healthcare industry. Students have the opportunity to acquire essential skills for accurate and logical communication, and interpretation of medical records. Emphasis is on forming a foundation of a medical vocabulary including appropriate and accurate meaning, spelling, and pronunciation of medical terms, abbreviations, signs, and symbols.*
Prerequisite(s)/ Corequisite(s)	Principles of Healthcare or Principles of Pharmacy Tech
Credits	2 semester course, 2 semesters required, 1 credit per semester, maximum of 2 credits
Counts Toward	Counts as STEM-focused credits for new diplomas
Dual Credit Status	X (PCL/CTE)
Additional Notes	

ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● No License Available	
Rules 46-47	● Any Standard Health Occupations License 9-12 ● Any Occupational Specialist I, II or III in Health Occupation 9-12	
Rules 2002	● CTE: Health Occupations with high school setting ● Workplace Specialist: Health Careers ● Workplace Specialist: Dental Careers	
REPA/REPA 3	● CTE: Health Occupations 5-12 ● Workplace Specialist: Any Health Careers license 9-12 ● Workplace Specialist: Dental Careers 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	HLHS 101: Medical Terminology, HLHS 102: Essential Anatomy and Physiology	
VU Course Alignment	HIMT 110: Medical Terminology for Allied Health VU-EC – BIOL 107/L (Lab): Essentials of Human Anatomy and Physiology	
Four Yr. Course Alignment	BSU - NUR 101: Terminology for Health Care Professionals and Consumers USI - HP 115: Medical Terminology for Health Professionals	
Postsecondary Credential	BSU: B.S. in Respiratory Therapy (51.0908) ITCC: TC Healthcare Specialist (51.0711); CT Certified Nursing Aide VU: Pre-Healthcare Professional Certificate, CPC; CG Healthcare Professional: Pre-Nursing CNA Track (51.3801)	
Liberal Arts/Sciences Requirements		
Industry Credential	Certified Medical Assistant (CMA); Certified Nursing Assistant (CNA)	
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 5274 Healthcare Fundamentals here.	

Healthcare Specialist: CNA	
Career Cluster	Health & Human Services
Program of Study	Pre-Nursing/Healthcare Specialist: Certified Nursing Aide (CNA)
NLPS Sequence	C
Course Code	7166
Course Description	*The Healthcare Specialist: CNA course prepares individuals desiring to work as nursing assistants with the knowledge, skills, and attitudes essential for providing basic care in extended care facilities, hospitals, and home health agencies under the direction of licensed nurses. The course will introduce students to the disease process and aspects of caring for a long-term care resident with dementia.*

	Individuals who successfully complete this course are eligible to apply to sit for the Indiana State Department of Health (ISDH) certification exam for nursing assistants. This course meets the minimum standards set forth by the ISDH for Certified Nursing Assistant (CNA) training and for health care workers in long-term care facilities.	
Prerequisite(s)/ Corequisite(s)	Principles of Healthcare	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Counts as STEM-focused credits for new diplomas	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● No License Available	
Rules 46-47	● Any Standard Health Occupations License 9-12 ● Any Occupational Specialist I, II or III in Health Occupation with exception of Nurse's Aide & Licensed Practical Nurse 9-12	
Rules 2002	● CTE: Health Occupations with high school setting ● Workplace Specialist: Health Careers	
REPA/REPA 3	● CTE: Health Occupations 5-12 ● Workplace Specialist: Health Science – Nursing 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	HLHS 107: CNA Preparation, HLHS 113: Dementia Care	
VU Course Alignment	HSGN 200: Nurse Assistant Preparatory Course□; HSGN 106: Dementia Care□	
Four Yr. Course Alignment		
Postsecondary Credential	ITCC: TC Healthcare Specialist (51.0711); CT Certified Nursing Aide VU: Pre-Healthcare Professional Certificate, CPC; CG Healthcare Professional: Pre-Nursing CNA Track (51.3801)	
Liberal Arts/Sciences Requirements	ITCC- APHY 101: Anatomy and Physiology I, ENGL 111: English Composition, PSYC 101: Introduction to Psychology, IVYT 112: Student Success in Healthcare	
Industry Credential	Certified Medical Assistant (CMA); Certified Nursing Assistant (CNA)	
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 7166 Healthcare Specialist: CNA here.	

Healthcare Specialist Capstone		
Career Cluster	Health & Human Services	
Program of Study	Emergency Medical Services, Pre-Nursing/Healthcare Specialist: Certified Nursing Aide (CNA), Certified Clinical Medical Assistant	
NLPS Sequence	D	
Course Code	7255	
Course Description	*The Healthcare Specialist Capstone course will facilitate healthcare students' acquisition of additional knowledge and skills necessary to work in a variety of healthcare settings beyond a long term care facility including hospitals, doctors' offices, and clinics. Students can accomplish this goal by completing coursework that will cover topics such as Medical Law and Ethics, Electronic Health Records, and/or Behavioral Health. Schools may offer additional healthcare certifications such as the Certified Clinical Medical Assistant (CCMA) or Phlebotomy along with the coursework or in place of the coursework.*	
Prerequisite(s)/ Corequisite(s)	Principles of Healthcare; Healthcare Fundamentals; Healthcare Specialist: CNA, EMT or Certified Clinical Medical Assistant (CCMA)	
Credits	2 semester course, 2 semester required, 1-3 credits per semester, 6 credits max	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level II
Bulletin 400	● No License Available	
Rules 46-47	● Any Standard Health Occupations License 9-12 ● Any Occupational Specialist I, II or III in Health Occupation: First Responder 9-12	
Rules 2002	● CTE: Health Occupations with high school setting ● Workplace Specialist: Health Careers	
REPA/REPA 3	● CTE: Health Occupations 5-12 ● Workplace Specialist: Health Science – Emergency Medical Services 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	HLHS 105: Medical Law and Ethics, HLHS 122: Electronic Health Records, HLHS 125: Behavioral Health	
VU Course Alignment		
Four Yr. Course Alignment		
Postsecondary Credential	ITCC: TC Healthcare Specialist (51.0711); CT Certified Nursing Aide VU: Pre-Healthcare Professional Certificate, CPC; CG Healthcare Professional: Pre-Nursing CNA Track (51.3801)	
Liberal		

Arts/Sciences Requirements	
Industry Credential	Certified Medical Assistant (CMA); Certified Nursing Assistant (CNA)
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7255 Healthcare Specialist Capstone here.

Health & Human Services Social and Community Services							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
7176	Principles of Human Services	7276	Fundamentals of Human Services	7278	Advanced Social and Community Services	7279	Social and Community Services Capstone

Principles of Human Services		
Career Cluster	Health & Human Services	
Program of Study	Social and Community Services	
NLPS Sequence	A	
Course Code	7176	
Course Description	*Principles of Human Services explores the history of human services, career opportunities, and the role of the human service worker. Focuses on target populations and community agencies designed to meet the needs of various populations. The course includes a required job shadowing project in a Human Services setting (a suggested four-hour minimum to meet Ivy Tech requirements). This course will also encourage cultural awareness and appreciation of diversity. Focuses on cultural variations in attitudes, values, language, gestures, and customs. Includes information about major racial and ethnic groups in the United States.*	
Prerequisite(s)/Co-Requisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level I
Bulletin 400	● Any Home Economics K-12 with a Human Services concentration, non-teaching occupational experience in a social or community services provider role, or additional training/PD in Social and Community Services	
Rules 46-47	● Consumer Homemaking Education 9-12 **OR** Occupational Education (FACS) 9-12 with a Human Services concentration, non-teaching occupational experience in a social or community services provider role, or additional training/PD in Social and Community Services	
Rules 2002	● CTE: Family & Consumer Sciences 5-12 with a Human Services concentration, non-teaching occupational experience in a social or community	

	services provider role, or additional training/PD in Social and Community Services ● Workplace Specialist: Human and Social Services ● CTE: Health Occupations 5-12 ● Workplace Specialist: Health Science – Nursing or EMS 9-12 ● Any licensed school social worker ● Any licensed school counselor
REPA/REPA 3	● CTE: Family & Consumer Sciences 5-12 with a Human Services concentration, non-teaching occupational experience in a social or community services provider role, or additional training/PD in Social and Community Services ● Workplace Specialist: Human and Social Services ● CTE: Health Occupations 5-12 ● Workplace Specialist: Health Science – Nursing or EMS 9-12 ● Any licensed school social worker ● Any licensed school counselor
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	HUMS 101: Introduction to Human Services
VU Course Alignment	SOCL 153: Introduction to Social Work
Four Yr. Course Alignment	
Postsecondary Credential	ITCC: CT Mental Health Direct Support, TC Human Services (51.1502); TC Mental Health Direct Support
Liberal Arts/Sciences Requirements	
Industry Credential	Indiana Human Healthcare; Certified Community Health Worker (CCHW) - Health Vision Midwest; Certified Community Health Worker (CCHW) - ASPIN
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7176 Principles of Human Services here.

Fundamentals of Human Services	
Career Cluster	Health & Human Services
Program of Study	Social and Community Services
NLPS Sequence	B
Course Code	7276
Course Description	Fundamentals of Human Services examines key elements of effective delivery of human services. Topics of discussion include personal values, helping relationships, the impact of diversity, theories of helping, communication, problem-solving processes, crisis situations, abuse, and professional ethics. This course also provides training for identifying characteristics of a crisis and

	basic crisis intervention skills. Students will evaluate their own personal strengths and limitations and discuss the importance of professional development for the human service's social worker.	
Prerequisite(s)/Co-Requisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level I
Bulletin 400	● Any Home Economics K-12 with a Human Services concentration, non-teaching occupational experience in a social or community services provider role, or additional training/PD in Social and Community Services	
Rules 46-47	● Consumer Homemaking Education 9-12 ***OR*** Occupational Education (FACS) 9-12 with a Human Services concentration, non-teaching occupational experience in a social or community services provider role, or additional training/PD in Social and Community Services	
Rules 2002	● CTE: Family & Consumer Sciences 5-12 with a Human Services concentration, non-teaching occupational experience in a social or community services provider role, or additional training/PD in Social and Community Services ● Workplace Specialist: Human and Social Services ● CTE: Health Occupations 5-12 ● Workplace Specialist: Health Science – Nursing or EMS 9-12 ● Any licensed school social worker ● Any licensed school counselor	
REPA/REPA 3	● CTE: Family & Consumer Sciences 5-12 with a Human Services concentration, non-teaching occupational experience in a social or community services provider role, or additional training/PD in Social and Community Services ● Workplace Specialist: Human and Social Services ● CTE: Health Occupations 5-12 ● Workplace Specialist: Health Science – Nursing or EMS 9-12 ● Any licensed school social worker ● Any licensed school counselor	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	HUMS 104: Crisis Intervention ; HUMS 140: Loss and Grief	
VU Course Alignment		
Four Yr. Course Alignment		
Postsecondary	ITCC: CT Mental Health Direct Support, TC Human Services (51.1502); TC	

Credential	Mental Health Direct Support
Liberal Arts/Sciences Requirements	
Industry Credential	Indiana Human Healthcare; Certified Community Health Worker (CCHW) - Health Vision Midwest; Certified Community Health Worker (CCHW) - ASPIN
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7276 Fundamentals of Human Services here.

Advanced Social and Community Services		
Career Cluster	Health & Human Services	
Program of Study	Social and Community Services	
NLPS Sequence	C	
Course Code	7278	
Course Description	Advanced Social and Community Services provides students with the opportunity to increase their effectiveness in helping people. Students will examine the helping process in terms of skill, helping stages, and issues involved in a helping relationship. Additionally, background knowledge of the field of intellectual and developmental disabilities and issues pertaining to the field will be provided. **Note**: Due to an adjustment in postsecondary alignment for this pathway, the course title was adjusted for the 26-27 school year.	
Prerequisite(s)/Co-Requisite(s)	Principles of Human Services	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level I
Bulletin 400	● Any Home Economics K-12 with a Human Services concentration, non-teaching occupational experience in a social or community services provider role, or additional training/PD in Social and Community Services	
Rules 46-47	● Consumer Homemaking Education 9-12 ***OR*** Occupational Education (FACS) 9-12 with a Human Services concentration, non-teaching occupational experience in a social or community services provider role, or additional training/PD in Social and Community Services	
Rules 2002	● CTE: Family & Consumer Sciences 5-12 with a Human Services concentration, non-teaching occupational experience in a social or community	

	services provider role, or additional training/PD in Social and Community Services ● Workplace Specialist: Human and Social Services ● CTE: Health Occupations 5-12 ● Workplace Specialist: Health Science – Nursing or EMS 9-12 ● Any licensed school social worker ● Any licensed school counselor
REPA/REPA 3	●CTE: Family & Consumer Sciences 5-12 with a Human Services concentration, non-teaching occupational experience in a social or community services provider role, or additional training/PD in Social and Community Services ● Workplace Specialist: Human and Social Services ● CTE: Health Occupations 5-12 ● Workplace Specialist: Health Science – Nursing or EMS 9-12 ● Any licensed school social worker ● Any licensed school counselor
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	HUMS 102: Helping Relationship Techniques ; HUMS 116: Introduction to Disabilities
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	ITCC - CT Mental Health Direct Support, TC Human Services (51.1502); TC Mental Health Direct Support
Liberal Arts/Sciences Requirements	
Industry Credential	Indiana Human Healthcare; Certified Community Health Worker (CCHW) - Health Vision Midwest; Certified Community Health Worker (CCHW) - ASPIN
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7278 Advanced Social and Community Services here.

Social and Community Services Capstone	
Career Cluster	Health & Human Services
Program of Study	Social and Community Services
NLPS Sequence	D
Course Code	7279
Course Description	This course offers a comprehensive overview of addiction, emphasizing the effects of various substances on the brain and body. Students will examine commonly abused drugs, including their origins, composition, therapeutic uses, and toxicology, as well as their impact on individuals, families, and society. Throughout the course students will be introduced to and develop basic interviewing skills, assessment strategies, and treatment planning. The course

	explores the symptoms and effects of substance abuse and dependence. After satisfactory completion of this course, students will have met the requirements to be a Certified Community Health Worker in Indiana through the Indiana Community Health Workers Association. A Community Health Worker is a frontline worker trained in care coordination, case management, coaching, and cultural competency. Through advanced level elective courses focusing on theories of behavior modification, students will develop an understanding of terms and practical applications of theoretical approaches used in working with people.	
Prerequisite(s)/Co-R equisite(s)	Principles of Human Services; Fundamentals of Human Services; Community Health Worker (Advanced Social and Community Services)	
Credits	2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level II
Bulletin 400	●Any Home Economics K-12 with a Human Services concentration, non-teaching occupational experience in a social or community services provider role, or additional training/PD in Social and Community Services	
Rules 46-47	● Consumer Homemaking Education 9-12 **OR** Occupational Education (FACS) 9-12 with a Human Services concentration, non-teaching occupational experience in a social or community services provider role, or additional training/PD in Social and Community Services	
Rules 2002	●CTE: Family & Consumer Sciences 5-12 with a Human Services concentration, non-teaching occupational experience in a social or community services provider role, or additional training/PD in Social and Community Services ● Workplace Specialist: Human and Social Services ● CTE: Health Occupations 5-12 ● Workplace Specialist: Health Science – Nursing or EMS 9-12 ● Any licensed school social worker ● Any licensed school counselor	
REPA/REPA 3	● CTE: Family & Consumer Sciences 5-12 with a Human Services concentration, non-teaching occupational experience in a social or community services provider role, or additional training/PD in Social and Community Services ● Workplace Specialist: Human and Social Services ● CTE: Health Occupations 5-12 ● Workplace Specialist: Health Science – Nursing or EMS 9-12 ● Any licensed school social worker ● Any licensed school counselor	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course	HUMS 113: Substances and Addictions; HUMS 162: Community Health Worker;	

Alignment	HUMS 103: Interviewing and Assessment*; HUMS 205: Theories of Behavior Modification*
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	ITCC: CT Mental Health Direct Support, TC Human Services (51.1502); TC Mental Health Direct Support
Liberal Arts/Sciences Requirements	
Industry Credential	Indiana Human Healthcare; Certified Community Health Worker (CCHW) - Health Vision Midwest; Certified Community Health Worker (CCHW) - ASPIN
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7279 Social and Community Services Capstone here.

Hospitality, Events, & Tourism

Introduction to Hospitality, Events, & Tourism	
Career Cluster	Hospitality, Events, & Tourism
Program of Study	
NLPS Sequence	Introductory
Course Code	5438
Course Description	*Introduction to Hospitality, Events, & Tourism is recommended for all students regardless of their career cluster or pathway, in order to build basic knowledge and skills. It is especially appropriate for students with an interest in careers related to Hospitality, Events, and Tourism. A project-based approach that utilizes higher order thinking, communication, leadership, and management processes is recommended. Topics include basic culinary skills in the foodservice industry, safety and sanitation, nutrition, customer relations and career investigation. Students are able to explore this industry and examine their own career goals in light of their findings. Laboratory experiences that emphasize industry practices and develop basic skills are required components of this course.*
Prerequisite(s)/ Corequisite(s)	None
Credits	1-2 semester course, 1 credit per semester, 2 credits maximum
Counts Toward	Counts as a directed elective or elective for all diplomas
Dual Credit Status	
Additional Notes	
ADDITIONAL COURSE INFO	
Funding	Introductory
Bulletin 400	• Any Home Economics K-12
Rules 46-47	• Consumer Homemaking Education 9-12 • Occupational Education (FACS) 9-12 • Occupational Specialist I, II, & III: Food Production & Management 9-12
Rules 2002	• CTE: Family & Consumer Sciences with high school setting • Workplace Specialist: Culinary Arts & Food Specialist
REPA/REPA 3	• CTE: Family & Consumer Sciences 5-12 • Workplace Specialist: Culinary Arts 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	

Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 5438 Introduction to Hospitality, Events, & Tourism here.

Advanced Career & Technical Education, College Credit: Hospitality, Events, and Tourism	
Career Cluster	Hospitality, Events, & Tourism
Program of Study	
NLPS Sequence	
Course Code	6120
Course Description	*Advanced Career and Technical Education, College Credit is a course title covering any CTE advanced course offered for credit by an accredited postsecondary institution through an adjunct agreement with a secondary school. The intent of this course is to allow students to earn college credit for courses with content that goes beyond that currently approved for high school credit. This course may be used for any dual enrollment course, including a joint program of study involving a postsecondary partnership.*
Prerequisite(s)/ Corequisite(s)	None
Credits	1 semester course, up to 3 credits per semester, May be offered for successive semesters up to 12 credits
Counts Toward	Counts as a directed elective or elective for all diplomas
Dual Credit Status	X
Additional Notes	A student should earn at least 3 postsecondary credits for each high school credit. Schools must have an approved Nonstandard Course Waiver on file to be eligible for CTE Funding.
ADDITIONAL COURSE INFO	
Funding	Pilot
Bulletin 400	● Appropriate Vocational License ● Vocational Home Economics K-12
Rules 46-47	● Appropriate Vocational License ● Consumer Homemaking Education 9-12 ● Occupational Education (FACS) 9-12
Rules 2002	● Appropriate CTE License

	● CTE: Family & Consumer Sciences with high school setting ● Workplace Specialist: Human and Social Services
REPA/REPA 3	● Appropriate CTE License ● CTE: Family & Consumer Sciences 5-12 ● Workplace Specialist: Human and Social Services
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	

Hospitality and Human Services: Special Topics	
Career Cluster	Hospitality, Events, & Tourism
Program of Study	
NLPS Sequence	
Course Code	6152
Course Description	*Hospitality and Human Services: Special Topics is an extended learning experience designed to address the advancement and specialization of careers within the career cluster through the provision of a specialized course for a specific workforce in the school's region. The learning experience is at a qualified site, and is designed to give the student the opportunity to learn and practice technical skills while working under the direction of the appropriately licensed professional. Throughout the course, students will focus on learning about employment opportunities and obtaining the knowledge, skills and attitudes essential for success in specific occupations. Course standards and curriculum must be tailored to the specific profession, preparing students to advance in this career field, and where applicable, provide students with opportunities for certification or dual credit. Participation in a related CTSO encourages the development of leadership, communication and career related skills, and opportunities for community service.*
Prerequisite(s)/ Corequisite(s)	None

Credits	1 semester course, up to 3 credits per semester, May be offered for successive semesters up to 12 credits
Counts Toward	Counts as a directed elective or elective for all diplomas
Dual Credit Status	X
Additional Notes	Schools must have an approved Nonstandard Course Waiver on file to be eligible for CTE Funding.
ADDITIONAL COURSE INFO	
Funding	Pilot
Bulletin 400	● Appropriate Vocational License ● Vocational Home Economics K-12
Rules 46-47	● Appropriate Vocational License ● Consumer Homemaking Education 9-12 ● Occupational Education (FACS) 9-12
Rules 2002	● Appropriate CTE License ● CTE: Family & Consumer Sciences with high school setting ● Workplace Specialist: Human and Social Services
REPA/REPA 3	● Appropriate CTE License ● CTE: Family & Consumer Sciences 5-12 ● Workplace Specialist: Human and Social Services
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	

Hospitality, Events, & Tourism Culinary Arts – Baking and Pastry							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
7173	Principles of Culinary and Hospitality	7171	Nutrition	7169	Culinary Arts	7233	Culinary Capstone
						7235	Pastry Capstone

Principles of Culinary and Hospitality		
Career Cluster	Hospitality, Events, & Tourism	
Program of Study	Culinary Arts – Baking and Pastry, Hospitality Management, Nutrition Science	
NLPS Sequence	A	
Course Code	7173	
Course Description	*Principles of Culinary and Hospitality is designed to develop an understanding of the hospitality industry and career opportunities, and responsibilities in the food service and lodging industry. Introduces procedures for decision making which affects operation management, products, labor, and revenue. Additionally, students will learn the fundamentals of food preparation, basic principles of sanitation, service procedures, and safety practices in the food service industry including proper operation techniques for equipment.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Counts as a directed elective or elective for all diplomas	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Less than Moderate Value	Level I
Bulletin 400	• Vocational Home Economics K-12	
Rules 46-47	• Occupational Education (FACS) 9-12 • Occupational Specialist I, II or III: Food Production & Management 9-12 • Consumer Homemaking Education 9-12	
Rules 2002	• CTE: Family & Consumer Sciences with high school setting • Workplace Specialist: Culinary Arts & Food Service Management Occupations • Workplace Specialist: Food Science	

REPA/REPA 3	● CTE: Family & Consumer Sciences 5-12 ● Workplace Specialist: Culinary Arts 9-12 ● Workplace Specialist: Hospitality Management 9-12 ● Workplace Specialist: Food Science 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	HOSP 101: Sanitiation-Safety, HOSP 102: Basic Food Theory and Skills
VU Course Alignment	REST 120: Food Service Sanitation, CULN 110: Quantity Food Production
Four Yr. Course Alignment	
Postsecondary Credential	ITCC: CT Culinary Arts; CT Dietary Management; CT Pastry Culinarian; TC Hospitality Administration: Baking and Pastry; TC Hospitality Administration: Culinary; TC Hospitality Administration: Hospitality Management VU: CG Culinary Arts, Restaurant and Food Services, and Hotel Management; A.S. Culinary Arts; A.S. Restaurant and Food Service Mgmt
Liberal Arts/Sciences Requirements	
Industry Credential	Certified Fundamentals Cook (CFC), Certified Fundamentals Pastry Cook (CFPC)
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7173 Principles of Culinary Hospitality here.

