



DEPARTMENT OF EDUCATION

**Dr. Jennifer McCormick**  
Superintendent of Public Instruction

*Working Together for Student Success*

To: Members of the State Board of Education

From: Amanda McCammon, Chief of Workforce and STEM Alliances  
Stefany Deckard, State Director of Career and Technical Education

Date: December 12, 2018

Re: Course Sequence for Concentrator Status

**Background:**

During the November State Board of Education meeting, members approved the new CTE concentrator definition to align with the Perkins V definition of a concentrator:

*A student must earn a C average in at least two nonduplicative advanced courses (courses beyond an introductory course) within a particular program or program of study.*

The Department of Education was tasked to define the “advanced courses” that will constitute a CTE Concentrator beginning in 2019-20 and present those courses for Board approval at the December 12, 2018 Board meeting. Feedback from stakeholders was solicited.

**Recommendation:**

Approve the proposed two course sequences to meet concentrator status for each of the current state developed pathways. These course sequences would apply for the students in the 2023 cohort. These course sequences represent a short term solution while the DOE utilizes the next year to review, revise and develop full programs of study. Approving these course sequences will allow schools to begin planning course offerings for next school year by letting them know which courses will count toward concentrator status.

Courses were chosen based on the following criteria:

- Only current state-approved courses were included in the course sequences.
- Only courses beyond the introductory level were considered.
- With few exceptions, only courses which are on the CTE dual credit crosswalk were included in the course sequences.
  - Utilizing courses which are aligned to dual credit helps to ensure students who obtain concentrator status are employable and/or enrollable.
  - Using dual credits as a standard helps to ensure that all programs are of comparable rigor.
- Where possible, flexibility was built into programs.
  - Horticulture/Landscaping and Emergency Medical Services have multiple concentrations.

- Some programs like Engineering and Computer Science allow for students to choose a concentration area with their second course.

Attachment A: Concentrator Course Selection, for approval

Attachment B: Draft Program of Study, does not require approval

Cluster	Pathway/Program of Study	DOE Code	Concentrator Course A Choose a concentration area if multiple courses are listed	DOE Code	Concentrator Course B Choose a concentration area if multiple courses are listed
Agriculture	Agriculture Power, Structure and Technology Systems	5088	Agriculture Power, Structure and Technology	5002	Agribusiness Management
Agriculture	Animal Systems	5070	Advanced Life Science: Animals (L)	5002	Agribusiness Management
Agriculture	Food Products and Processing Systems	5072	Advanced Life Science: Foods(Chemistry of Foods) (L)	5002	Agribusiness Management
Agriculture	Horticulture/ Landscape	5132	Horticultural Science	5136	Landscape Management I
Agriculture	Landscape	5136	Landscape Management I	5137	Landscape Management II
Agriculture	Natural Resource Systems	5180	Natural Resources	5229	Sustainable Energy Alternatives*
Agriculture	Plant Systems	5074	Advanced Life Science: Plants and Soils (L)	5002	Agribusiness Management
Architecture and Construction	Architectural Drafting and Design	5640	Architectural Drafting and Design I	5652	Architectural Drafting and Design II
Architecture and Construction	Housing and Interior Design	5352	Housing and Interior Design Careers I	5460	Housing and Interior Design Careers II
Architecture and Construction	Building and Facilities Mgmt	5592	Building and Facilities Management I	5595	Building & Facilities Management II
Architecture and Construction	Building and Facilities Maint	5593	Building & Facilities Maintenance I	5594	Building & Facilities Maintenance II
Architecture and Construction	Comm and Residential Facilities Mgmt	5472	Residential Property Management Careers I	5858	Residential Property Management Careers II
Architecture and Construction	Construction	5580	Construction Trades I	5578	Construction Trades II
Architecture and Construction	Electrical	4830	Construction Trades: Electrical I	4832	Construction Trades: Electrical II
Architecture and Construction	Energy	5616	Energy Industry I	5618	Energy Industry II
Architecture and Construction	Heavy Equipment	5497	Construction Trades: Heavy Equipment I	5495	Construction Trades: Heavy Equipment II
Architecture and Construction	HVAC	5496	Construction Technology HVAC I	5498	Construction Technology HVAC II
Architecture and Construction	Mechanical	4836	Mechanical Drafting and Design I	4838	Mechanical Drafting and Design II
Arts, AV Tech and Comm	Commercial Photography	5570	Commercial Photography	5550	Graphic Design and Layout
Arts, AV Tech and Comm	Fashion Textiles and Design	5420	Fashion and Textile Careers I	5421	Fashion and Textile Careers II
Arts, AV Tech and Comm	Interactive Media	5232	Interactive Media	5550	Graphic Design and Layout
				5570	Commercial Photography
Arts, AV Tech and Comm	Graphic Imaging	5232	Interactive Media	5572	Graphic Imaging Technology
				5550	Graphic Design and Layout
Arts, AV Tech and Comm	Radio TV	5986	Radio and Television I	5992	Radio and Television II
Business and Marketing	Accounting	4562	Principles of Business Management	4522	Advanced Accounting
Business and Marketing	Banking/Finance	4522	Advanced Accounting	5258	Banking and Investment Capstone
Business and Marketing	E&M Business Mgmt Focus	4562	Principles of Business Management	5966	Entrepreneurship and New Ventures Capstone
				5914	Principles of Marketing
Business and Marketing	Office Mgmt	4562	Principles of Business Management	5268	Administrative and Office Management
Business and Marketing	MM-Marketing	5914	Principles of Marketing	5918	Strategic Marketing
Ed and Training	Early Childhood	5412	Early Childhood Education I	5406	Early Childhood Education II
Ed and Training	Education Careers	5408	Education Professions I	5404	Education Professions II
Health Sciences	Biomed/Tech	5216	PLTW Human Body Systems	5217	PLTW Medical Interventions
Health Sciences	Dental	5203	Dental Careers I	5204	Dental Careers II
Health Sciences	Dietetics	5456	Nutrition Science Careers I	5457	Nutrition Science Careers II

Health Sciences	Health Career / Med Forensics	5282	Health Science Education I	5288	Health Science Education II: Medical Forensics
Health Sciences	Health Career / Athletic Training	5282	Health Science Education I	5290	Health Science Education II: Athletic Training
Health Sciences	Pharmacy	5282	Health Science Education I	5214	Health Science II: Pharmacy
Health Sciences	Physical Therapy	5282	Health Science Education I	5215	Health Science II: Physical Therapy
Health Sciences	Nursing	5282	Health