Nutrition	
Career Cluster	Hospitality, Events, & Tourism
Program of Study	Culinary Arts – Baking and Pastry, Hospitality Management, Nutrition Science
NLPS Sequence	B
Course Code	7171
Course Description	*Nutrition students will learn the characteristics, functions and food sources of the major nutrient groups and how to maximize nutrient retention in food preparation and storage. Students will be made aware of nutrient needs throughout the life cycle and to apply those principles to menu planning and food preparation. This course will engage students in hands-on learning of nutritional concepts such as preparing nutrient dense meals or examining nutritional needs of student athletes*
Prerequisite(s)/ Corequisite(s)	Principles of Culinary and Hospitality
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
Counts Toward	Counts as a directed elective or elective for all diplomas
Dual Credit Status	X (PCL/CTE)
Additional Notes	

ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level I
Bulletin 400	● Vocational Home Economics K-12	
Rules 46-47	● Occupational Education (FACS) 9-12 ● Occupational Specialist I, II or III: Food Production & Management 9-12 ● Consumer Homemaking Education 9-12	
Rules 2002	● CTE: Family & Consumer Sciences with high school setting ● Workplace Specialist: Culinary Arts & Food Service Management Occupations ● Workplace Specialist: Food Science	
REPA/REPA 3	● CTE: Family & Consumer Sciences 5-12 ● Workplace Specialist: Culinary Arts 9-12 ● Workplace Specialist: Hospitality Management 9-12 ● Workplace Specialist: Food Science 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	HOSP 104: Nutrition	
VU Course Alignment	FACS 206: Fundamentals of Nutrition*	
Four Yr. Course Alignment		
Postsecondary Credential	ITCC: CT Culinary Arts; CT Dietary Management; CT Pastry Culinarian; TC Hospitality Administration: Baking and Pastry; TC Hospitality Administration: Culinary; TC Hospitality Administration: Hospitality Management	
Liberal Arts/Sciences Requirements		
Industry Credential	Certified Fundamentals Cook (CFC), Certified Fundamentals Pastry Cook (CFPC)	
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 7171 Nutrition here.	

Culinary Arts	
Career Cluster	Hospitality, Events, & Tourism
Program of Study	Culinary Arts – Baking and Pastry
NLPS Sequence	C
Course Code	7169
Course Description	*Culinary Arts teaches students how to prepare the four major stocks, the five mother sauces (in addition to smaller sauces) and various soups. Additional emphasis is placed on the further development of the classical cooking methods. This course will also present the fundamentals of baking science including*

	terminology, ingredients, weights and measures, and proper use and care of equipment. Students will produce yeast goods, pies, cakes, cookies, and quick breads.
Prerequisite(s)/ Corequisite(s)	Principles of Culinary and Hospitality
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
Counts Toward	Counts as a directed elective or elective for all diplomas
Dual Credit Status	X (PCL/CTE)
Additional Notes	
ADDITIONAL COURSE INFO	
Funding	Less than Moderate Value | Level I
Bulletin 400	● Home Economics K-12
Rules 46-47	● Occupational Education (FACS) 9-12 ● Occupational Vocational Specialist I, II or III: Food Production & Management 9-12 ● Consumer Homemaking Education 9-12
Rules 2002	● CTE: Family & Consumer Sciences with high school setting ● Workplace Specialist: Culinary Arts & Food Service Management Occupations ● Workplace Specialist: Food Science
REPA/REPA 3	● CTE: Family & Consumer Sciences 5-12 ● Workplace Specialist: Culinary Arts 9-12 ● Workplace Specialist: Hospitality Management 9-12 ● Workplace Specialist: Food Science 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	HOSP 103: Soups, Stocks, and Sauces; HOSP 105: Intro to Baking
VU Course Alignment	VU/EC: CULN 210: Pastry and Bake Shop Production
Four Yr. Course Alignment	
Postsecondary Credential	ITCC: CT Culinary Arts; CT Dietary Management; CT Pastry Culinarian; TC Hospitality Administration: Baking and Pastry; TC Hospitality Administration: Culinary; TC Hospitality Administration: Hospitality Management
Liberal Arts/Sciences Requirements	
Industry Credential	Certified Fundamentals Cook (CFC), Certified Fundamentals Pastry Cook (CFPC)
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7169 Culinary Arts here.

Baking and Pastry Capstone		
Career Cluster	Hospitality, Events, & Tourism	
Program of Study	Culinary Arts – Baking and Pastry	
NLPS Sequence	D	
Course Code	7235	
Course Description	*The objective of this course is to help students understand the science of baking and the different reactions that take place based on the ingredients, temperatures, and equipment in relation to the final product. The course requires students to produce and finish a variety of cakes. The course emphasizes application techniques, color coordination, and the flavor and texture of fillings. Students will practice the techniques of basic cake decorating.This course will also address classical French and European desserts, including the preparation of goods such as Napoleons, Gateau St. Honoré, petit fours and petit fours sec, ganaches, pastry creams and fillings, sauces, flans and tarts, and European sponges. The course also includes instruction in tempering of chocolates, molding, and chocolate plastique, preparation of truffles, pastillage and marzipan, short doughs, and meringues. The student will be instructed in the latest preparation methods, innovative ideas for impressive plate presentations, and techniques that utilize specialized equipment and tools to make high-tech, novel creations.*	
Prerequisite(s)/ Corequisite(s)	Principles of Culinary and Hospitality; Nutrition; Culinary Arts	
Credits	2 semester course, 2 semester required, 1-3 credits per semester, 6 credits max	
Counts Toward	Counts as a Directed Elective or Elective for all diplomas	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Less than Moderate Value	Level II
Bulletin 400	● Home Economics K-12	
Rules 46-47	● Occupational Education (FACS) 9-12 ● Occupational Vocational Specialist I, II or III: Food Production & Management 9-12 ● Consumer Homemaking Education 9-12	
Rules 2002	● CTE: Family & Consumer Sciences with high school setting ● Workplace Specialist: Culinary Arts & Food Service Management Occupations ● Workplace Specialist: Food Science	
REPA/REPA 3	● CTE: Family & Consumer Sciences 5-12 ● Workplace Specialist: Culinary Arts 9-12 ● Workplace Specialist: Hospitality Management 9-12 ● Workplace Specialist: Food Science 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		

ITCC Course Alignment	HOSP 108: Human Relations Management; HOSP 113: Baking Science; HOSP 111: Yeast Breads; HOSP 208: Cakes, Icings, Fillings; HOSP 209: Advanced Decorating and Candies; HOSP 213: Classical Pastries
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	ITCC: CT Culinary Arts; CT Dietary Management; CT Pastry Culinarian; TC Hospitality Administration: Baking and Pastry; TC Hospitality Administration: Culinary; TC Hospitality Administration: Hospitality Management
Liberal Arts/Sciences Requirements	
Industry Credential	Certified Fundamentals Cook (CFC), Certified Fundamentals Pastry Cook (CFPC)
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7235 Baking and Pastry Capstone here.

Culinary Arts Capstone		
Career Cluster	Hospitality, Events, & Tourism	
Program of Study	Culinary Arts – Baking and Pastry	
NLPS Sequence	D	
Course Code	7233	
Course Description	*This course covers the techniques and skills needed in breakfast cookery as well as insight into the pantry department. Various methods of preparation of eggs, pancakes, waffles and cereals will be discussed. Students will receive instruction in salad preparation, salad dressing, hot and cold sandwich preparation, garnishes and appetizers. This course also covers the necessary skills for proper recruiting, staffing, training, and management of employees at various levels. The course will help prepare the student for the transition from employee to supervisor. Additionally, it will help the student evaluate styles of leadership and develop skills in human relations and personnel management.*	
Prerequisite(s)/ Corequisite(s)	Principles of Culinary and Hospitality; Nutrition; Culinary Arts	
Credits	2 semester course, 2 semester required, 1-3 credits per semester, 6 credits max	
Counts Toward	Counts as a Directed Elective or Elective for all diplomas	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Less than Moderate Value	Level II
Bulletin 400	● Home Economics K-12	

Rules 46-47	● Occupational Education (FACS) 9-12 ● Occupational Vocational Specialist I, II or III: Food Production & Management 9-12 ● Consumer Homemaking Education 9-12
Rules 2002	● CTE: Family & Consumer Sciences with high school setting ● Workplace Specialist: Culinary Arts & Food Service Management Occupations ● Workplace Specialist: Food Science
REPA/REPA 3	● CTE: Family & Consumer Sciences 5-12 ● Workplace Specialist: Culinary Arts 9-12 ● Workplace Specialist: Hospitality Management 9-12 ● Workplace Specialist: Food Science 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	HOSP 106: Pantry and Breakfast; HOSP 108: Human Relations Management; HOSP 111: Yeast Breads; HOSP 113: Baking Science; HOSP 200: Meat and Seafood Fabrication; HOSP 208: Cakes, Icing, Fillings; HOSP 209: Advanced Decorating and Candies; HOSP 213: Classical Pastries
VU Course Alignment	VU/EC – CULN 215: Supervision of the Quantity Food Facility; CULN 150: Advanced Quantity Food Production ^ ; CULN 260: Haute Cuisine and Special Food Items ^
Four Yr. Course Alignment	
Postsecondary Credential	ITCC: CT Culinary Arts; CT Dietary Management; CT Pastry Culinarian; TC Hospitality Administration: Baking and Pastry; TC Hospitality Administration: Culinary; TC Hospitality Administration: Hospitality Management
Liberal Arts/Sciences Requirements	
Industry Credential	Certified Fundamentals Cook (CFC), Certified Fundamentals Pastry Cook (CFPC)
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7233 Culinary Arts Capstone here.

Hospitality, Events, & Tourism Hospitality Management							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
7173	Principles of Culinary and Hospitality	7171	Nutrition	7172	Hospitality Management	7237	Hospitality Management Capstone

Principles of Culinary and Hospitality		
Career Cluster	Hospitality, Events, & Tourism	
Program of Study	Culinary Arts – Baking and Pastry, Hospitality Management, Nutrition Science	
NLPS Sequence	A	
Course Code	7173	
Course Description	*Principles of Culinary and Hospitality is designed to develop an understanding of the hospitality industry and career opportunities, and responsibilities in the food service and lodging industry. Introduces procedures for decision making which affects operation management, products, labor, and revenue. Additionally, students will learn the fundamentals of food preparation, basic principles of sanitation, service procedures, and safety practices in the food service industry including proper operation techniques for equipment.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Counts as a directed elective or elective for all diplomas	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Less than Moderate Value	Level I
Bulletin 400	● Vocational Home Economics K-12	
Rules 46-47	● Occupational Education (FACS) 9-12 ● Occupational Specialist I, II or III: Food Production & Management 9-12 ● Consumer Homemaking Education 9-12	
Rules 2002	● CTE: Family & Consumer Sciences with high school setting ● Workplace Specialist: Culinary Arts & Food Service Management Occupations ● Workplace Specialist: Food Science	
REPA/REPA 3	● CTE: Family & Consumer Sciences 5-12 ● Workplace Specialist: Culinary Arts 9-12	

	● Workplace Specialist: Hospitality Management 9-12 ● Workplace Specialist: Food Science 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	HOSP 101: Sanitiation-Safety; HOSP 102: Basic Food Theory and Skills
VU Course Alignment	REST 120: Food Service Sanitation; CULN 110: Quantity Food Production
Four Yr. Course Alignment	
Postsecondary Credential	ITCC: CT Culinary Arts; CT Dietary Management; CT Pastry Culinarian; TC Hospitality Administration: Baking and Pastry; TC Hospitality Administration: Culinary; TC Hospitality Administration: Hospitality Management VU: CG Culinary Arts, Restaurant and Food Services, and Hotel Management; A.S. Culinary Arts; A.S. Restaurant and Food Service Management
Liberal Arts/Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7173 Principles of Culinary Hospitality here.

Nutrition	
Career Cluster	Hospitality, Events, & Tourism
Program of Study	Culinary Arts – Baking and Pastry, Hospitality Management, Nutrition Science
NLPS Sequence	B
Course Code	7171
Course Description	*Nutrition students will learn the characteristics, functions and food sources of the major nutrient groups and how to maximize nutrient retention in food preparation and storage. Students will be made aware of nutrient needs throughout the life cycle and to apply those principles to menu planning and food preparation. This course will engage students in hands-on learning of nutritional concepts such as preparing nutrient dense meals or examining nutritional needs of student athletes*
Prerequisite(s)/ Corequisite(s)	Principles of Culinary and Hospitality
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
Counts Toward	Counts as a directed elective or elective for all diplomas Counts as a science credit*
Dual Credit Status	X (PCL/CTE)
Additional Notes	
ADDITIONAL COURSE INFO	

Funding	Moderate Value	Level I
Bulletin 400	● Vocational Home Economics K-12	
Rules 46-47	● Occupational Education (FACS) 9-12 ● Occupational Specialist I, II or III: Food Production & Management 9-12 ● Consumer Homemaking Education 9-12	
Rules 2002	● CTE: Family & Consumer Sciences with high school setting ● Workplace Specialist: Culinary Arts & Food Service Management Occupations ● Workplace Specialist: Food Science	
REPA/REPA 3	● CTE: Family & Consumer Sciences 5-12 ● Workplace Specialist: Culinary Arts 9-12 ● Workplace Specialist: Hospitality Management 9-12 ● Workplace Specialist: Food Science 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	HOSP 104: Nutrition	
VU Course Alignment	FACS 206: Fundamentals of Nutrition*	
Four Yr. Course Alignment		
Postsecondary Credential	ITCC: CT Culinary Arts; CT Dietary Management; CT Pastry Culinarian; TC Hospitality Administration: Baking and Pastry; TC Hospitality Administration: Culinary; TC Hospitality Administration: Hospitality Management	
Liberal Arts/Sciences Requirements		
Industry Credential		
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 7171 Nutrition here.	

Hospitality Management	
Career Cluster	Hospitality, Events, & Tourism
Program of Study	Hospitality Management
NLPS Sequence	C
Course Code	7172
Course Description	*Hospitality Management prepares students for employment in the hospitality industry. It provides the foundations for study in higher education that leads to a full spectrum of hospitality careers. This is a broad-based course that introduces students to all segments of hospitality, what it includes, and career opportunities that are available; provides a survey of management functions, highlighting basic theories and facts; and exposes students to current trends*

	and current events within the industry. Three major goals of this course are for students to be able to identify current trends in hotel and restaurant management, distinguish the difference between hospitality and tourism, and state differences in front of the house versus back of the house.
Prerequisite(s)/ Corequisite(s)	Principles of Culinary and Hospitality
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
Counts Toward	Counts as a directed elective or elective for all diplomas
Dual Credit Status	X (PCL/CTE)
Additional Notes	
ADDITIONAL COURSE INFO	
Funding	Less than Moderate Value | Level I
Bulletin 400	● Vocational Home Economics K-12
Rules 46-47	● Occupational Education (FACS) 9-12 ● Occupational Specialist I, II or III: Food Production & Management 9-12 ● Consumer Homemaking Education 9-12
Rules 2002	● CTE: Family & Consumer Sciences with high school setting ● Workplace Specialist: Lodging Management ● Workplace Specialist: Culinary Arts & Food Service Management Occupations ● Workplace Specialist: Precision Food Production
REPA/REPA 3	● CTE: Family & Consumer Sciences 5-12 ● Workplace Specialist: Hospitality Management 9-12 ● Workplace Specialist: Culinary Arts 9-12 ● Workplace Specialist: Precision Food Production 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	HOSP 114: Intro to Hospitality; HOSP 171: Intro to Convention Management
VU Course Alignment	REST 100: Introduction to Hospitality Management
Four Yr. Course Alignment	
Postsecondary Credential	ITCC: CT Culinary Arts; CT Dietary Management; CT Pastry Culinarian; TC Hospitality Administration: Baking and Pastry; TC Hospitality Administration: Culinary; TC Hospitality Administration: Hospitality Management VU: CG Culinary Arts, Restaurant and Food Services, and Hotel Management (12.0504); A.S. Culinary Arts (12.0503); A.S. Restaurant and Food Service Management (12.0504)
Liberal Arts/Sciences Requirements	
Industry Credential	

CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7172 Hospitality Management here.

Hospitality Management Capstone		
Career Cluster	Hospitality, Events, & Tourism	
Program of Study	Hospitality Management	
NLPS Sequence	D	
Course Code	7237	
Course Description	*This course presents the essentials of effective food and beverage control while establishing systems for sale values of food and beverages that are outlined. This course addresses the application of the four-step control process to the primary phases of foodservice operations: purchasing, receiving, storing, issuing and production. Labor costs and sales forecasting are analyzed. This course also provides an opportunity for Intermediate Hospitality students to acquire valuable field experience by working under the supervision of a Hospitality Manager. The students will keep a journal and prepare a report on their experiences at the end of the course.*	
Prerequisite(s)/ Corequisite(s)	Principles of Culinary and Hospitality; Nutrition; Hospitality Management	
Credits	2 semester course, 2 semester required, 1-3 credits per semester, 6 credits max	
Counts Toward	Counts as a Directed Elective or Elective for all diplomas	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Less than Moderate Value	Level II
Bulletin 400	• Vocational Home Economics K-12	
Rules 46-47	• Occupational Education (FACS) 9-12 • Occupational Specialist I, II or III: Food Production & Management 9-12 • Consumer Homemaking Education 9-12	
Rules 2002	• CTE: Family & Consumer Sciences with high school setting • Workplace Specialist: Lodging Management • Workplace Specialist: Culinary Arts & Food Service Management Occupations • Workplace Specialist: Precision Food Production	
REPA/REPA 3	• CTE: Family & Consumer Sciences 5-12 • Workplace Specialist: Hospitality Management 9-12 • Workplace Specialist: Culinary Arts 9-12 • Workplace Specialist: Precision Food Production 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		

ITCC Course Alignment	HOSP 107: Hospitality Sales and Marketing or HOSP 272: The Tourism System; HOSP 108: Human Relations Management; HOSP 201: Hospitality Purchasing and Cost Control; HOSP 173: Special Event Management; HOSP 280: Co-op/Internship
VU Course Alignment	REST 155: Quantity Food Purchasing
Four Yr. Course Alignment	
Postsecondary Credential	ITCC: CT Culinary Arts; CT Dietary Management; CT Pastry Culinarian; TC Hospitality Administration: Baking and Pastry; TC Hospitality Administration: Culinary; TC Hospitality Administration: Hospitality Management VU: CG Culinary Arts, Restaurant and Food Services, and Hotel Management (12.0504); A.S. Culinary Arts (12.0503); A.S. Restaurant and Food Service Management (12.0504)
Liberal Arts/Sciences Requirements	
Industry Credential	Serv Safe – Food Manager
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7237 Hospitality Management Capstone here.

Hospitality, Events, & Tourism Nutrition Science							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
7173	Principles of Culinary and Hospitality	7171	Nutrition	7170	Nutrition Planning and Therapy	7239	Nutrition Science Capstone

Principles of Culinary and Hospitality		
Career Cluster	Hospitality, Events, & Tourism	
Program of Study	Culinary Arts – Baking and Pastry, Hospitality Management, Nutrition Science	
NLPS Sequence	A	
Course Code	7173	
Course Description	*Principles of Culinary and Hospitality is designed to develop an understanding of the hospitality industry and career opportunities, and responsibilities in the food service and lodging industry. Introduces procedures for decision making which affects operation management, products, labor, and revenue. Additionally, students will learn the fundamentals of food preparation, basic principles of sanitation, service procedures, and safety practices in the food service industry including proper operation techniques for equipment.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Counts as a directed elective or elective for all diplomas	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Less than Moderate Value	Level I
Bulletin 400	● Vocational Home Economics K-12	
Rules 46-47	● Occupational Education (FACS) 9-12 ● Occupational Specialist I, II or III: Food Production & Management 9-12 ● Consumer Homemaking Education 9-12	
Rules 2002	● CTE: Family & Consumer Sciences with high school setting ● Workplace Specialist: Culinary Arts & Food Service Management Occupations ● Workplace Specialist: Food Science	
REPA/REPA 3	● CTE: Family & Consumer Sciences 5-12 ● Workplace Specialist: Culinary Arts 9-12 ● Workplace Specialist: Hospitality Management 9-12	

	● Workplace Specialist: Food Science 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	HOSP 101: Sanitiation-Safety, HOSP 102: Basic Food Theory and Skills
VU Course Alignment	REST 120: Food Service Sanitation, CULN 110: Quantity Food Production
Four Yr. Course Alignment	
Postsecondary Credential	ITCC: CT Culinary Arts; CT Dietary Management; CT Pastry Culinarian; TC Hospitality Administration: Baking and Pastry; TC Hospitality Administration: Culinary; TC Hospitality Administration: Hospitality Management VU: CG Culinary Arts, Restaurant and Food Services, and Hotel Management (12.0504); A.S. Culinary Arts (12.0503); A.S. Restaurant and Food Service Mgmt (12.0504)
Liberal Arts/Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7173 Principles of Culinary Hospitality here.

Nutrition	
Career Cluster	Hospitality, Events, & Tourism
Program of Study	Culinary Arts – Baking and Pastry, Hospitality Management, Nutrition Science
NLPS Sequence	B
Course Code	7171
Course Description	*Nutrition students will learn the characteristics, functions and food sources of the major nutrient groups and how to maximize nutrient retention in food preparation and storage. Students will be made aware of nutrient needs throughout the life cycle and to apply those principles to menu planning and food preparation. This course will engage students in hands-on learning of nutritional concepts such as preparing nutrient dense meals or examining nutritional needs of student athletes*
Prerequisite(s)/ Corequisite(s)	Principles of Culinary and Hospitality
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
Counts Toward	Counts as a directed elective or elective for all diplomas Counts as a science credit*
Dual Credit Status	X (PCL/CTE)
Additional Notes	
ADDITIONAL COURSE INFO	

Funding	Moderate Value	Level I
Bulletin 400	● Vocational Home Economics K-12	
Rules 46-47	● Occupational Education (FACS) 9-12 ● Occupational Specialist I, II or III: Food Production & Management 9-12 ● Consumer Homemaking Education 9-12	
Rules 2002	● CTE: Family & Consumer Sciences with high school setting ● Workplace Specialist: Culinary Arts & Food Service Management Occupations ● Workplace Specialist: Food Science	
REPA/REPA 3	● CTE: Family & Consumer Sciences 5-12 ● Workplace Specialist: Culinary Arts 9-12 ● Workplace Specialist: Hospitality Management 9-12 ● Workplace Specialist: Food Science 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	HOSP 104: Nutrition	
VU Course Alignment	FACS 206: Fundamentals of Nutrition*	
Four Yr. Course Alignment		
Postsecondary Credential	ITCC: CT Culinary Arts; CT Dietary Management; CT Pastry Culinarian; TC Hospitality Administration: Baking and Pastry; TC Hospitality Administration: Culinary; TC Hospitality Administration: Hospitality Management	
Liberal Arts/Sciences Requirements		
Industry Credential		
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 7171 Nutrition here.	

Nutrition Planning and Therapy	
Career Cluster	Hospitality, Events, & Tourism
Program of Study	Nutrition Science
NLPS Sequence	C
Course Code	7170
Course Description	*This course presents the basic principles of nutrition; the role nutrients play in maintaining good health as well as their effect on certain disease states. Students will learn to modify diets to meet various nutritional needs and to plan menus using modified diet principles. This course teaches students to develop an in-depth understanding of the principles of diet therapy. Students will learn to assess patients' nutritional needs, develop care plans, and implement a delivery system.*

	Students will also learn documentation skills required by Centers for Medicare and Medicaid Services (CMS).
Prerequisite(s)/ Corequisite(s)	Principles of Culinary and Hospitality; Nutrition
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
Counts Toward	Counts as a directed elective or elective for all diplomas Fulfills a science requirement for all diploma types
Dual Credit Status	X (PCL/CTE)
Additional Notes	
ADDITIONAL COURSE INFO	
Funding	Less than Moderate Value | Level I
Bulletin 400	● Vocational Home Economics K-12
Rules 46-47	● Occupational Education (FACS) 9-12
Rules 2002	● CTE: Family & Consumer Sciences with high school setting
REPA/REPA 3	● CTE: Family & Consumer Sciences 5-12 ● Workplace Specialist: Nutrition Science 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	HOSP 115: Diet Therapy; HLHS 123: Meal Planning in Healthcare
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	ITCC: CT Culinary Arts; CT Dietary Management; CT Pastry Culinarian; TC Hospitality Administration: Baking and Pastry; TC Hospitality Administration: Culinary; TC Hospitality Administration: Hospitality Management
Liberal Arts/Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7170 Nutrition Planning and Therapy here.

Nutrition Science Capstone	
Career Cluster	Hospitality, Events, & Tourism
Program of Study	Nutrition Science
NLPS Sequence	D
Course Code	7239

Course Description	*This course offers practical experience in a health care facility monitored by a Registered Dietician in order to build specialized skills. This work-based experience provides an opportunity for students to transfer their academic preparation into actual work-based learning by acquiring "real world" skills and building ties with the healthcare community. Students must complete 150 hours of field experience. (Students should have a site in mind prior to registering for this course--coordinator will assist.)*
Prerequisite(s)/ Corequisite(s)	Principles of Culinary and Hospitality; Nutrition; Nutrition Planning and Therapy
Credits	2 semester course, 2 semester required, 1-3 credits per semester, 6 credits max
Counts Toward	Counts as a Directed Elective or Elective for all diplomas
Dual Credit Status	X (PCL/CTE)
Additional Notes	
ADDITIONAL COURSE INFO	
Funding	Less than Moderate Value | Level II
Bulletin 400	● Vocational Home Economics K-12
Rules 46-47	● Occupational Education (FACS) 9-12
Rules 2002	● CTE: Family & Consumer Sciences with high school setting
REPA/REPA 3	● CTE: Family & Consumer Sciences 5-12 ● WS: Nutrition Science 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	HOSP 116: Dietary Mgmt Supervision*; HOSP 117: Dietary Mgmt- Cost Control; HOSP 118: Resident Clinical Assessment and Documentation; HOSP 278: Dietary Management Internship
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	ITCC: CT Culinary Arts; CT Dietary Management; CT Pastry Culinarian; TC Hospitality Administration: Baking and Pastry; TC Hospitality Administration: Culinary; TC Hospitality Administration: Hospitality Management
Liberal Arts/Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7239 Nutrition Science Capstone here.

Marketing, Sales, & Entrepreneurship

Introduction to Entrepreneurship	
Career Cluster	Business Management; Financial Services; Marketing, Sales, & Entrepreneurship
Program of Study	
NLPS Sequence	Introductory
Course Code	5967
Course Description	*Introduction to Entrepreneurship provides an overview of what it means to be an entrepreneur. Students will learn about starting and operating a business, marketing products and services, and how to find resources to help in the development of a new venture. This course is ideal for students interested in starting their own art gallery, salon, restaurant, etc.*
Prerequisite(s)/ Corequisite(s)	None
Credits	1 to 2 semester course, 1 credit per semester, 2 credits maximum
Counts Toward	
Dual Credit Status	
Additional Notes	
ADDITIONAL COURSE INFO	
Funding	Introductory
Bulletin 400	• Business Education 7- 12 • Distributive Education K-12
Rules 46-47	• Business Education 9-12 • Marketing Education 9-12 • Distributive Education K-12 • Business Education with Vocational Endorsement 9-12 • Occupational Specialist I, II or III in related course approved for a CTE pathway
Rules 2002	• Business with high school setting • CTE: Marketing with high school setting • CTE: Business Services & Technology with high school setting • Workplace Specialist I or II in related course approved for a CTE pathway
REPA/REPA 3	• Business 5-12 • CTE: Business Services & Technology 5-12 • CTE: Business & Information Technology 5-12 • CTE: Marketing 5-12 • Workplace Specialist I or II in related course approved for a CTE pathway
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course	

Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 5967 Introduction to Entrepreneurship here.

Marketing, Sales, & Entrepreneurship Entrepreneurship							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
7154	Principles of Entrepreneurship	7147	Entrepreneurial Operations	7148	New Venture Development	7201	Small Business Operations Capstone

Principles of Entrepreneurship		
Career Cluster	Business Management, Marketing and Finance	
Program of Study	Entrepreneurship	
NLPS Sequence	A	
Course Code	7154	
Course Description	*Principles of Entrepreneurship focuses on students learning about their own strengths, character and skills and how their unique abilities can apply to entrepreneurship, as well as how an entrepreneurial mindset can serve them regardless of their career path. Students will learn about the local, regional and state resources and will begin to understand and apply the entrepreneurial process. The course helps students to identify and evaluate business ideas while learning the steps and competencies required to launch a successful new venture. The course helps students apply what they have learned from the content when they write a Personal Vision Statement, a Business Concept Statement, and an Elevator Pitch.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Counts as a directed elective or elective for all diplomas	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Business Education 7-12 ● Distributive Education K-12	
Rules 46-47	● Business Education 9-12 ● Marketing Education 9-12 ● Distributive Education K-12 ● Business Education with Vocational Endorsement 9-12 ● Occupational Specialist I, II or III in related course approved for a CTE pathway	
Rules 2002	● Business with high school setting	

	● CTE: Marketing with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist I or II in related course approved for a CTE pathway
REPA/REPA 3	● Business 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● CTE: Marketing 5-12 ● Workplace Specialist I or II in related course approved for a CTE pathway ● Workplace Specialist: Entrepreneurship 9-12 ● CTE: Trade & Industrial: Entrepreneurship 5-12
POST-SECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	ENTR 100: Entrepreneurial Mindset, ENTR 200: Entrepreneurial Enterprise
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	ITCC: CT Entrepreneurship (52.0701), TC Entrepreneurship (52.0701)
Liberal Arts/Sciences Requirements	ITCC - IVYT 111: Student Success for University Transfer
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7154 Principles of Entrepreneurship here.

Entrepreneurial Operations	
Career Cluster	Business Management, Marketing and Finance
Program of Study	Entrepreneurship
NLPS Sequence	B
Course Code	7147
Course Description	*Entrepreneurial Operations will focus on key marketing strategies particularly relevant to new ventures. Students will develop an understanding of marketing, advertising, social media, and branding. Upon successful completion of this course, the student should be able to identify and evaluate the various sources available for funding a new enterprise; demonstrate an understanding of financial terminology; read, prepare, and analyze basic financial statements; estimate capital requirements and risk, exit strategies; and prepare a budget for their business. In addition, the student should be able to explain the importance of working capital and cash management. The student should also be able to identify financing needs and prepare sales forecasts.*
Prerequisite(s)/	Principles of Entrepreneurship

Corequisite(s)		
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Counts as a directed elective or elective for all diplomas	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Business Education 7-12 ● Distributive Education K-12	
Rules 46-47	● Business Education 9-12 ● Marketing Education 9-12 ● Distributive Education K-12 ● Business Education with Vocational Endorsement 9-12 ● Occupational Specialist I, II or III in related course approved for a CTE pathway	
Rules 2002	● Business with high school setting ● CTE: Marketing with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist I or II in related course approved for a CTE pathway	
REPA/REPA 3	● Business 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● CTE: Marketing 5-12 ● Workplace Specialist I or II in related course approved for a CTE pathway ● Workplace Specialist: Entrepreneurship 9-12 ● CTE: Trade & Industrial: Entrepreneurship 5-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	ENTR 105: Entrepreneurial Lean Marketing, ENTR 205: Financial Foundations for Entrepreneurs	
VU Course Alignment	ENTR 221: Creating a Small Business	
Four Yr. Course Alignment		
Postsecondary Credential	ITCC: CT Entrepreneurship (52.0701), TC Entrepreneurship (52.0701) VU: Entrepreneurship Certificate, CPC; A.S. Business Management (52.0101)	
Liberal Arts/Sciences Requirements	ITCC - IVYT 111: Student Success for University Transfer	
Industry Credential		
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 7147 Entrepreneurial Operations here.	

New Venture Development		
Career Cluster	Business Management, Marketing and Finance	
Program of Study	Entrepreneurship	
NLPS Sequence	C	
Course Code	7148	
Course Description	*New Venture Development is targeted to students interested in creating and growing their own businesses. The course will focus on key marketing strategies particularly relevant for new ventures including the appropriate business structure and organization, developing plans and strategies for the entrepreneurial venture, financing strategies, exploring growth opportunities, and successfully managing scarce resources. Students will explore buy/sell/lease negotiations, insurance, logistics, and technology use. By the end, students will be well-prepared to tackle the challenges of small business management and entrepreneurship.*	
Prerequisite(s)/ Corequisite(s)	Principles of Entrepreneurship	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Counts as a directed elective or elective for all diplomas	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Business Education 7-12 ● Distributive Education K-12	
Rules 46-47	● Business Education 9-12 ● Marketing Education 9-12 ● Distributive Education K-12 ● Business Education with Vocational Endorsement 9-12 ● Occupational Specialist I, II or III in related course approved for a CTE pathway	
Rules 2002	● Business with high school setting ● CTE: Marketing with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist I or II in related course approved for a CTE pathway	
REPA/REPA 3	● Business 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● CTE: Marketing 5-12 ● Workplace Specialist I or II in related course approved for a CTE pathway ● Workplace Specialist: Entrepreneurship 9-12 ● CTE: Trade & Industrial: Entrepreneurship 5-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course	ENTR 215: New Venture Development, ENTR 218: New Venture Launch	

Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	ITCC: CT Entrepreneurship (52.0701), TC Entrepreneurship (52.0701)
Liberal Arts/Sciences Requirements	ITCC: IVYT 111 Student Success for University Transfer
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7148 New Venture Development here.

Small Business Operations Capstone		
Career Cluster	Financial Services; Marketing, Sales, & Entrepreneurship	
Program of Study	Entrepreneurship; Insurance; Marketing and Sales	
NLPS Sequence	D	
Course Code	7201	
Course Description	*The Business Management Capstone is an applied course, and students will be implementing the correct legal, business, human resources, operations, marketing and financial structures after de- risking their idea and launching their business.*	
Prerequisite(s)/ Corequisite(s)	Any CTE Business Concentrator Sequence except Business Administration	
Credits	2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum	
Counts Toward	Counts as a Directed Elective or Elective for all diplomas	
Dual Credit Status	X (PCL/CTE)	
Additional Notes	Recommended Capstone course for Entrepreneurship, Insurance, and Marketing Programs of Study	
ADDITIONAL COURSE INFO		
Funding	High Value	Level II
Bulletin 400	● Business Education 7-12 ● Distributive Education K-12	
Rules 46-47	● Business Education 9-12 ● Marketing Education 9-12 ● Distributive Education K-12 ● Business Education with Vocational Endorsement 9- 12 ● Occupational Specialist I, II or III in related course approved for a CTE pathway	
Rules 2002	● Business with high school setting ● CTE: Marketing with high school setting	

	● CTE: Business Services & Technology with high school setting ● Workplace Specialist I or II in related course approved for a CTE pathway
REPA/REPA 3	● Business 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● CTE: Marketing 5-12 ● Workplace Specialist: Advanced Business Management 9-12 ● Workplace Specialist I or II in related course approved for a CTE pathway
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	BUSN 105: Principles of Management, BUSN 201: Business Law, ACCT 101: Financial Accounting, ENTR 279: Entrepreneurship Capstone, MKTG 102: Principles of Selling
VU Course Alignment	MGMT 250: Introduction to Management▲
Four Yr. Course Alignment	
Postsecondary Credential	ITCC: CT Entrepreneurship (52.0701), TC Entrepreneurship (52.0701) VU: Entrepreneurship Certificate, 5404, CPC; A.S. Business Administration (52.0201); A.S. Business Management (52.0101)
Liberal Arts/Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7201 Small Business Operations Capstone here.

Marketing, Sales, & Entrepreneurship Marketing and Sales							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
4562	Principles of Business Management	5914	Marketing Fundamentals	5918	Strategic Marketing	7201	Small Business Operations Capstone
				7145	Digital Marketing		

Principles of Business Management		
Career Cluster	Business Management; Financial Services; Marketing, Sales, & Entrepreneurship	
Program of Study	Accounting, Business Administration, Finance and Investment, Insurance, Marketing and Sales, Supply Chain and Logistics	
NLPS Sequence	A	
Course Code	4562	
Course Description	*Principles of Business Management examines business ownership, organization principles and problems, management, control facilities, administration, financial management, and development practices of business enterprises. This course will also emphasize the identification and practice of the appropriate use of technology to communicate and solve business problems and aid in decision making. Attention will be given to developing business communication, problem-solving, and decision-making skills using spreadsheets, word processing, data management, and presentation software.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Counts as a directed elective or elective for all diplomas	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Business Education 7-12 ● Distributive Education K-12	
Rules 46-47	● Business Education 9-12 ● Marketing Education 9-12 ● Distributive Education K-12 ● Business Education with Vocational Endorsement 9-12 ● Occupational Specialist I, II or III in related course approved for a CTE pathway	
Rules 2002	● Business with high school setting	

	● CTE: Marketing with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist I or II in related course approved for a CTEpathway
REPA/REPA 3	● Business 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● CTE: Marketing 5-12 ● Workplace Specialist: Advanced Business Management 9-12 ● Workplace Specialist I or II in related course approved for a CTE pathway
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	BUSN 101: Introduction to Business, OTEC 207: Integrated Microsoft Office Applications or OTEC 107: Introduction to Microsoft Office
VU Course Alignment	MGMT 100: Introduction to Business, COMP 110: Introduction to Computer Concepts
Four Yr. Course Alignment	BSU – ISOM 125: Introduction to Business Computer Applications ISU - BUS 100: Introduction to Contemporary Business, BUS 180: Business Information Tools IUB - BUS X-100: Introduction to Business IUN/S/K/N - BUS W-100: Introduction to Business IUSB - BUS B-190: Introduction to Business PFW - BUS 10001: Principles of Business Administration PNW - BUSM 10100: Introduction to Business USI - MNGT 201: Survey of Management
Postsecondary Credential	ITCC: CT Digital Marketing, CT Business Administration, TC Office Administration and Technology (52.0201) VU: Management Training Certificate, CPC; A.S. Business Administration (52.0201), A.S. Business Management (52.0101) ISU: B.S. in Insurance and Risk Management (52.1701) IUB/K/N/S/SB: B.S. Business (52.0101) PFW: B.S. Business (52.0101)
Liberal Arts/Sciences Requirements	ITCC - ENGL 111: English Composition, IVYT 114: Student Success in Business, Humanities/ Social & Behavioral 3-4 hours
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 4562 Principles of Business Management here.

Marketing Fundamentals		
Career Cluster	Business Management; Marketing, Sales, & Entrepreneurship	
Program of Study	Marketing and Sales	
NLPS Sequence	B	
Course Code	5914	
Course Description	*Marketing Fundamentals provides a basic introduction to the scope and importance of marketing in the global economy. Course topics include the seven functions of marketing: promotion, channel management, pricing, product/service management, market planning, marketing information management, and professional selling skills. Emphasis is marketing content but will involve use of oral and written communications, mathematical applications, problem-solving, and critical thinking skills through the development of an integrated marketing plan and other projects.*	
Prerequisite(s)/ Corequisite(s)	Principles of Business Management	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Counts as a directed elective or elective for all diplomas	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Business Education 7-12 ● Distributive Education K-12	
Rules 46-47	● Business Education 9-12 ● Marketing Education 9-12 ● Distributive Education K-12 ● Business Education with Vocational Endorsement 9-12 ● Occupational Specialist with specific experience in strategic marketing	
Rules 2002	● Business with high school setting ● CTE: Marketing with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist with specific experience in strategic marketing	
REPA/REPA 3	● Business 5-12 ● CTE: Marketing 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● Workplace Specialist with specific experience in strategic marketing	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	MKTG 101: Principles of Marketing	

VU Course Alignment	MGMT 280: Introduction to Marketing
Four Yr. Course Alignment	
Postsecondary Credential	ITCC: CT Digital Marketing, CT Business Administration, TC Office Administration and Technology (52.0201) VU - Entrepreneurship Certificate, 5404, CPC; A.S. Business Administration (52.0201), A.S. Business Management (52.0101)
Liberal Arts/Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 5914 Marketing Fundamentals here.

Digital Marketing		
Career Cluster	Marketing, Sales, & Entrepreneurship	
Program of Study	Marketing and Sales	
NLPS Sequence	C	
Course Code	7145	
Course Description	*Digital Marketing provides an introduction to the world of e-commerce and digital marketing media. The course covers how to integrate digital media and e-commerce into organizational and marketing strategy. Students will explore e-commerce applications and the most popular digital marketing tactics and tools. Emphasizes familiarity with executing digital media, understanding the marketing objectives that digital media can help organizations achieve, and establishing and enhancing an organization's digital marketing presence.*	
Prerequisite(s)/ Corequisite(s)	Principles of Business Management; Marketing Fundamentals	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Counts as a directed elective or elective for all diplomas	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Distributive Education 9-12	
Rules 46-47	● Marketing Education 9-12 ● Distributive Education K-12 ● Business Education with Vocational Endorsement 9-12 ● Occupational Specialist with specific experience in strategic marketing	

Rules 2002	● CTE: Marketing with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist with specific experience in strategic marketing
REPA/REPA 3	● CTE: Marketing 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● Workplace Specialist with specific experience in strategic marketing
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	MKTG 252: Introduction to Digital Marketing, MKTG 257: Digital Marketing Management
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	ITCC: CT Digital Marketing, CT Business Administration, TC Office Administration and Technology (52.0201)
Liberal Arts/Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7145 Digital Marketing here.

Strategic Marketing	
Career Cluster	Marketing, Sales, & Entrepreneurship
Program of Study	Marketing and Sales
NLPS Sequence	C
Course Code	5918
Course Description	*Strategic Marketing builds upon the foundations of marketing and applies the functions of marketing at an advanced level. Students will study the basic principles of consumer behavior and examine the application of theories from psychology, social psychology, and economics. The relationship between consumer behavior and marketing activities will be reviewed.*
Prerequisite(s)/ Corequisite(s)	Principles of Business Management; Marketing Fundamentals
Credits	2 semester course, 2 semesters required, 1-2 credits per semester, 4 credits maximum
Counts Toward	Counts as a directed elective or elective for all diplomas Counts as a quantitative reasoning course*
Dual Credit Status	X (PCL/CTE)
Additional Notes	

ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	• Distributive Education 9-12	
Rules 46-47	• Marketing Education 9-12 • Distributive Education K-12 • Business Education with Vocational Endorsement 9-12 • Occupational Specialist with specific experience in strategic marketing	
Rules 2002	• CTE: Marketing with high school setting • CTE: Business Services & Technology with high school setting • Workplace Specialist with specific experience in strategic marketing	
REPA/REPA 3	• CTE: Marketing 5-12 • CTE: Business Services & Technology 5-12 • CTE: Business & Information Technology 5-12 • Workplace Specialist with specific experience in strategic marketing	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	MKTG 201: Introduction to Market Research, MKTG 230: Consumer Behavior	
VU Course Alignment		
Four Yr. Course Alignment		
Postsecondary Credential	ITCC: CT Digital Marketing, CT Business Administration, TC Office Administration and Technology (52.0201)	
Liberal Arts/Sciences Requirements		
Industry Credential		
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 5918 Strategic Marketing here.	

Small Business Operations Capstone	
Career Cluster	Financial Services; Marketing, Sales, & Entrepreneurship
Program of Study	Insurance, Entrepreneurship, Marketing and Sales
NLPS Sequence	D
Course Code	7201
Course Description	*The Business Management Capstone is an applied course, and students will be implementing the correct legal, business, human resources, operations, marketing and financial structures after de- risking their idea and launching their business.*
Prerequisite(s)/	Required Prerequisites: Any CTE Business Concentrator Sequence except

Corequisite(s)	Business Administration	
Credits	2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum	
Counts Toward	Counts as a Directed Elective or Elective for all diplomas	
Dual Credit Status	X (PCL/CTE)	
Additional Notes	Recommended Capstone course for Entrepreneurship, Insurance, and Marketing and Sales Programs of Study	
ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level II
Bulletin 400	● Business Education 7-12 ● Distributive Education K-12	
Rules 46-47	● Business Education 9-12 ● Marketing Education 9-12 ● Distributive Education K-12 ● Business Education with Vocational Endorsement 9- 12 ● Occupational Specialist I, II or III in related course approved for a CTE pathway	
Rules 2002	● Business with high school setting ● CTE: Marketing with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist I or II in related course approved for a CTE pathway	
REPA/REPA 3	● Business 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● CTE: Marketing 5-12 ● Workplace Specialist: Advanced Business Management 9-12 ● Workplace Specialist I or II in related course approved for a CTE pathway	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	BUSN 105: Principles of Management, BUSN 201: Business Law, ACCT 101: Financial Accounting, ENTR 279: Entrepreneurship Capstone, MKTG 102: Principles of Selling	
VU Course Alignment	MGMT 250: Introduction to Management	
Four Yr. Course Alignment		
Postsecondary Credential	ITCC: CT Digital Marketing, CT Business Administration, TC Office Administration and Technology (52.0201) VU – Entrepreneurship Certificate, 5404, CPC; A.S. Business Administration (52.0201), A.S. Business Management (52.0101)	
Liberal Arts/Sciences Requirements		
Industry Credential		
CONTENT STANDARDS AND COMPETENCIES		

Course Competencies	Access competencies for 7201 Small Business Operations Capstone here.

Public Service & Safety

Advanced Career & Technical Education, College Credit: Public Service and Safety	
Career Cluster	Public Service and Safety
Program of Study	
NLPS Sequence	
Course Code	6136
Course Description	*Advanced Career and Technical Education, College Credit is a course title covering any CTE advanced course offered for credit by an accredited postsecondary institution through an adjunct agreement with a secondary school. The intent of this course is to allow students to earn college credit for courses with content that goes beyond that currently approved for high school credit. This course may be used for any dual enrollment course, including a joint program of study involving a postsecondary partnership.*
Prerequisite(s)/ Corequisite(s)	None Recommended: CTE courses that would help prepare the student for success in this area
Credits	1 semester course, up to 3 credits per semester, may be offered for successive semesters up to 12 credits
Counts Toward	Counts as a directed elective or elective for all diplomas
Dual Credit Status	X
Additional Notes	A student should earn at least 3 postsecondary credits for each high school credit. Schools must have an approved Nonstandard Course Waiver on file to be eligible for CTE funding.
ADDITIONAL COURSE INFO	
Funding	Pilot
Bulletin 400	● Appropriate Vocational license ● Standard Trade & Industrial: Fireman Training K-12 ● Standard Trade & Industrial: Law Enforcement Training K-12
Rules 46-47	● Appropriate Vocational license ● Standard Trade & Industrial: Fireman Training 9-12 ● Occupational Specialist I, II or III: Fireman Training 9- 12 ● Standard Trade & Industrial: Law Enforcement Training 9-12 ● Occupational Specialist I, II or III: Law Enforcement Training 9-12
Rules 2002	● Appropriate CTE license ● CTE: Trade & Industrial: Fire Science ● Workplace Specialist: Fire Science ● Workplace Specialist: First Responder ● CTE: Trade & Industrial: Law Enforcement Training

	● Workplace Specialist: Law Enforcement Training
REPA/REPA 3	● Appropriate CTE license ● CTE: Trade & Industrial Fire Science 5- 12 ● Workplace Specialist: Fire & Rescue 9- 12 ● Workplace Specialist: First Responder 9-12 ● CTE: Trade & Industrial Law Enforcement Training 5-12 ● Workplace Specialist: Criminal Justice 9-12 ● CTE: Trade & Industrial: Legal/Law Professionals 5-12 ● Workplace Specialist: Legal/Law Professionals 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	

Public Safety: Special Topics	
Career Cluster	Public Service and Safety
Program of Study	
NLPS Sequence	
Course Code	6154
Course Description	*Public Safety: Special Topics is an extended learning experience designed to address the advancement and specialization of careers within the career cluster through the provision of a specialized course for a specific workforce in the school's region. The learning experience is at a qualified site, and is designed to give the student the opportunity to learn and practice technical skills while working under the direction of an appropriately licensed professional. Throughout the course, students will focus on learning about employment opportunities and obtaining the knowledge, skills, and attitudes essential for success in specific occupations. Course standards and curriculum must be tailored to the specific profession, preparing students to advance in this career field, and where applicable, provide students with opportunities for certification or dual credit. Participation in a related CTSO encourages the development of leadership,*

	communication and career related skills, and opportunities for community service.
Prerequisite(s)/ Corequisite(s)	None
Credits	1 semester course, up to 3 credits per semester, may be offered for successive semesters up to 12 credits
Counts Toward	Counts as a directed elective or elective for all diplomas
Dual Credit Status	X
Additional Notes	Schools must have an approved Nonstandard Course Waiver on file to be eligible for CTE funding
ADDITIONAL COURSE INFO	
Funding	Pilot
Bulletin 400	● Appropriate Vocational license ● Standard Trade & Industrial: Fireman Training K-12 ● Standard Trade & Industrial: Law Enforcement Training K-12
Rules 46-47	● Appropriate Vocational license ● Standard Trade & Industrial: Fireman Training 9-12 ● Occupational Specialist I, II or III: Fireman Training 9- 12 ● Standard Trade & Industrial: Law Enforcement Training 9-12 ● Occupational Specialist I, II or III: Law Enforcement Training 9-12
Rules 2002	● Appropriate CTE license ● CTE: Trade & Industrial: Fire Science ● Workplace Specialist: Fire Science ● Workplace Specialist: First Responder ● CTE: Trade & Industrial: Law Enforcement Training ● Workplace Specialist: Law Enforcement Training
REPA/REPA 3	● Appropriate CTE license ● CTE: Trade & Industrial Fire Science 5- 12 ● Workplace Specialist: Fire & Rescue 9- 12 ● Workplace Specialist: First Responder 9-12 ● CTE: Trade & Industrial Law Enforcement Training 5-12 ● Workplace Specialist: Criminal Justice 9-12 ● CTE: Trade & Industrial: Legal/Law Professionals 5-12 ● Workplace Specialist: Legal/Law Professionals 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal	

Arts/Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	

Introduction to Public Service and Safety	
Career Cluster	Public Service and Safety
Program of Study	
NLPS Sequence	Introductory
Course Code	7190
Course Description	*Introduction to Public Service and Safety introduces students to a variety of available careers and areas of interest including Fire Science, Criminal Justice, Homeland Security, Environmental Health and Safety, Emergency Medical Services, and Legal Services. The course is designed to help students create a career plan for the public service and safety sectors which includes certification requirements and hiring practices.*
Prerequisite(s)/ Corequisite(s)	None
Credits	1 or 2 semester course, 1 credit per semester, 2 credits maximum
Counts Toward	Counts as a directed elective or elective for all diplomas
Dual Credit Status	
Additional Notes	When offered as applied: 2 units maximum; counts as an employability applied unit for alternate diploma
ADDITIONAL COURSE INFO	
Funding	Introductory
Bulletin 400	● Appropriate Vocational license ● Standard Trade & Industrial: Fireman Training K-12 ● Standard Trade & Industrial: Law Enforcement Training K-12
Rules 46-47	● Appropriate Vocational license ● Standard Trade & Industrial: Fireman Training 9-12 ● Occupational Specialist I, II or III: Fireman Training 9- 12 ● Standard Trade & Industrial: Law Enforcement Training 9-12 ● Occupational Specialist I, II or III: Law Enforcement Training 9-12
Rules 2002	● Appropriate CTE license ● CTE: Trade & Industrial: Fire Science ● Workplace Specialist: Fire Science ● Workplace Specialist: First Responder ● CTE: Trade & Industrial: Law Enforcement Training ● Workplace Specialist: Law Enforcement Training

REPA/REPA 3	● Appropriate CTE license ● CTE: Trade & Industrial Fire Science 5-12 ● Workplace Specialist: Fire & Rescue 9-12 ● Workplace Specialist: First Responder 9-12 ● CTE: Trade & Industrial Law Enforcement Training 5-12 ● Workplace Specialist: Criminal Justice 9-12 ● CTE: Trade & Industrial: Legal/Law Professionals 5-12 ● Workplace Specialist: Legal/Law Professionals 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7190 Introduction to Public and Safety here.

Public Service & Safety Criminal Justice							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
7193	Principles of Criminal Justice	7191	Law Enforcement Fundamentals	7188	Corrections and Cultural Awareness	7231	Criminal Justice Capstone

Principles of Criminal Justice		
Career Cluster	Public Service & Safety	
Program of Study	Criminal Justice	
NLPS Sequence	A	
Course Code	7193	
Course Description	*Principles of Criminal Justice covers the purposes, functions, and history of the three primary parts of the criminal justice system: law enforcement, courts, and corrections. This course further explores the interrelationships and responsibilities of these three primary elements of the criminal justice system.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Standard Trade & Industrial: Law Enforcement Training K-12	
Rules 46-47	● Standard Trade & Industrial: Law Enforcement Training 9-12 ● Occupational Specialist I, II or III: Law Enforcement Training 9-12	
Rules 2002	● CTE: Trade & Industrial:Law Enforcement Training ● Workplace Specialist: Law Enforcement Training	
REPA/REPA 3	● CTE: Trade & Industrial: Criminal Justice 5-12 ● Workplace Specialist: Criminal Justice 9-12 ● Workplace Specialist: Law Enforcement9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	CRIM 101: Introduction to Criminal Justice Systems, CRIM 134: Introduction to Criminal Justice Careers	

VU Course Alignment	CRIM 100: Survey of Criminal Justice
Four Yr. Course Alignment	BSU – CJC 101: Introduction to Criminal Justice ISU – CRIM 150: Introduction to the Criminal Justice System USI – CRIM 101: Intro to Criminal Justice
Postsecondary Credential	BSU - B.A./B.S. in Criminal Justice and Criminology (43.0104) ISU – B.S. in Criminology and Criminal Justice (45.0401) ITCC - TC Criminal Justice (43.0104); CT Criminal Justice USI – B.A. / B.S. in Criminal Justice Studies (43.0104) VU - Criminology and Criminal Justice Studies Certificate, CPC; CG Law Enforcement (43.0107)
Liberal Arts/Sciences Requirements	ITCC - ENGL 111: English Composition, IVYT 111: Student Success for University, COMM 101: Fundamentals of Public Speaking or COMM 102: Introduction to Interpersonal Communication VU - ENGL 101: English Composition I; COMM 143: Speech or COMM 148: Interpersonal Communication; Social Science Elective 3 hours; UCC Elective 6 hours.
Industry Credential	Certified Indiana County Jail Officer - Indiana Law Enforcement Academy (ILEA)
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7193 Principles of Criminal Justice here.

Law Enforcement Fundamentals	
Career Cluster	Public Service & Safety
Program of Study	Criminal Justice
NLPS Sequence	B
Course Code	7191
Course Description	*Law Enforcement Fundamentals critically examines the history and nature of the major theoretical perspectives in criminology and the theories found within those perspectives. Students analyze the research support for such theories and perspectives and the connections between theory and criminal justice system practice within all the major components of the criminal justice system. The course will allow students to demonstrate the application of specific theories to explain violent and non-violent criminal behavior on both the micro and macro levels of analysis. Additionally, this course will introduce fundamental law enforcement operations and organization. This includes the evolution of law enforcement at federal, state, and local levels.*
Prerequisite(s)/ Corequisite(s)	Principles of Criminal Justice
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
Counts Toward	

Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Standard Trade & Industrial: Law Enforcement Training K-12	
Rules 46-47	● Standard Trade & Industrial: Law Enforcement Training 9-12 ● Occupational Specialist I, II or III: Law Enforcement Training 9-12	
Rules 2002	● CTE: Trade & Industrial:Law Enforcement Training ● Workplace Specialist: Law Enforcement Training	
REPA/REPA 3	● CTE: Trade & Industrial: Criminal Justice 5-12 ● Workplace Specialist: Criminal Justice 9-12 ● Workplace Specialist: Law Enforcement 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	CRIM 110: Introduction to Law Enforcement; CRIM 105: Introduction to Criminology	
VU Course Alignment	CRIM 101: Basic Police Operations□; CRIM 150: Introduction to Criminology□	
Four Yr. Course Alignment	BSU – CJC 102: Introduction to Criminology, CJC 230: Introduction to Policing ISU – CRIM 200: Criminology; CRIM 220: Introduction to Law Enforcement USI – CRIM 244: Police & Society	
Postsecondary Credential	BSU - B.A./B.S. in Criminal Justice and Criminology (43.0104) ISU – B.S. in Criminology and Criminal Justice (45.0401) ITCC - TC Criminal Justice (43.0104); CT Criminal Justice USI – B.A. / B.S. in Criminal Justice Studies (43.0104) VU - Criminology and Criminal Justice Studies Certificate, CPC; CG Law Enforcement (43.0107)	
Liberal Arts/Sciences Requirements	ITCC - ENGL 111: English Composition, IVYT 111: Student Success for University, COMM 101: Fundamentals of Public Speaking or COMM 102: Introduction to Interpersonal Communication VU - ENGL 101: English Composition; COMM 143: Speech or COMM 148: Interpersonal Communication; Social Science Elective 3 hours; UCC Elective 6 hours.	
Industry Credential	Certified Indiana County Jail Officer - Indiana Law Enforcement Academy (ILEA)	
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 7191 Law Enforcement Fundamentals here.	

Corrections and Cultural Awareness		
Career Cluster	Public Service & Safety	
Program of Study	Criminal Justice	
NLPS Sequence	C	
Course Code	7188	
Course Description	*Corrections and Cultural Awareness emphasizes the study of American criminal justice problems and systems in historical and cultural perspectives, as well as discussing social and public policy factors affecting crime. Multidisciplinary and multicultural perspectives are stressed. Additionally, this course takes a further examination of the American correctional system and the study of administration of local, state, and federal correctional agencies. The examination also includes the history and development of correctional policies and practices, criminal sentencing, jails, prisons, alternative sentencing, prisoner rights, rehabilitation, and community corrections including probation and parole. Current philosophies of corrections and the debates surrounding the roles and effectiveness of criminal sentences, institutional procedures, technological developments, and special populations are discussed.*	
Prerequisite(s)/ Corequisite(s)	Principles of Criminal Justice; Law Enforcement Fundamentals	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Standard Trade & Industrial: Law Enforcement Training K-12	
Rules 46-47	● Standard Trade & Industrial: Law Enforcement Training 9-12 ● Occupational Specialist I, II or III: Law Enforcement Training 9-12	
Rules 2002	● CTE: Trade & Industrial:Law Enforcement Training ● Workplace Specialist: Law Enforcement Training	
REPA/REPA 3	● CTE: Trade & Industrial: Criminal Justice 5-12 ● Workplace Specialist: Criminal Justice 9-12 ● Workplace Specialist: Law Enforcement9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	CRIM 103: Cultural Awareness; CRIM 130: Introduction to Corrections	
VU Course Alignment	CRIM 145: Ethics and Professionalism in Criminal Justice	
Four Yr. Course Alignment	BSU – CJC 240: Introduction to Corrections ISU – CRIM 210: Introduction to Corrections	

	USI – CRIM 234: Intro to Corrections
Postsecondary Credential	BSU - B.A./B.S. in Criminal Justice and Criminology (43.0104) ISU – B.S. in Criminology and Criminal Justice (45.0401) ITCC - TC Criminal Justice (43.0104); CT Criminal Justice USI – B.A. / B.S. in Criminal Justice Studies (43.0104) VU - Criminology and Criminal Justice Studies Certificate, CPC; CG Law Enforcement (43.0107)
Liberal Arts/Sciences Requirements	ITCC - ENGL 111: English Composition, IVYT 111: Student Success for University, COMM 101: Fundamentals of Public Speaking or COMM 102: Introduction to Interpersonal Communication VU - ENGL 101: English Composition I; COMM 143: Speech or COMM 148: Interpersonal Communication; Social Science Elective 3 hours; UCC Elective 6 hours.
Industry Credential	Certified Indiana County Jail Officer - Indiana Law Enforcement Academy (ILEA)
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7188 Corrections and Cultural Awareness here.

Criminal Justice Capstone		
Career Cluster	Public Service & Safety	
Program of Study	Criminal Justice	
NLPS Sequence	D	
Course Code	7231	
Course Description	*The Criminal Justice Capstone course allows students to complete additional instruction to earn a postsecondary certificate and should include a work-based learning component such as job shadowing, internship, etc. once the core content is completed.* ***Note:** that there may be age restrictions on work-based learning components.*	
Prerequisite(s)/ Corequisite(s)	Principles of Criminal Justice; Law Enforcement Fundamentals, Corrections and Cultural Awareness	
Credits	2 semester course, 2 semester required, 1-3 credits per semester, 6 credits max	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level II
Bulletin 400	● Standard Trade & Industrial: Law Enforcement Training K-12	
Rules 46-47	● Standard Trade & Industrial: Law Enforcement Training 9-12 ● Occupational Specialist I, II or III: Law Enforcement Training 9-12	
Rules 2002	● CTE: Trade & Industrial:Law Enforcement Training	

	● Workplace Specialist: Law Enforcement Training
REPA/REPA 3	● CTE: Trade & Industrial: Criminal Justice 5-12 ● Workplace Specialist: Criminal Justice 9-12 ● Workplace Specialist: Law Enforcement9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	CRIM 201: Ethics in Criminal Justice; CRIM 120: Introduction to Courts; CRIM 232 Indiana Jail Officer Course; CRIM 280: Internship
VU Course Alignment	CRIM 282: Indiana Jail Officer Certification□ VU/EC – CRIM 281: Indiana Law Enforcement Certification□; CRIM 270: Internship in Law Enforcement□
Four Yr. Course Alignment	BSU – CJC 250: Introduction to the Criminal Courts/Judiciary, CJC 229: Decision-Making and Ethics in Criminal Justice ISU – CRIM 230: Introduction to Courts; CRIM 298: Practicum in Criminal Justice
Postsecondary Credential	BSU: B.A./B.S. in Criminal Justice and Criminology (43.0104) ISU: B.S. in Criminology and Criminal Justice (45.0401) ITCC: TC Criminal Justice (43.0104); CT Criminal Justice VU/EC: Criminology and Criminal Justice Studies Certificate, CPC; CG Law Enforcement (43.0107)
Liberal Arts/Sciences Requirements	ITCC - ENGL 111: English Composition, IVYT 111: Student Success for University, COMM 101: Fundamentals of Public Speaking or COMM 102: Introduction to Interpersonal Communication VU - ENGL 101: English Composition I; COMM 143: Speech or COMM 148: Interpersonal Communication; Social Science Elective 3 hours; UCC Elective 6 hours.
Industry Credential	Certified Indiana County Jail Officer - Indiana Law Enforcement Academy (ILEA)
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7231 Criminal Justice Capstone here.

Public Service & Safety Fire and Rescue							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
7195	Principles of Fire and Rescue	7189	Fire Fighting Fundamentals	7186	Advanced Fire Fighting	7229	Fire and Rescue Capstone / EMT

Principles of Fire and Rescue		
Career Cluster	Public Service and Safety	
Program of Study	Fire and Rescue	
NLPS Sequence	A	
Course Code	7195	
Course Description	*Principles of Fire and Rescue introduces students to the various roles that firefighters and emergency services workers play to protect the public from the loss of life and property. They are frequently the first emergency personnel at the scene of a traffic accident or medical emergency and may be called upon to put out a fire, treat injuries or perform other vital functions. This course will introduce students to the history, terminology, and basic firefighting skills needed for a beginning firefighter. Additionally, students will develop a career plan for a career in public safety including areas of Fire Science, Homeland Security, and Emergency Medical Services.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Standard Trade & Industrial: Fireman Training K-12	
Rules 46-47	● Standard Trade & Industrial: Fireman Training 9-12 ● Occupational Specialist I, II or III: Fireman Training 9-12	
Rules 2002	● CTE: Trade & Industrial: Fire Science ● Workplace Specialist: Fire Science ● Workplace Specialist: First Responder	
REPA/REPA 3	● CTE: Trade & Industrial Fire Science 5-12 ● Workplace Specialist: Fire & Rescue 9-12	

POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	HSPS 102: Intro to Public Safety
VU Course Alignment	FIRE 111: Introduction to Fire & Emergency Services; FIRE 150: Hazardous Materials – Awareness
Four Yr. Course Alignment	
Postsecondary Credential	ITCC: CT Fire Fighter (43.0203) VU: A.S. in Fire Science and Safety Technology (43.0203); Fire Response and Safety Technology, CPC
Liberal Arts/Sciences Requirements	
Industry Credential	Emergency Medical Response (EMR); EMT/Paramedic Certification; Fire Fighter I; Fire Fighter II
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7195 Principles of Fire and Rescue here.

Fire Fighting Fundamentals		
Career Cluster	Public Service and Safety	
Program of Study	Fire and Rescue	
NLPS Sequence	B	
Course Code	7189	
Course Description	*Fire Fighting Fundamentals is for those students who are seeking certification as a firefighter. This course will prepare students for the Hazardous Materials Awareness and Operations certifications and will introduce students to NFPA 1001 which serves as the standard of measurement for all firefighters in North America. Students will learn the knowledge and hands-on practical skills for managing and controlling hazardous materials incidents required for the certifications. Furthermore, students will study how a fire behaves and will learn the basic firefighting skills needed to extinguish a fire while protecting themselves and other firefighters.*	
Prerequisite(s)/ Corequisite(s)	Principles of Fire and Rescue	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I

Bulletin 400	● Standard Trade & Industrial: Fireman Training K-12
Rules 46-47	● Standard Trade & Industrial: Fireman Training 9-12 ● Occupational Specialist I, II or III: Fireman Training 9-12
Rules 2002	● CTE: Trade & Industrial: Fire Science ● Workplace Specialist: Fire Science ● Workplace Specialist: First Responder
REPA/REPA 3	● CTE: Trade & Industrial Fire Science 5-12 ● Workplace Specialist: Fire & Rescue 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	HSPS 122: Hazmat Awareness and Operations; HSPS 165: Fire Fighter I
VU Course Alignment	FIRE 151: Hazardous Materials – Operations
Four Yr. Course Alignment	
Postsecondary Credential	ITCC: CT Fire Fighter (43.0203) VU: A.S. in Fire Science and Safety Technology (43.0203); Fire Response and Safety Technology, CPC
Liberal Arts/Sciences Requirements	
Industry Credential	Emergency Medical Response (EMR); EMT/Paramedic Certification; Fire Fighter I; Fire Fighter II; Hazardous Material Awareness and Operations
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7189 Fire Fighting Fundamentals here.

Advanced Fire Fighting	
Career Cluster	Public Service and Safety
Program of Study	Fire and Rescue
NLPS Sequence	C
Course Code	7186
Course Description	*Advanced Fire Fighting expands upon the principles and techniques of firefighting learned in Fire Fighting Fundamentals. Students will study fire protection systems, firefighter safety, and survival. Students will also learn what fire is, the chemical hazards of combustion, and related by-products of fire. Additionally, students will gain a better understanding of fire department organization, administration, operations, and basic strategies and tactics.*
Prerequisite(s)/ Corequisite(s)	Principles of Fire and Rescue; Fire Fighting Fundamentals
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum

Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Standard Trade & Industrial: Fireman Training K-12	
Rules 46-47	● Standard Trade & Industrial: Fireman Training 9-12 ● Occupational Specialist I, II or III: Fireman Training 9-12	
Rules 2002	● CTE: Trade & Industrial: Fire Science ● Workplace Specialist: Fire Science ● Workplace Specialist: First Responder	
REPA/REPA 3	● CTE: Trade & Industrial Fire Science 5-12 ● Workplace Specialist: Fire & Rescue 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	HSPS 167: Fire Fighter II	
VU Course Alignment	FIRE 155: Firefighter I□ VU/EC: HLTH 213: Advanced First Aid ^	
Four Yr. Course Alignment		
Postsecondary Credential	ITCC: CT Fire Fighter (43.0203) VU: A.S. in Fire Science and Safety Technology (43.0203); Fire Response and Safety Technology, CPC	
Liberal Arts/Sciences Requirements		
Industry Credential	Emergency Medical Response (EMR); EMT/Paramedic Certification; Fire Fighter I; Fire Fighter II	
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 7186 Advance Fire Fighting here.	

Fire and Rescue Capstone/ EMT	
Career Cluster	Public Service and Safety
Program of Study	Fire and Rescue
NLPS Sequence	D
Course Code	7229
Course Description	*Fire and Rescue Capstone will prepare students to earn the EMT certification.*
Prerequisite(s)/ Corequisite(s)	Principles of Fire and Rescue; Fire Fighting Fundamentals, Advanced Fire Fighting

Credits	2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level II
Bulletin 400	● Standard Trade & Industrial: Fireman Training K-12	
Rules 46-47	● Standard Trade & Industrial: Fireman Training 9-12 ● Occupational Specialist I, II or III: Fireman Training 9-12	
Rules 2002	● CTE: Trade & Industrial: Fire Science ● Workplace Specialist: Fire Science ● Workplace Specialist: First Responder	
REPA/REPA 3	● CTE: Trade & Industrial Fire Science 5-12 ● Workplace Specialist: Fire & Rescue 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	HSPS 125: Emergency Medical Responder; PARM 102: Emergency Medical Technician, HSPS 163: Fire Inspection/Code Enforcement, HSPS 169: Fire and Arson Investigator, HSPS 204: Homeland Security/Public Safety Building and Infrastructure	
VU Course Alignment	FIRE 156: Firefighter II□; EMBT 212: Emergency Medical Technician□	
Four Yr. Course Alignment		
Postsecondary Credential	ITCC: CT Fire Fighter (43.0203) VU: A.S. in Fire Science and Safety Technology (43.0203); Fire Response and Safety Technology, CPC	
Liberal Arts/Sciences Requirements		
Industry Credential	Emergency Medical Response (EMR); EMT/Paramedic Certification; Fire Fighter I; Fire Fighter II	
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 7229 Fire and Rescue Capstone/EMT here.	

Public Service & Safety Paralegal Studies							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
7194	Principles of Paralegal Studies	7192	Paralegal Fundamentals	7187	Advanced Paralegal Studies	7227	Paralegal Studies Capstone

Principles of Paralegal Studies		
Career Cluster	Public Service & Safety	
Program of Study	Paralegal Studies	
NLPS Sequence	A	
Course Code	7194	
Course Description	*Principles of Paralegal Studies introduces the student to a broad understanding of the American legal system. Students will engage with and learn about the various court structures, the key players within the system, and how our rules and laws are made, enforced, interpreted and applied. The course will cover substantive legal topics and provide hands-on learning regarding legal research, legal writing, case briefing, interviewing skills, and profession ethics. This course is designed to improve student's ability to write at a professional level, with attention to grammar, sentence structure, and style, while also becoming familiar with basic legal terminology.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● No License Available	
Rules 46-47	● No License Available	
Rules 2002	● No License Available	
REPA/REPA 3	● CTE: Trade & Industrial: Legal/Law Professionals 5-12	

	● Workplace Specialist: Legal/Law Processionals 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	LEGS 101: Intro to Legal Studies; LEGS 124: Legal Writing I
VU Course Alignment	
Four Yr. Course Alignment	ISU – PSCI 107: Leadership, Ethics, and Democracy
Postsecondary Credential	ITCC:CT Paralegal Studies (22.0302); TC Paralegal Studies (22.0302 ISU: B.A. Political Science (45.1001)
Liberal Arts/Sciences Requirements	ENGL 111: English Composition; IVYT 116: Student Success in Public Service
Promoted Certifications	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7194 Principles of Paralegal Studies here.

Paralegal Fundamentals	
Career Cluster	Public Service & Safety
Program of Study	Paralegal Studies
NLPS Sequence	B
Course Code	7192
Course Description	*Paralegal Fundamentals introduces the student to practical ways to use technology in a law firm such as time keeping, billing, document management, and more. After successful completion of the course, students will earn a certificate from the National Society of Legal Technologists. Additionally, the course will introduce the constitutional law of the United States of America with an emphasis on the decisions of the United States Supreme Course. This course will explore various methodologies of constitutional interpretation and modes of constitutional analysis. Topics include the history of the Articles of Confederation, the history of the Constitution of the United States, the role of the judiciary, the separation of powers and relations among the federal branches of government, the powers of the national government and federalism based on Congress and the states and individual constitutional rights. The course will include projects which will include writing three (3) case briefs, one (1) memorandum of law and one (1) memorandum of points and authorities.*

Prerequisite(s)/ Corequisite(s)	Principles of Paralegal Studies	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● No License Available	
Rules 46-47	● No License Available	
Rules 2002	● No License Available	
REPA/REPA 3	● CTE: Trade & Industrial: Legal/Law Professionals 5-12 ● Workplace Specialist: Legal/Law Processionals 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	LEGS 155: Law Office Technology; LEGS 214: Constitutional Law	
VU Course Alignment		
Four Yr. Course Alignment	ISU – PSCI 211: Legal Research	
Postsecondary Credential	ITCC: CT Paralegal Studies (22.0302); TC Paralegal Studies (22.0302); CT Professionalism in Policing ISU: B.A. Political Science (45.1001)	
Liberal Arts/Sciences Requirements	ENGL 111: English Composition; IVYT 116: Student Success in Public Service	
Promoted Certifications		
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 7192 Paralegal Fundamentals here.	

Advanced Paralegal Studies	
Career Cluster	Public Service & Safety

Program of Study	Paralegal Studies	
NLPS Sequence	C	
Course Code	7187	
Course Description	*Advanced Paralegal Studies provides students the opportunity to learn about how to manage and conduct the work that happens in a law office through a simulated law office environment. Students will learn legal ethics by examination rules of professional conduct that apply to all legal professions including: the American Bar Association Model Rules of Professional Conduct, the Indiana Rules of Professional Conduct, the American Bar Association Guidelines for the Utilization of Legal Assistants; and various other sets of rules of conduct created by paralegal associations.*	
Prerequisite(s)/ Corequisite(s)	Principles of Paralegal Studies; Paralegal Fundamentals	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	• No License Available	
Rules 46-47	• No License Available	
Rules 2002	• No License Available	
REPA/REPA 3	• CTE: Trade & Industrial: Legal/Law Professionals 5-12 • Workplace Specialist: Legal/Law Processionals 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	LEGS 160: Law Office Management; LEGS 170: Law Ethics	
VU Course Alignment		
Four Yr. Course Alignment	ISU – PSCI 308: Judicial Process	
Postsecondary Credential	ITCC:CT Paralegal Studies (22.0302); TC Paralegal Studies (22.0302); CT Professionalism in Policing ISU: B.A. Political Science (45.1001)	

Liberal Arts/Sciences Requirements	ENGL 111: English Composition; IVYT 116: Student Success in Public Service
Promoted Certifications	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7187 Advanced Paralegal Studies here.

Paralegal Studies Capstone		
Career Cluster	Public Service & Safety	
Program of Study	Paralegal Studies	
NLPS Sequence	D	
Course Code	7227	
Course Description	*A core component of Paralegal Studies Capstone is the introduction of legal research resources. Resources can include constitutions, statutory codes and annotations, administrative codes and registers, cases reporters and digests, legal secondary sources, including legal encyclopedias, treatises, legal periodicals, practice manuals, and form books. This course also introduces students to the various finding tools for accessing information in these resources. Instruction covers topics such as proper legal citation form, citation services, and research strategy. Course projects include a series of graded law library research assignments teaching the student how to use this variety of materials to research both primary and secondary legal authorities using methodologies for research in either print or online sources and updating material to insure the most up-to-date research possible. This course will also include instruction devoted to the study of the Indiana Trial rules, small claims, court rules, and local rules. The Paralegal Studies Capstone course focuses on knowing the Rules of Civil Procedure applicable to each part of a case. Topics include filing requirements, the rules regarding service of process, calculation of deadlines, motion practice, discovery, trials, and relief from judgments.*	
Prerequisite(s)/ Corequisite(s)	Principles of Paralegal Studies; Paralegal Fundamentals; Advanced Paralegal Studies	
Credits	2 semester course, 2 semester required, 1-3 credits per semester, 6 credits max	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level II

Bulletin 400	● No License Available
Rules 46-47	● No License Available
Rules 2002	● No License Available
REPA/REPA 3	● CTE: Trade & Industrial: Legal/Law Professionals 5-12 ● Workplace Specialist: Legal/Law Processionals 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	LEGS 102: Legal Research; LEGS 103: Civil Procedure
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	ITCC: CT Paralegal Studies (22.0302); TC Paralegal Studies (22.0302); CT Professionalism in Policing
Liberal Arts/Sciences Requirements	ENGL 111: English Composition; IVYT 116: Student Success in Public Service
Promoted Certifications	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7227 Paralegal Studies Capstone here.

Supply Chain & Transportation

Introduction to Supply Chain & Transportation		
Career Cluster	Supply Chain & Transportation	
Program of Study		
NLPS Sequence	Introductory	
Course Code	4798	
Course Description	*Introduction to Supply Chain & Transportation is an introductory course designed to help students become familiar with fundamental principles in modes of land, sea, air, and space transportation, including basic mechanical skills and processes involved in transportation of people, cargo, and goods. Students will gain and apply knowledge and skills in the safe application, design, production, and assessment of products, services, and systems as it relates to the transportation industries. The content of this course includes the study of how transportation impacts individuals, society, and the environment. This course allows students to reinforce, apply, and transfer their academic knowledge and skills to a variety of interesting and relevant transportation related activities, problems, and settings.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	1 or 2 semester course, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status		
Additional Notes	When offered as applied: 2 units maximum; counts as an employability applied unit for alternate diploma. This course qualifies for funding at the 8th grade level	
ADDITIONAL COURSE INFO		
Funding	Introductory	Available for 8th grade
Bulletin 400	● Industrial Arts 7-12, K12	
Rules 46-47	● Industrial Technology K-12 ● Industrial Education K-12 ● Occupational Specialist I, II or III in related course approved for a CTE pathway	
Rules 2002	● Technology Education with high school setting ● Workplace Specialist I or II in related course approved for a CTE pathway	
REPA/REPA 3	● Technology Education 5-12 ● Workplace Specialist I or II in related course approved for a CTE pathway	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course		

Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 4798 Introduction to Supply Chain & Transportation here.

Advanced Career & Technical Education, College Credit: Supply Chain & Transportation	
Career Cluster	Supply Chain & Transportation
Program of Study	
NLPS Sequence	
Course Code	6128
Course Description	*Advanced Career and Technical Education, College Credit: Supply Chain & Transportation is a course title covering any CTE advanced course offered for credit by an accredited postsecondary institution through an adjunct agreement with a secondary school. The intent of this course is to allow students to earn college credit for courses with content that goes beyond that currently approved for high school credit. This course may be used for any dual enrollment course, including a joint program of study involving a postsecondary partnership.*
Prerequisite(s)/ Corequisite(s)	None Recommended: CTE courses that would help prepare the student for success in this area
Credits	1 semester course, up to 3 credits per semester, may be offered for successive semesters up to 12 credits
Counts Toward	
Dual Credit Status	X
Additional Notes	A student should earn at least 3 postsecondary credits for each high school credit. Schools must have an approved Nonstandard Course Waiver on file to be eligible for CTE funding.
ADDITIONAL COURSE INFO	
Funding	Pilot
Bulletin 400	● Industrial Arts 7- 12, K-12 ● Appropriate Vocational license

Rules 46-47	● Industrial Technology K-12 ● Industrial Education K12 ● Occupational Specialist I, II or III in related course approved for a CTE pathway ● Appropriate Vocational license
Rules 2002	● Technology Education with high school setting ● Workplace Specialist I or II in related course approved for a CTE pathway ● Appropriate CTE license
REPA/REPA 3	● Technology Education 5-12 ● Workplace Specialist I or II in related course approved for a CTE pathway ● Appropriate CTE license
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	

Supply Chain & Transportation: Special Topics	
Career Cluster	Supply Chain & Transportation
Program of Study	
NLPS Sequence	
Course Code	6156
Course Description	*Supply Chain & Transportation: Special Topics is an extended learning experience designed to address the advancement and specialization of careers within the career cluster through the provision of a specialized course for a specific workforce in the school's region. The learning experience is at a qualified site and is designed to give the student the opportunity to learn and practice technical skills while working under the direction of an appropriately licensed professional. Throughout the course, students will focus on learning about employment opportunities and obtaining the knowledge, skills, and attitudes essential for success in specific occupations. Course standards and curriculum must be tailored to the specific profession, preparing students to advance in this career field, and where applicable, provide students with opportunities for certification or dual credit.*

	Participation in a related CTSO encourages the development of leadership, communication and career related skills, and opportunities for community service.
Prerequisite(s)/ Corequisite(s)	None
Credits	1 semester course, up to 3 credits per semester, may be offered for successive semesters up to 12 credits
Counts Toward	
Dual Credit Status	X
Additional Notes	Schools must have an approved Nonstandard Course Waiver on file to be eligible for CTE funding
ADDITIONAL COURSE INFO	
Funding	Pilot
Bulletin 400	● Industrial Arts 7- 12, K-12 ● Appropriate Vocational license
Rules 46-47	● Industrial Technology K-12 ● Industrial Education K12 ● Occupational Specialist I, II or III in related course approved for a CTE pathway ● Appropriate Vocational license
Rules 2002	● Technology Education with high school setting ● Workplace Specialist I or II in related course approved for a CTE pathway ● Appropriate CTE license
REPA/REPA 3	● Technology Education 5-12 ● Workplace Specialist I or II in related course approved for a CTE pathway ● Appropriate CTE license
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	
Liberal Arts/Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	

Supply Chain & Transportation Automotive Collision Repair							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
7215	Principles of Collision Repair	7204	Automotive Body Repair	7206	Plastic Body Repair and Painting Fundamentals	7380	Collision Repair Capstone

Principles of Collision Repair		
Career Cluster	Supply Chain & Transportation	
Program of Study	Auto Collision Repair	
NLPS Sequence	A	
Course Code	7215	
Course Description	*Principles of Collision Repair provides students an overview of the operating, electrical, and general maintenance systems of the modern automobile. Students will be introduced to the safety and operation of equipment and tools used in the automotive collision industry. Students will study the basics of collision repair, along with learning to perform basic service and maintenance including the car's starting and charging system.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level I
Bulletin 400	● Industrial Arts 7-12, K-12	
Rules 46-47	● Industrial Technology K-12 ● Industrial Education K-12 ● Standard Trade & Industrial: Body & Fender Repair 9-12 ● Occupational Specialist I, II or III: Body & Fender Repair 9-12	
Rules 2002	● Technology Education with high school setting ● CTE: Trade & Industrial: Automotive Collision Repair Technology ● Workplace Specialist: Automotive Collision Repair Technology	
REPA/REPA 3	● Technology Education 5-12 ● CTE: Trade & Industrial Automotive Collision Repair 5-12	

	● Workplace Specialist: Automotive Collision Repair 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	AUBR 100: Introduction to Collision Service; AUTI 111: Electrical Systems I
VU Course Alignment	AUTO 105: Transportation Fundamentals
Four Yr. Course Alignment	
Postsecondary Credential	ITCC: CT Collision Repair (47.0603), TC Auto Body Technology (47.0603) VU: Collision Repair Certificate 8071, CPC; CG Auto Body Repair (47.0603); A.S. in Automotive Technology (47.0604)
Liberal Arts/Sciences Requirements	
Industry Credential	ASE A-6 Electrical/Electronic System; ASE - Collision Repair and Refinish: Mechanical and Electrical Components; ASE - Collision Repair and Refinish: Painting and Refinishing; I-CAR Automotive Collision Repair 1; I-CAR Collision Repair Fundamentals; I-CAR Disassembly and Reassembly; I-CAR Plastic Repair; I-CAR Preparation for Refinish
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7215 Principles of Collision Repair here.

Automotive Body Repair	
Career Cluster	Supply Chain & Transportation
Program of Study	Auto Collision Repair
NLPS Sequence	B
Course Code	7204
Course Description	*Automotive Body Repair provides students with an understanding of the materials, measuring, welding, and information resources applicable to collision repair. Students will study steel and aluminum dent repair, including the welding practices commonly performed within an automotive repair environment. Basic skills and knowledge in oxy-fuel welding, cutting, brazing and plasma cutting, gas metal arc welding, squeeze type resistance welding, exterior panel welding and I-CAR welding test preparation will be gained. Students will also learn the installation of moldings, ornaments, and fasteners with emphasis on sheet metal analysis and safety.*
Prerequisite(s)/ Corequisite(s)	Principles of Collision Repair
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
Counts Toward	
Dual Credit Status	X (PCL/CTE)

Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level I
Bulletin 400	● Industrial Arts 7-12, K-12	
Rules 46-47	● Industrial Technology K-12 ● Industrial Education K-12 ● Standard Trade & Industrial: Body & Fender Repair 9-12 ● Occupational Specialist I, II or III: Body & Fender Repair 9-12	
Rules 2002	● Technology Education with high school setting ● CTE: Trade & Industrial: Automotive Collision Repair Technology ● Workplace Specialist: Automotive Collision Repair Technology	
REPA/REPA 3	● Technology Education 5-12 ● CTE: Trade & Industrial Automotive Collision Repair 5-12 ● Workplace Specialist: Automotive Collision Repair 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	AUBR 101: Body Repair I ; AUBR 125: Automotive Body Welding	
VU Course Alignment	BODY 100/100L (Lab): Non-Structural Analysis and Damage Repair/Non-Structural Analysis and Damage Repair Laboratory VU-EC – WELD 185: Automotive Welding	
Four Yr. Course Alignment		
Postsecondary Credential	ITCC: CT Collision Repair (47.0603), TC Auto Body Technology (47.0603) VU/EC: Collision Repair Certificate 8071, CPC; CG Auto Body Repair (47.0603); A.S. in Collision Repair and Refinishing (47.0603)	
Liberal Arts/Sciences Requirements		
Industry Credential	ASE Non-structural Analysis and Damage Repair; ASE A-6 Electrical/Electronic System; ASE - Collision Repair and Refinish: Mechanical and Electrical Components; ASE - Collision Repair and Refinish: Painting and Refinishing; I-CAR Automotive Collision Repair 1; I-CAR Collision Repair Fundamentals; I-CAR Disassembly and Reassembly; I-CAR Plastic Repair; I-CAR Preparation for Refinish	
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 7204 Automotive Body Repair here.	

Plastic Body Repair and Paint Fundamentals		
Career Cluster	Supply Chain & Transportation	
Program of Study	Auto Collision Repair	
NLPS Sequence	C	
Course Code	7206	
Course Description	*Plastic Body Repair and Paint Fundamentals introduces the types of fiberglass and plastic materials used in auto body repair and considerations for automotive painting. Students will explore methods for repairing fiberglass and plastic damage, like welding, reinforcing, repairing holes, and retexturing plastic. Students will be asked to demonstrate the proper use of primers and sealers, spraying techniques, and an understanding of various paint finishes.*	
Prerequisite(s)/ Corequisite(s)	Principles of Collision Repair; Automotive Body Repair	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level I
Bulletin 400	● Industrial Arts 7-12, K-12	
Rules 46-47	● Industrial Technology K-12 ● Industrial Education K-12 ● Standard Trade & Industrial: Body & Fender Repair 9-12 ● Occupational Specialist I, II or III: Body & Fender Repair 9-12	
Rules 2002	● Technology Education with high school setting ● CTE: Trade & Industrial: Automotive Collision Repair Technology ● Workplace Specialist: Automotive Collision Repair Technology	
REPA/REPA 3	● Technology Education 5-12 ● CTE: Trade & Industrial Automotive Collision Repair 5-12 ● Workplace Specialist: Automotive Collision Repair 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	AUBR 103: Automotive Paint Fundamentals; AUBR 220: Fiberglass Plastic Repair	
VU Course Alignment	BODY 100/100L (Lab): Non-Structural Analysis and Damage Repair/Non-Structural Analysis and Damage Repair Laboratory□	
Four Yr. Course Alignment		
Postsecondary Credential	ITCC: CT Collision Repair (47.0603), TC Auto Body Technology (47.0603) VU: Collision Repair Certificate 8071, CPC; CG Auto Body Repair (47.0603); A.S. in Collision Repair and Refinishing (47.0603)	

Liberal Arts/Sciences Requirements	
Industry Credential	ASE Non-structural Analysis and Damage Repair; ASE A-6 Electrical/Electronic System; ASE - Collision Repair and Refinish: Mechanical and Electrical Components; ASE - Collision Repair and Refinish: Painting and Refinishing; I-CAR Automotive Collision Repair 1; I-CAR Collision Repair Fundamentals; I-CAR Disassembly and Reassembly; I-CAR Plastic Repair; I-CAR Preparation for Refinish
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7206 Plastic Body Repair and Paint Fundamentals here.

Collision Repair Capstone		
Career Cluster	Supply Chain & Transportation	
Program of Study	Auto Collision Repair	
NLPS Sequence	D	
Course Code	7380	
Course Description	*Collision Repair Capstone further explores important skills and competencies within the Automotive Body Technology Pathway. Topics such as automotive painting technology, collision damage appraising, and fiberglass plastic repair. Additionally, Co-Op and Internship opportunities will be available for students.*	
Prerequisite(s)/ Corequisite(s)	Principles of Collision Repair; Plastic Body Repair and Paint Fundamentals; Automotive Body Repair	
Credits	2 semester course, 2 semester required, 1-3 credits per semester, 6 credits max	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level II
Bulletin 400	• Industrial Arts 7-12, K-12	
Rules 46-47	• Industrial Technology K-12 • Industrial Education K-12 • Standard Trade & Industrial: Body & Fender Repair 9-12 • Occupational Specialist I, II or III: Body & Fender Repair 9-12	
Rules 2002	• Technology Education with high school setting • CTE: Trade & Industrial: Automotive Collision Repair Technology • Workplace Specialist: Automotive Collision Repair Technology	
REPA/REPA 3	• Technology Education 5-12 • CTE: Trade & Industrial Automotive Collision Repair 5-12	

	● Workplace Specialist: Automotive Collision Repair 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	AUBR 207: Automotive Painting Technology*; AUBR 206: Body Repair II*; AUBR 209: Collision Damage Appraising
VU Course Alignment	BODY 150/150L (Lab): Painting and Refinishing/Painting and Refinishing Laboratory□ VU-EC – BODY 280: Automotive Customization and Restoration□; BODY 290: Custom Painting and Pin-Striping□
Four Yr. Course Alignment	
Postsecondary Credential	ITCC: CT Collision Repair (47.0603), TC Auto Body Technology (47.0603) VU/EC: Collision Repair Certificate 8071, CPC; CG Auto Body Repair (47.0603); A.S. in Collision Repair and Refinishing (47.0603)
Liberal Arts/Sciences Requirements	
Industry Credential	ASE Non-structural Analysis and Damage Repair; ASE A-6 Electrical/Electronic System; ASE - Collision Repair and Refinish: Mechanical and Electrical Components; ASE - Collision Repair and Refinish:Painting and Refinishing; I-CAR Automotive Collision Repair 1; I-CAR Collision Repair Fundamentals; I-CAR Disassembly and Reassembly; I-CAR Plastic Repair; I-CAR Preparation for Refinish
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7380 Collision Repair Capstone here.

Supply Chain & Transportation Automotive Services							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
7213	Principles of Automotive Services	7205	Brake Systems	7212	Steering and Suspensions	7375	Automotive Service Capstone

Principles of Automotive Services		
Career Cluster	Supply Chain & Transportation	
Program of Study	Automotive Services	
NLPS Sequence	A	
Course Code	7213	
Course Description	*Principles of Automotive Services gives students an overview of the operating and general maintenance systems of the modern automobile. Students will be introduced to the safety and operation of equipment and tools used in the automotive industry. Students will study the maintenance and light repair of automotive systems. Also, this course gives students an overview of the electrical operating systems of the modern automobile. Students will be introduced to the safety and operation of equipment and tools used in the electrical diagnosis and repair in the automotive electrical industry. Students will study the fundamentals of electricity and automotive electronics.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Industrial Arts 7-12, K-12 ● Standard Trade & Industrial: Auto Mechanics K-12 ● Appropriate Vocational license	
Rules 46-47	● Industrial Technology K-12 ● Industrial Education K-12 ● Standard Trade & Industrial: Auto Mechanics 9-12 ● Occupational Specialist I, II or III: Auto Mechanics 9-12 ● Occupational Specialist I, II or III in related course approved for a CTE pathway ● Appropriate Vocational license	

Rules 2002	● Technology Education with high school setting ● CTE: Trade & Industrial: Automotive Services Technology ● Workplace Specialist: Automotive Services Technology ● Workplace Specialist I or II in related course approved for a CTE pathway ● Appropriate CTE license
REPA/REPA 3	● Technology Education 5-12 ● CTE: Trade & Industrial Automotive Services 5-12 ● Workplace Specialist: Automotive Services 9-12 ● Workplace Specialist I or II in related course approved for a CTE pathway ● Appropriate CTE license
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	AUTI 100: Basic Automotive Service; AUTI 111: Electrical Systems I
VU Course Alignment	AUTO 105 - Transportation Fundamentals; AUTO 110/110L (Lab) - Transportation Electrical/Transportation Electrical Laboratory
Four Yr. Course Alignment	
Postsecondary Credential	ITCC: CT Maintenance and Light Repair (47.0604), TC Automotive Service Technology (47.0604) VU: Collision Repair Certificate 8071, CPC; CG Automotive Service Technology (47.0604); A.S. in Automotive Technology (47.0604)
Liberal Arts/Sciences Requirements	
Industry Credential	ASE - Automobile and Light Truck Technician: Engine Repair; Engine Performance; Suspension and Steering; Brakes; Heating and Air Conditioning; Electrical/Electronic System
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7213 Principles of Automotive Services here.

Brake Systems	
Career Cluster	Supply Chain & Transportation
Program of Study	Automotive Services
NLPS Sequence	B
Course Code	7205
Course Description	*Brake Systems teaches theory, service, and repair of automotive braking systems. This course provides an overview of various mechanical brake systems used on today's automobiles. This course will emphasize professional diagnosis and repair methods for brake systems.*
Prerequisite(s)/ Corequisite(s)	Principles of Automotive Services

Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes	Schools partnering with Vincennes University must offer the program of study as part of a 2-3 period block	
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Industrial Arts 7-12, K-12 ● Standard Trade & Industrial: Auto Mechanics K-12 ● Appropriate Vocational license	
Rules 46-47	● Industrial Technology K-12 ● Industrial Education K-12 ● Standard Trade & Industrial: Auto Mechanics 9-12 ● Occupational Specialist I, II or III: Auto Mechanics 9-12 ● Occupational Specialist I, II or III in related course approved for a CTE pathway ● Appropriate Vocational license	
Rules 2002	● Technology Education with high school setting ● CTE: Trade & Industrial: Automotive Services Technology ● Workplace Specialist: Automotive Services Technology ● Workplace Specialist I or II in related course approved for a CTE pathway ● Appropriate CTE license	
REPA/REPA 3	● Technology Education 5-12 ● CTE: Trade & Industrial Automotive Services 5-12 ● Workplace Specialist: Automotive Services 9-12 ● Workplace Specialist I or II in related course approved for a CTE pathway ● Appropriate CTE license	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	AUTI 121: Brake Systems	
VU Course Alignment	AUTO 120/120L (Lab): Automotive Chassis Systems/Automotive Chassis Systems Laboratory	
Four Yr. Course Alignment		
Postsecondary Credential	ITCC: CT Maintenance and Light Repair (47.0604), TC Automotive Service Technology (47.0604) VU: Collision Repair Certificate 8071, CPC; CG Automotive Service Technology (47.0604); A.S. in Automotive Technology (47.0604)	
Liberal Arts/Sciences Requirements		
Industry Credential	ASE A-5 Brakes	
CONTENT STANDARDS AND COMPETENCIES		
Course	Access competencies for 7205 Brake Systems here.	

Competencies	

Steering and Suspensions		
Career Cluster	Supply Chain & Transportation	
Program of Study	Automotive Services	
NLPS Sequence	C	
Course Code	7212	
Course Description	*Steering and Suspensions will cover driveline theory and in-car service procedures. Theory and overhaul procedures related to the driveshaft and axle assemblies for front and rear wheel drive vehicles are included as well. Additionally, the course teaches theory, service and repair of automotive steering, and suspension systems. It provides an overview of various mechanical, power, and electrical steering and suspension systems used on today's automobiles and will emphasize professional diagnosis and repair methods for steering and suspension systems.*	
Prerequisite(s)/ Corequisite(s)	Principles of Automotive Services; Brake Systems	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes	Schools partnering with Vincennes University must offer the program of study as part of a 2-3 period block	
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Industrial Arts 7-12, K-12 ● Standard Trade & Industrial: Auto Mechanics K-12 ● Appropriate Vocational license	
Rules 46-47	● Industrial Technology K-12 ● Industrial Education K-12 ● Standard Trade & Industrial: Auto Mechanics 9-12 ● Occupational Specialist I, II or III: Auto Mechanics 9-12 ● Occupational Specialist I, II or III in related course approved for a CTE pathway ● Appropriate Vocational license	
Rules 2002	● Technology Education with high school setting ● CTE: Trade & Industrial: Automotive Services Technology ● Workplace Specialist: Automotive Services Technology ● Workplace Specialist I or II in related course approved for a CTE pathway ● Appropriate CTE license	
REPA/REPA 3	● Technology Education 5-12 ● CTE: Trade & Industrial Automotive Services 5-12 ● Workplace Specialist: Automotive Services 9-12	

	● Workplace Specialist I or II in related course approved for a CTE pathway ● Appropriate CTE license
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	AUTI 122: Steering and Suspension Systems; AUTI 145: Driveline Service
VU Course Alignment	AUTO 120/120L (Lab): Automotive Chassis Systems/Automotive Chassis Systems Laboratory
Four Yr. Course Alignment	
Postsecondary Credential	ITCC: CT Maintenance and Light Repair (47.0604), TC Automotive Service Technology (47.0604) VU: Collision Repair Certificate 8071, CPC; CG Automotive Service Technology (47.0604); A.S. in Automotive Technology (47.0604)
Liberal Arts/Sciences Requirements	
Industry Credential	ASE A-4 Steering and Suspension
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7212 Steering and Suspensions here.

Automotive Service Capstone		
Career Cluster	Supply Chain & Transportation	
Program of Study	Automotive Services	
NLPS Sequence	D	
Course Code	7375	
Course Description	*Automotive Service Capstone further explores important skills and competencies within the Automotive Service Technology Pathway. Students will be exposed to an in-depth study of vehicle electrical systems. The course will cover the fundamentals of electricity and automotive electronics in various automotive systems. Students will understand other topics such as engine repair, climate control, and driveline service. Additionally, Co-Op and Internship opportunities will be available for students.*	
Prerequisite(s)/ Corequisite(s)	Principles of Automotive Services; Brake Systems; Steering and Suspensions	
Credits	2 semester course, 2 semester required, 1-3 credits per semester, 6 credits max	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level II

Bulletin 400	● Industrial Arts 7-12, K-12 ● Standard Trade & Industrial: Auto Mechanics K-12 ● Appropriate Vocational license
Rules 46-47	● Industrial Technology K-12 ● Industrial Education K-12 ● Standard Trade & Industrial: Auto Mechanics 9-12 ● Occupational Specialist I, II or III: Auto Mechanics 9-12 ● Occupational Specialist I, II or III in related course approved for a CTE pathway ● Appropriate Vocational license
Rules 2002	● Technology Education with high school setting ● CTE: Trade & Industrial: Automotive Services Technology ● Workplace Specialist: Automotive Services Technology ● Workplace Specialist I or II in related course approved for a CTE pathway ● Appropriate CTE license
REPA/REPA 3	● Technology Education 5-12 ● CTE: Trade & Industrial Automotive Services 5-12 ● Workplace Specialist: Automotive Services 9-12 ● Workplace Specialist I or II in related course approved for a CTE pathway ● Appropriate CTE license
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	AUTI 112: Electrical Systems II*; AUTI 132: Engine Performance Systems II*; AUTI 131: Engine Performance Systems I; AUTI 141: Engine Fundamentals and Repair; AUTI 142: Climate Control Systems*
VU Course Alignment	VU-EC - AUTO 130/130L (Lab): Automotive Engine Systems/Automotive Engine Systems Laboratory□; AUTO 160/160L: Automotive Electronics
Four Yr. Course Alignment	
Postsecondary Credential	ITCC - CT Maintenance and Light Repair (47.0604), TC Automotive Service Technology (47.0604) VU-EC – Collision Repair Certificate 8071, CPC; CG Automotive Service Technology (47.0604); A.S. in Automotive Technology (47.0604)
Liberal Arts/Sciences Requirements	
Industry Credential	ASE - Automobile and Light Truck Technician: Engine Repair; Engine Performance; Suspension and Steering; Brakes; Heating and Air Conditioning; Electrical/Electronic System
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7375 Automotive Service Capstone here.

Supply Chain & Transportation Aviation Maintenance							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
7372	Principles of Aviation Maintenance	7374	Aviation Maintenance Fundamentals	7376	Advanced Aviation Maintenance	7378	Aviation Maintenance Capstone

Principles of Aviation Maintenance		
Career Cluster	Supply Chain & Transportation	
Program of Study	Aviation Maintenance	
NLPS Sequence	A	
Course Code	7372	
Course Description	*Principles of Aviation Maintenance Regulations provides students with an understanding of Federal Aviation Administration (FAA) regulations as they pertain to aircraft technicians and the maintenance of aircraft. Topics of discussion will include aviation regulations, ground operations, weight and balance, and corrosion control.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes	Schools partnering with Vincennes University must offer the program of study as part of a 2-3 period block to meet the contact hour requirements for VU aviation maintenance courses	
ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level I
Bulletin 400	● Standard Trade & Industrial: Aircraft Operations K-12	
Rules 46-47	● Standard Trade & Industrial: Aircraft Operations 9-12 ● Occupational Specialist I, II or III: Aircraft Operations 9-12	
Rules 2002	● CTE: Trade & Industrial: Aviation Operations ● Workplace Specialist: Aviation Operations	
REPA/REPA 3	● CTE: Trade & Industrial Aviation Operations 5-12 ● Workplace Specialist: Aviation 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		

ITCC Course Alignment	AVIT 141: Aviation Basics I; AVIT 142: Aviation Basics II
VU Course Alignment	AMNT 110/L (Lab): Regulations and Aviation Fundamentals
Four Yr. Course Alignment	
Postsecondary Credential	VU - Aviation Maintenance Technology – Airframe Certificate C.G. (47.0607)
Liberal Arts/Sciences Requirements	
Industry Credential	Airframe and Powerplant Technician (FAA Part 147)
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7372 Principles of Aviation Maintenance here.

Aviation Maintenance Fundamentals		
Career Cluster	Supply Chain & Transportation	
Program of Study	Aviation Maintenance	
NLPS Sequence	B	
Course Code	7374	
Course Description	*Aviation Maintenance Fundamentals provides students with an understanding of aircraft materials and operation. Topics of discussion will include ground operations and servicing, cleaning and corrosion control, and weight and balance. This course will include lab elements that allow students to build necessary skills associated with the above understandings of FAA Maintenance General Section subjects.*	
Prerequisite(s)/ Corequisite(s)	Principles of Aviation Maintenance	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes	Schools partnering with Vincennes University must offer the program of study as part of a 2-3 period block in order to meet the contact hour requirements for VU aviation maintenance courses	
ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level I
Bulletin 400	● Standard Trade & Industrial: Aircraft Operations K-12	
Rules 46-47	● Standard Trade & Industrial: Aircraft Operations 9-12 ● Occupational Specialist I, II or III: Aircraft Operations 9-12	
Rules 2002	● CTE: Trade & Industrial: Aviation Operations	

	● Workplace Specialist: Aviation Operations
REPA/REPA 3	● CTE: Trade & Industrial Aviation Operations 5-12 ● Workplace Specialist: Aviation 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	AVIT 145: Aircraft Ground Servicing; AVIT 146: Aviation Regulations
VU Course Alignment	AMNT 112/112L (Lab): Ground Ops, Corrosion, and Weight and Balance*□
Four Yr. Course Alignment	
Postsecondary Credential	VU - Aviation Maintenance Technology – Airframe Certificate C.G. (47.0607)
Liberal Arts/Sciences Requirements	
Industry Credential	Airframe and Powerplant Technician (FAA Part 147)
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7374 Aviation Maintenance Fundamentals here.

Advanced Aviation Maintenance	
Career Cluster	Supply Chain & Transportation
Program of Study	Aviation Maintenance
NLPS Sequence	C
Course Code	7376
Course Description	*Advanced Aviation Maintenance provides students with an understanding of aircraft drawings, electricity, and electronics systems. The course will also explore aircraft materials, hardware, processes, inspection concepts and techniques, and fluid lines and fittings. The course will include lab elements that allow students to build necessary skills associated with the above understandings of FAA Maintenance General Section subjects.*
Prerequisite(s)/ Corequisite(s)	Principles of Aviation Maintenance; Aviation Maintenance Fundamentals
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
Counts Toward	Counts as a quantitative reasoning course for CORE 40 diplomas Counts as STEM-focused credits for new diplomas
Dual Credit Status	X (PCL/CTE)
Additional Notes	Schools partnering with Vincennes University must offer the program of study as part of a 2-3 period block in order to meet the contact hour requirements for VU aviation maintenance courses
ADDITIONAL COURSE INFO	

Funding	Moderate Value	Level I
Bulletin 400	● Standard Trade & Industrial: Aircraft Operations K-12	
Rules 46-47	● Standard Trade & Industrial: Aircraft Operations 9-12 ● Occupational Specialist I, II or III: Aircraft Operations 9-12	
Rules 2002	● CTE: Trade & Industrial: Aviation Operations ● Workplace Specialist: Aviation Operations	
REPA/REPA 3	● CTE: Trade & Industrial: Aviation Operations 5-12 ● Workplace Specialist: Aviation 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	AVIT 144: Aircraft Electricity; AVIT 148: Aviation Materials and Processes	
VU Course Alignment	AMNT 114/114L (Lab): Basic Electricity and Drawings*□; AMNT 116/116L (Lab): Materials, Processes, and Fluid Lines*□	
Four Yr. Course Alignment		
Postsecondary Credential	VU - Aviation Maintenance Technology – Airframe Certificate C.G. (47.0607)	
Liberal Arts/Sciences Requirements		
Industry Credential	Airframe and Powerplant Technician (FAA Part 147)	
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 7376 Advanced Aviation Maintenance here.	

Aviation Maintenance Capstone	
Career Cluster	Supply Chain & Transportation
Program of Study	Aviation Maintenance
NLPS Sequence	D
Course Code	7378
Course Description	*The Aviation Maintenance Capstone will explore knowledge and risks elements associated with the FAA airframe section. Topics of discussion will be non-metallic structures, landing gear, flight controls, and inspection practices. This course will prepare students for completion of the FAA airframe mechanic certificate. This course will include lab elements that allow students to build necessary skills associated with the above understandings of FAA Maintenance General Section subjects*
Prerequisite(s)/ Corequisite(s)	Principles of Aviation Maintenance; Aviation Maintenance Fundamentals; Advanced Aviation Maintenance
Credits	2 semester course, 2 semester required, 1-3 credits per semester, 6 credits max

Counts Toward	Counts as STEM-focused credits for new diplomas	
Dual Credit Status	X (PCL/CTE)	
Additional Notes	Schools partnering with Vincennes University must offer the program of study as part of a 2-3 period block in order to meet the contact hour requirements for VU aviation maintenance courses	
ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level II
Bulletin 400	● Standard Trade & Industrial: Aircraft Operations K-12	
Rules 46-47	● Standard Trade & Industrial: Aircraft Operations 9-12 ● Occupational Specialist I, II or III: Aircraft Operations 9-12	
Rules 2002	● CTE: Trade & Industrial: Aviation Operations ● Workplace Specialist: Aviation Operations	
REPA/REPA 3	● CTE: Trade & Industrial: Aviation Operations 5-12 ● Workplace Specialist: Aviation 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	AVIT 222: Non-Metallic Structures; AVIT 226: Airframe Electrical Systems; AVIT 227: Aircraft Sheetmetal; AVIT 228: Aircraft Instruments and Avionics; AVIT 246: Aircraft Hydraulic and Landing Gear Systems	
VU Course Alignment	AMNT 210/L (Lab): Airframe Systems*□; AMNT 212/L (Lab): Airframe Electrical, Instruments, and Communications*□; AMNT 214/L (Lab): Metallic Structures*□; AMNT 216/L (Lab): Non-Metallic Structures*□; AMNT 218/L (Lab): Hydraulics, Landing Gear, Flight Controls, and Inspection*□	
Four Yr. Course Alignment		
Postsecondary Credential	VU - Aviation Maintenance Technology – Airframe Certificate C.G. (47.0607)	
Liberal Arts/Sciences Requirements		
Industry Credential	Airframe and Powerplant Technician (FAA Part 147)	
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 7378 Aviation Maintenance Capstone here.	

Supply Chain & Transportation Aviation Management							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
7214	Principles of Aviation Management	7217	Private Pilot Theory	7207	Aviation Operations and Safety	7385	Aviation Management Capstone

Principles of Aviation Management		
Career Cluster	Supply Chain & Transportation	
Program of Study	Aviation Management	
NLPS Sequence	A	
Course Code	7214	
Course Description	*Principles of Aviation Management provides students the opportunity to develop an understanding of various aspects of the aviation industry to include general regulations and laws associated with the field. Included is an overview of the aviation field and all employment opportunities. Areas of study include aerodynamics, aircraft systems, performance, weight and balance, physiology, regulations, cross country planning, weather, and decision-making skills. Students will also learn of the departments associated with an airport and their impact on the industry as a whole.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level I
Bulletin 400	● Standard Trade & Industrial: Aircraft Operations K-12	
Rules 46-47	● Standard Trade & Industrial: Aircraft Operations 9-12 ● Occupational Specialist I, II or III: Aircraft Operations 9-12	
Rules 2002	● CTE: Trade & Industrial: Aviation Operations ● Workplace Specialist: Aviation Operations	
REPA/REPA 3	● CTE: Trade & Industrial Aviation Operations 5-12 ● Workplace Specialist: Aviation 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		

ITCC Course Alignment	AVIT 111: Introduction to Aviation Technology
VU Course Alignment	AMNT 100: Introduction to Aviation*□
Four Yr. Course Alignment	ISU – AVT 130: Introduction to Aviation Technology
Postsecondary Credential	ITCC - CT Aviation Operations (49.0104), TC Aviation Management (49.0104) VU - Aviation Maintenance Technology ISU – Aviation Management (49.01014)
Liberal Arts/Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7214 Principles of Aviation Management here.

Private Pilot Theory		
Career Cluster	Supply Chain & Transportation	
Program of Study	Aviation Management	
NLPS Sequence	B	
Course Code	7217	
Course Description	*In Private Pilot Theory students will receive ground school knowledge required for certification as a private pilot with an airplane single engine land rating. Areas of study include aerodynamics, aircraft systems, performance, weight and balance, physiology, regulations, cross country planning, weather, and decision-making skills.*	
Prerequisite(s)/ Corequisite(s)	Principles of Aviation Management	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level I
Bulletin 400	● Standard Trade & Industrial: Aircraft Operations K-12	
Rules 46-47	● Standard Trade & Industrial: Aircraft Operations 9-12 ● Occupational Specialist I, II or III: Aircraft Operations 9-12	
Rules 2002	● CTE: Trade & Industrial: Aviation Operations ● Workplace Specialist: Aviation Operations	

REPA/REPA 3	● CTE: Trade & Industrial Aviation Operations 5-12 ● Workplace Specialist: Aviation 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	AVIT 120: Private Pilot Theory
VU Course Alignment	AFLT 100: Private Ground School*□; AFLT 210: Aircraft Systems, Performance, and Aerodynamics*□
Four Yr. Course Alignment	ISU – UMS 181: Fundamentals of Flight
Postsecondary Credential	ITCC - CT Aviation Operations (49.0104), TC Aviation Management (49.0104) VU - Aviation Maintenance Technology ISU – Aviation Management (49.01014)
Liberal Arts/Sciences Requirements	
Industry Credential	
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7217 Private Pilot Theory here.

Aviation Safety and Operations	
Career Cluster	Supply Chain & Transportation
Program of Study	Aviation Management
NLPS Sequence	C
Course Code	7207
Course Description	*Aviation Safety and Operations provides an overview of general aviation operations, including the operation and management of the Fixed Base Operation (FBO). It introduces the challenges and complexity of aviation security faced by aviation professionals across the industry and traces the evolution of current security approaches and explores technologies and processes targeting threat mitigation and improved operational efficiency. Emphasis will be placed on financial and operational considerations as well as on regulatory requirements and constraints.*
Prerequisite(s)/ Corequisite(s)	Principles of Aviation Management
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
Counts Toward	
Dual Credit Status	X (PCL/CTE)
Additional Notes	

ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level I
Bulletin 400	● Standard Trade & Industrial: Aircraft Operations K-12	
Rules 46-47	● Standard Trade & Industrial: Aircraft Operations 9-12 ● Occupational Specialist I, II or III: Aircraft Operations 9-12	
Rules 2002	● CTE: Trade & Industrial: Aviation Operations ● Workplace Specialist: Aviation Operations	
REPA/REPA 3	● CTE: Trade & Industrial Aviation Operations 5-12 ● Workplace Specialist: Aviation 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	AVIT 132: Aviation Operations; AVIT 138: Aviation Weather Services	
VU Course Alignment	AFLT 285: Aviation Weather*□	
Four Yr. Course Alignment	ISU – AVT 205: Aviation Operations	
Postsecondary Credential	ITCC - CT Aviation Operations (49.0104), TC Aviation Management (49.0104) VU - Aviation Maintenance Technology ISU – Aviation Management (49.01014)	
Liberal Arts/Sciences Requirements		
Industry Credential		
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 7207 Aviation Safety and Operations here.	

Aviation Management Capstone	
Career Cluster	Supply Chain & Transportation
Program of Study	Aviation Management
NLPS Sequence	D
Course Code	7385
Course Description	*Aviation Management Capstone is an introduction to the aviation weather service program. Course topics include the National Weather Service, Flight Service Stations, International Civil Aviation Organization, and analyzing and interpreting weather reports and maps. Additionally, this course will prepare students for certification as an Instrument Pilot with an Airplane Single Engine Land rating. Areas of study include basic instrument flying, flying instruments, IFR charts and approach plates, IFR regulations and procedures, ATC clearances, and IFR flight planning.*

Prerequisite(s)/ Corequisite(s)	Principles of Aviation Management; Private Pilot Theory; Aviation Safety and Operations	
Credits	2 semester course, 2 semester required, 1-3 credits per semester, 6 credits max	
Counts Toward	Counts as a quantitative reasoning course for CORE 40 diplomas	
Dual Credit Status	X (PCL/CTE)	
Additional Notes	There are no standards or competencies included for private flight training. The decision to provide flight training as a part of this program of study is completely optional and is a local decision. A school or career center accepts all liability if they decide to include private flight training as a part of this program of study.	
ADDITIONAL COURSE INFO		
Funding	Moderate Value	Level II
Bulletin 400	● Standard Trade & Industrial: Aircraft Operations K-12	
Rules 46-47	● Standard Trade & Industrial: Aircraft Operations 9-12 ● Occupational Specialist I, II or III: Aircraft Operations 9-12	
Rules 2002	● CTE: Trade & Industrial: Aviation Operations ● Workplace Specialist: Aviation Operations	
REPA/REPA 3	● CTE: Trade & Industrial Aviation Operations 5-12 ● Workplace Specialist: Aviation 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	AVIT 135: Aviation Safety Management Systems, AVIT 202: Instrument Pilot Theory; AVIT 205: Instrument Pilot Flight Training*; AVIT 208: Air Traffic Control	
VU Course Alignment	AFLT 225/225L – Human Factors and Safety/Lab*□; AFLT 291 – Aviation Law and Regulations*□	
Four Yr. Course Alignment	ISU – AVT 425: Safety Management Systems	
Postsecondary Credential	ITCC - CT Aviation Operations (49.0104), TC Aviation Management (49.0104) VU - Aviation Maintenance Technology ISU – Aviation Management (49.01014)	
Liberal Arts/Sciences Requirements		
Industry Credential		
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 7385 Aviation Management Capstone here.	

Supply Chain & Transportation Commercial Driver's License (Concentrator Sequence)							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
7386	Principles of Transportation and Logistics	7387	Commercial Drivers Operations	7388	Advanced Commercial Driver Operations		

Principles of Transportation and Logistics		
Career Cluster	Supply Chain & Transportation	
Program of Study	Commercial Driver	
NLPS Sequence	A	
Course Code	7386	
Course Description	*Principles of Transportation and Logistics examines the structure and importance of the commercial transportation industry in the logistics sector of business. Topics covered include an in-depth examination of the various modes of transportation including discussions of regulations, economics, characteristics, and development in major transportation modes. Also discussed are costing and pricing issues in transportation and relationship management between buyers and sellers of transportation. Additionally, this course introduces students to an overview of the CDL licensure and prepares them to get their CDL permit.* ***Note:** Students are required to get a Department of Transportation Physical and Drug Screen.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes	Recommended as a one-year concentrator sequence offered through a half day program	
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● No License Available	
Rules 46-47	● No License Available	
Rules 2002	● CTE: Trade & Industrial: Tractor/Trailer Operation	

	● Workplace Specialist: Tractor/Trailer Operation
REPA/REPA 3	● CTE: Trade & Industrial Tractor/Trailer Operation 5-12 ● Workplace Specialist: Tractor/Trailer Operation 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	LOGM 100: Commercial Drivers License Theory*; LOGM 127: Introduction to Logistics
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	ITCC - CT CDL Plus
Liberal Arts/Sciences Requirements	
Industry Credential	Commercial Drivers License Class A
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7386 Principles of Transportation and Logistics here.

Commercial Driver Operations Fundamentals	
Career Cluster	Supply Chain & Transportation
Program of Study	Commercial Driver
NLPS Sequence	B
Course Code	7387
Course Description	*Commercial Drivers Operation Fundamentals introduces students to an orientation of the CDL industry, the Commercial Driver's License (CDL), driver qualifications, and the commercial vehicle. The vehicle control systems are reviewed and discussed. The vehicle systems including engine, suspension, electrical, and many others are reviewed in detail. The vehicle inspection is practiced and applied. Range and on the road training in a tractor trailer are major components of this course. Students will discuss driving in a variety of conditions including at night, emergency situations, skidding, and extreme weather. Students will practice many different driving maneuvers including backing, turning, shifting, coupling, and space and speed management to prepare for the CDL A exam.* ***Note:** This course must be taken concurrently with Advanced Commercial Drivers Operations.*
Prerequisite(s)/ Corequisite(s)	Principles of Transportation and Logistics; Co-enrolled in Advanced Commercial Drivers Operations
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum

Counts Toward		
Dual Credit Status	X	
Additional Notes	Recommended as a one-year concentrator sequence. Must be enrolled in both Commercial Drivers Operations Fundamentals and Advanced Commercial Drivers Operations.	
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● No License Available	
Rules 46-47	● No License Available	
Rules 2002	● CTE: Trade & Industrial: Tractor/Trailer Operation ● Workplace Specialist: Tractor/Trailer Operation	
REPA/REPA 3	● CTE: Trade & Industrial Tractor/Trailer Operation 5-12 ● Workplace Specialist: Tractor/Trailer Operation 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	LOGM 102: Commercial Drivers License Application*; LOGM 103: Commercial Drivers Vehicle Operations I*	
VU Course Alignment		
Four Yr. Course Alignment		
Postsecondary Credential	ITCC - CT CDL Plus (49.0205)	
Liberal Arts/Sciences Requirements		
Industry Credential	Commercial Drivers License Class A	
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 7387 Commercial Driver Operations Fundamentals here.	

Advanced Commercial Driver Operations	
Career Cluster	Supply Chain & Transportation
Program of Study	Commercial Driver
NLPS Sequence	C
Course Code	7388
Course Description	*In Advanced Commercial Drivers Operations, students will continue to practice until mastery of the pre-trip inspection, which is a critical component of passing the CDL A exam. Administrative and professional components of being a professional driver are discussed and explained including hours of service, accident reporting, personal health, communication, and Compliance, Safety, and*

	Accountability (CAS). ***This course must be taken concurrently with Commercial Drivers Operations Fundamentals.*** *Upon successful completion of Commercial Drivers Operation Fundamentals and Advanced Commercial Drivers Operations the student will be eligible to take the CDL A examination.*
Prerequisite(s)/ Corequisite(s)	Principles of Transportation and Logistics; Co-enrolled in Commercial Drivers Operations Fundamentals
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
Counts Toward	
Dual Credit Status	X
Additional Notes	Recommended as a one year concentrator sequence. Must be enrolled in both Commercial Drivers Operations Fundamentals and Advanced Commercial Drivers Operations.
ADDITIONAL COURSE INFO	
Funding	High Value | Level I
Bulletin 400	● No License Available
Rules 46-47	● No License Available
Rules 2002	● CTE: Trade & Industrial: Tractor/Trailer Operation ● Workplace Specialist: Tractor/Trailer Operation
REPA/REPA 3	● CTE: Trade & Industrial Tractor/Trailer Operation 5-12 ● Workplace Specialist: Tractor/Trailer Operation 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	LOGM 104: Commercial Drivers Vehicle Operations II*; LOGM 180: Commercial Drivers Internship*
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	ITCC - CT CDL Plus (49.0205)
Liberal Arts/Sciences Requirements	
Industry Credential	Commercial Drivers License Class A
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7388 Advanced Commercial Driver Operations here.

Supply Chain & Transportation Diesel Services							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
7216	Principles of Diesel Services	7210	Diesel Steering and Brakes	7211	Diesel Transmissions	7221	Diesel Services Capstone
						5622	Tractor Trailer Operations

Principles of Diesel Services		
Career Cluster	Supply Chain & Transportation	
Program of Study	Diesel Services	
NLPS Sequence	A	
Course Code	7216	
Course Description	*Principles of Diesel Technology introduces the maintenance requirements and procedures of modern diesel engines and medium and heavy-duty trucks. Proper procedures and requirements for the Federal Highway Safety Inspection (DOT) will be discussed and practiced. In addition, this course gives students an overview of the electrical operating systems of the modern automobile. Students will be introduced to the safety and operation of equipment and tools used in electrical diagnosis and repair in the automotive electrical industry. Students will study the fundamentals of electricity and automotive electronics.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	• Standard Trade & Industrial: Diesel Mechanics K-12	
Rules 46-47	• Standard Trade & Industrial: Diesel Mechanics 9-12 • Occupational Specialist I, II or III: Diesel Mechanics 9-12	
Rules 2002	• CTE: Trade & Industrial: Diesel Service Technology • Workplace Specialist: Diesel Service Technology	
REPA/REPA 3	• CTE: Trade & Industrial Diesel Services 5-12 • Workplace Specialist: Diesel Service 9-12	

POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	AUTI 111: Electrical Systems I; TRCK 100: Diesel Preventative Maintenance
VU Course Alignment	DESL 110/L (Lab): Diesel Electrical VU/EC: DESL 160/160L: Diesel Prevention Maintenance/Lab^
Four Yr. Course Alignment	
Postsecondary Credential	ITCC: CT Truck Chassis System (47.0613), TC Diesel Heavy Truck Technology (47.0613) VU: A.S. Diesel Technology (47.0605)
Liberal Arts/Sciences Requirements	
Industry Credential	ASE - Medium/Heavy Truck Technician: Electrical/Electronic Systems, ASE - Diesel Engines; ASE - Suspension and Steering, ASE - Brakes; Commercial Drivers License Class A
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7216 Principles of Diesel Services here.

Diesel Steering and Brakes		
Career Cluster	Supply Chain & Transportation	
Program of Study	Diesel Services	
NLPS Sequence	B	
Course Code	7210	
Course Description	*Diesel Steering and Brakes studies steering and suspension systems commonly used on modern tractors and trailers. Topics will include steering and suspension components, power steering units, alignment theory and procedures, tire repair and service, and wheel balancing. Diagnosis, repair, and servicing of components including modern air suspension systems will be emphasized. Additionally, this course will cover theory, service, and repair of medium and heavy truck brake systems and their components. Emphasis is given to air brakes and their theory of operation, repair, and service of system components. Spring brakes and anti-lock systems will be studied on tractors and trailers.*	
Prerequisite(s)/ Corequisite(s)	Principles of Diesel Technology	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward	Counts as a quantitative reasoning course for CORE 40 diplomas	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I

Bulletin 400	● Standard Trade & Industrial: Diesel Mechanics K-12
Rules 46-47	● Standard Trade & Industrial: Diesel Mechanics 9-12 ● Occupational Specialist I, II or III: Diesel Mechanics 9-12
Rules 2002	● CTE: Trade & Industrial: Diesel Service Technology ● Workplace Specialist: Diesel Service Technology
REPA/REPA 3	● CTE: Trade & Industrial Diesel Services 5-12 ● Workplace Specialist: Diesel Service 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	TRCK 101: Steering and Suspension Systems; TRCK 121: Brakes
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	ITCC - CT Truck Chassis System (47.0613), TC Diesel Heavy Truck Technology (47.0613)
Liberal Arts/Sciences Requirements	
Industry Credential	ASE - Medium/Heavy Truck Technician: Electrical/Electronic Systems, ASE - Diesel Engines; ASE - Suspension and Steering, ASE - Brakes; Commercial Drivers License Class A
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7210 Diesel Steering and Brakes here.

Diesel Transmissions	
Career Cluster	Supply Chain & Transportation
Program of Study	Diesel Services
NLPS Sequence	C
Course Code	7211
Course Description	*Diesel Transmissions explores theory, diagnosis, and overhaul procedures related to manual transmissions and differentials. Course topics include service of twin countershaft, under-drive, overdrive, power-dividers, and air shift systems. Additionally, this course studies precision tools, equipment, and procedures needed to repair modern diesel engines. Repair, proper assembly, and component identification are examined along with service of removable cylinder liners.*
Prerequisite(s)/ Corequisite(s)	Principles of Diesel Technology
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum

Counts Toward	Counts as a quantitative reasoning course for CORE 40 diplomas	
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	• Standard Trade & Industrial: Diesel Mechanics K-12	
Rules 46-47	• Standard Trade & Industrial: Diesel Mechanics 9-12 • Occupational Specialist I, II or III: Diesel Mechanics 9-12	
Rules 2002	• CTE: Trade & Industrial: Diesel Service Technology • Workplace Specialist: Diesel Service Technology	
REPA/REPA 3	• CTE: Trade & Industrial Diesel Services 5-12 • Workplace Specialist: Diesel Service 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	TRCK 125: HT Transmission/ Differential; TRCK 127: Engine Repair	
VU Course Alignment		
Four Yr. Course Alignment		
Postsecondary Credential	ITCC - CT Truck Chassis System (47.0613), TC Diesel Heavy Truck Technology (47.0613)	
Liberal Arts/Sciences Requirements		
Industry Credential	ASE - Medium/Heavy Truck Technician: Electrical/Electronic Systems, ASE - Diesel Engines; ASE - Suspension and Steering, ASE - Brakes; Commercial Drivers License Class A	
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 7211 Diesel Transmissions here.	

Diesel Services Capstone	
Career Cluster	Supply Chain & Transportation
Program of Study	Diesel Services
NLPS Sequence	D
Course Code	7221
Course Description	*Diesel Services Capstone further explores important skills and competencies within the Diesel Technology Pathway. Topics such as truck climate control systems, diesel engine performance, HT electrical systems, Hd truck auto transmission, and heavy truck electronics. Additionally, Co-Op and Internship*

	opportunities will be available for students.
Prerequisite(s)/ Corequisite(s)	Principles of Diesel Technology; Diesel Steering and Brakes; Diesel Transmission
Credits	2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum
Counts Toward	Counts as a quantitative reasoning course for CORE 40 diplomas
Dual Credit Status	X
Additional Notes	
ADDITIONAL COURSE INFO	
Funding	High Value | Level II
Bulletin 400	● Standard Trade & Industrial: Diesel Mechanics K-12
Rules 46-47	● Standard Trade & Industrial: Diesel Mechanics 9-12 ● Occupational Specialist I, II or III: Diesel Mechanics 9-12
Rules 2002	● CTE: Trade & Industrial: Diesel Service Technology ● Workplace Specialist: Diesel Service Technology
REPA/REPA 3	● CTE: Trade & Industrial Diesel Services 5-12 ● Workplace Specialist: Diesel Service 9-12
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	TRCK 142: Heavy Truck Climate Control Systems*; TRCK 219: Diesel Engine Performance I*; TRCK 224: HT Electrical Systems*; One of: TRCK 235: HD Truck Automatic Transmission*; TRCK 243: Heavy Truck Electronics III *; TRCK 280: Co-op/ Internship*
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	ITCC - CT Truck Chassis System, TC Diesel Heavy Truck Technology (47.0613)
Liberal Arts/Sciences Requirements	
Industry Credential	ASE - Medium/Heavy Truck Technician: Electrical/Electronic Systems, ASE - Diesel Engines; ASE - Suspension and Steering, ASE - Brakes; Commercial Drivers License Class A
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7221 Diesel Services Capstone here.

Tractor/Trailer Operation		
Career Cluster	Supply Chain & Transportation	
Program of Study	Diesel Services	
NLPS Sequence	D	
Course Code	5622	
Course Description	*Tractor/Trailer Operation is a comprehensive training program that prepares students to enter the trucking industry as an entry-level tractor-trailer operator. Instruction will include both classroom activities and behind-the-wheel driving experiences. Additional emphasis will include preventive maintenance and basic control skills training. Students are required to submit to and pass a Department of Transportation, Distribution and Logistics physical exam and drug screen. In addition,* ***students must reach their 18th birthday prior to graduation from high school in order to enroll in and complete this course.*** *Upon successful completion, students will be qualified to operate Class A Commercial Vehicles on Indiana highways.*	
Prerequisite(s)/ Corequisite(s)	Diesel Service Program of Study; or Supply Chain Management Program of Study	
Credits	2 semester course, 1-3 credits per semester, 6 credits maximum	
Counts Toward		
Dual Credit Status	X	
Additional Notes	May not be used as a capstone for the CDL pathway	
ADDITIONAL COURSE INFO		
Funding	High Value	Level II
Bulletin 400	● No License Available	
Rules 46-47	● No License Available	
Rules 2002	● CTE: Trade & Industrial: Tractor/Trailer Operation ● Workplace Specialist: Tractor/Trailer Operation	
REPA/REPA 3	● CTE: Trade & Industrial Tractor/Trailer Operation 5-12 ● Workplace Specialist: Tractor/Trailer Operation 9-12	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	LOGM 102: Commercial Drivers License Application*; LOGM 103: Commercial Drivers Vehicle Operations I*; LOGM 104: Commercial Drivers Vehicle Operations II*; LOGM 180: Commercial Drivers Internship*	
VU Course Alignment		
Four Yr. Course Alignment		
Postsecondary Credential	ITCC - CT CDL Plus (49.0205)	
Liberal		

Arts/Sciences Requirements	
Industry Credential	Commercial Drivers License Class A
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 5622 Tractor/Trailer Operation here.

Supply Chain & Transportation Supply Chain and Logistics							
Principles		**CTE Concentrator A**		**CTE Concentrator B**		**Pathway Capstone**	
4562	Principles of Business Management	7155	Logistics Management	7142	Supply Chain Management	7258	Supply Chain Management Capstone

Principles of Business Management		
Career Cluster	Business Management; Financial Services; Marketing, Sales, & Entrepreneurship; Supply Chain & Transportation	
Program of Study	Accounting, Business Administration, Finance and Investment, Insurance, Marketing and Sales, Supply Chain and Logistics	
NLPS Sequence	A	
Course Code	4562	
Course Description	*Principles of Business Management examines business ownership, organization principles and problems, management, control facilities, administration, financial management, and development practices of business enterprises. This course will also emphasize the identification and practice of the appropriate use of technology to communicate and solve business problems and aid in decision making. Attention will be given to developing business communication, problem-solving, and decision-making skills using spreadsheets, word processing, data management, and presentation software.*	
Prerequisite(s)/ Corequisite(s)	None	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Business Education 7-12 ● Distributive Education K-12	
Rules 46-47	● Business Education 9-12 ● Marketing Education 9-12 ● Distributive Education K-12 ● Business Education with Vocational Endorsement 9-12 ● Occupational Specialist I, II or III in related course approved for a CTE pathway	

Rules 2002	● Business with high school setting ● CTE: Marketing with high school setting ● CTE: Business Services & Technology with high school setting ● Workplace Specialist I or II in related course approved for a CTEpathway
REPA/REPA 3	● Business 5-12 ● CTE: Business Services & Technology 5-12 ● CTE: Business & Information Technology 5-12 ● CTE: Marketing 5-12 ● Workplace Specialist: Advanced Business Management 9-12 ● Workplace Specialist I or II in related course approved for a CTE pathway
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	BUSN 101: Introduction to Business, OTEC 207: Integrated Microsoft Office Applications or OTEC 107: Introduction to Microsoft Office
VU Course Alignment	MGMT 100: Introduction to Business, COMP 110: Introduction to Computer Concepts
Four Yr. Course Alignment	ISU - BUS 100: Introduction to Contemporary Business, BUS 180: Business Information Tools BSU - ISOM 125: Introduction to Business Integrated Computer Applications
Postsecondary Credential	ITCC - CT Business Administration, TC Business Administration (52.0201); TC Supply Chain Management; CT Supply Chain Management/Logistics BSU – B.A./B.S. Business Administration (52.0101)
Liberal Arts/Sciences Requirements	ITCC - ENGL 111: English Composition, IVYT 114: Student Success in Business, Humanities/ Social & Behavioral 3-4 hours
Industry Credential	Certified Logistics Technician (CLT); Commercial Drivers License Class A
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 4562 Principles of Business Management here.

Logistics Management	
Career Cluster	Supply Chain & Transportation
Program of Study	Supply Chain and Logistics
NLPS Sequence	B
Course Code	7155
Course Description	*Logistics Management provides students the opportunity to explore how essential managerial functions relate to the various components of a logistics operation. Logistics concepts are approached from a manufacturing perspective with a focus on system integration and automation and lean manufacturing operations. Topics will include logistics systems, supply chain management, order, demand inventory and warehouse management, and automated components of a logistics system. Students will be prepared for the*

	MSSC Certified Logistics Associate (CLA) and MSSC Certified Logistics Technician (CLT) certifications.
Prerequisite(s)/ Corequisite(s)	Principles of Business Management
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
Counts Toward	
Dual Credit Status	X (PCL/CTE)
Additional Notes	
ADDITIONAL COURSE INFO	
Funding	High Value | Level I
Bulletin 400	● Business Education 7-12 ● Distributive Education K-12
Rules 46-47	● Business Education 9-12 ● Marketing Education 9-12 ● Distributive Education K-12 ● Business Education with Vocational Endorsement 9-12 ● Occupational Specialist I, II or III in related course approved for a CTE pathway
Rules 2002	● CTE: Trade & Industrial: Logistics ● Business with high school setting ● Workplace Specialist I or II in related course approved for a CTE pathway ● CTE: Marketing with high school setting ● CTE: Business & Information Technology 5-12 ● CTE: Business Services & Technology 5-12 ● Workplace Specialist: Logistics
REPA/REPA 3	● Business 5-12 ● CTE: Trade & Industrial: Logistics 5-12 ● CTE: Business & Information Technology 5-12 ● CTE: Business Services & Technology 5-12 ● Workplace Specialist: Logistics 9-12 ● CTE: Marketing 5-12 ● Workplace Specialist: Advanced Business Management 9-12 ● Workplace Specialist I or II in related course approved for a CTE pathway
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	BUSN 105: Principles of Management; LOGM 127: Introduction to Logistics
VU Course Alignment	
Four Yr. Course Alignment	BSU – MGT 250: Lessons in Leadership; LOSM 251: Supply Chain and Logistics
Postsecondary Credential	ITCC - CT Business Administration, TC Business Administration (52.0201); TC Supply Chain Management; CT Supply Chain Management/Logistics BSU – B.A./B.S. Business Administration (52.0101)

Liberal Arts/Sciences Requirements	ITCC - IVYT 111: Student Success for University Transfer, COMM 101: Fundamentals of Public Speaking or COMM 102: Introduction to Interpersonal Communication
Industry Credential	Certified Logistics Technician (CLT); Commercial Drivers License Class A;
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7155 Logistics Management here.

Supply Chain Management		
Career Cluster	Supply Chain & Transportation	
Program of Study	Supply Chain and Logistics	
NLPS Sequence	C	
Course Code	7142	
Course Description	*Supply Chain Management will build upon the knowledge and skills developed in the Logistics Management course by focusing on specific aspects of Supply Chain Management such as supply chain strategy, planning and design, customer service, purchasing, forecasting, inventory and warehouse management, as well as an in-depth study of transportation systems. Students will examine various modes of transportation and their associated characteristics, economics, and regulations.*	
Prerequisite(s)/ Corequisite(s)	Principles of Business Management; Logistics Management	
Credits	2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum	
Counts Toward		
Dual Credit Status	X (PCL/CTE)	
Additional Notes		
ADDITIONAL COURSE INFO		
Funding	High Value	Level I
Bulletin 400	● Business Education 7-12 ● Distributive Education K-12	
Rules 46-47	● Business Education 9-12 ● Marketing Education 9-12 ● Distributive Education K-12 ● Business Education with Vocational Endorsement 9-12 ● Occupational Specialist I, II or III in related course approved for a CTE pathway	
Rules 2002	● CTE: Trade & Industrial: Logistics ● Business with high school setting ● Workplace Specialist I or II in related course approved for a CTE pathway ● CTE: Marketing with high school setting ● CTE: Business & Information Technology 5-12	

	● CTE: Business Services & Technology 5-12 ● Workplace Specialist: Logistics
REPA/REPA 3	● Business 5-12 ● CTE: Trade & Industrial: Logistics 5-12 ● CTE: Business & Information Technology 5-12 ● CTE: Business Services & Technology 5-12 ● Workplace Specialist: Logistics 9-12 ● CTE: Marketing 5-12 ● Workplace Specialist: Advanced Business Management 9-12 ● Workplace Specialist I or II in related course approved for a CTE pathway
POSTSECONDARY AND CREDENTIAL INFORMATION	
ITCC Course Alignment	LOGM 107: Introduction to Supply Chain Management; LOGM 229: Transportation Systems
VU Course Alignment	
Four Yr. Course Alignment	
Postsecondary Credential	ITCC - CT Business Administration, TC Business Administration (52.0201); TC Supply Chain Management; CT Supply Chain Management/Logistics
Liberal Arts/Sciences Requirements	ITCC - IVYT 111: Student Success for University Transfer, COMM 101: Fundamentals of Public Speaking or COMM 102: Introduction to Interpersonal Communication
Industry Credential	Certified Logistics Technician (CLT); Commercial Drivers License Class A
CONTENT STANDARDS AND COMPETENCIES	
Course Competencies	Access competencies for 7142 Supply Chain Management here.

Supply Chain Management Capstone	
Career Cluster	Supply Chain & Transportation
Program of Study	Supply Chain and Logistics
NLPS Sequence	D
Course Code	7258
Course Description	*Supply Chain Management Capstone course will build upon the knowledge and skills learned in previous courses by taking a deeper dive into Procurement, Operations Management, Lean Manufacturing Systems.*
Prerequisite(s)/ Corequisite(s)	Principles of Business Management; Logistics Management; Supply Chain Management
Credits	2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum
Counts Toward	
Dual Credit Status	X (PCL/CTE)
Additional Notes	

ADDITIONAL COURSE INFO		
Funding	High Value	Level II
Bulletin 400	● Business Education 7-12 ● Distributive Education K-12	
Rules 46-47	● Business Education 9-12 ● Marketing Education 9-12 ● Distributive Education K-12 ● Business Education with Vocational Endorsement 9-12 ● Occupational Specialist I, II or III in related course approved for a CTE pathway	
Rules 2002	● CTE: Trade & Industrial: Logistics ● Business with high school setting ● Workplace Specialist I or II in related course approved for a CTE pathway ● CTE: Marketing with high school setting ● CTE: Business & Information Technology 5-12 ● CTE: Business Services & Technology 5-12 ● Workplace Specialist: Logistics	
REPA/REPA 3	● Business 5-12 ● CTE: Trade & Industrial: Logistics 5-12 ● CTE: Business & Information Technology 5-12 ● CTE: Business Services & Technology 5-12 ● Workplace Specialist: Logistics 9-12 ● CTE: Marketing 5-12 ● Workplace Specialist: Advanced Business Management 9-12 ● Workplace Specialist I or II in related course approved for a CTE pathway	
POSTSECONDARY AND CREDENTIAL INFORMATION		
ITCC Course Alignment	LOGM 201: Logistics Quality & Lean Management; LOGM 228: Principles of Procurement; LOGM 267: Operations Management; ACCT 101: Financial Accounting	
VU Course Alignment		
Four Yr. Course Alignment	BSU – ACC 201: Principles of Financial Accounting	
Postsecondary Credential	ITCC - CT Business Administration, TC Business Administration (52.0201); TC Supply Chain Management; CT Supply Chain Management/Logistics BSU – B.A./B.S. Business Administration (52.0101)	
Liberal Arts/Sciences Requirements	ITCC - IVYT 111: Student Success for University Transfer, COMM 101: Fundamentals of Public Speaking or COMM 102: Introduction to Interpersonal Communication	
Industry Credential	Certified Logistics Technician (CLT); Commercial Drivers License Class A;	
CONTENT STANDARDS AND COMPETENCIES		
Course Competencies	Access competencies for 7258 Supply Chain Management Capstone here.	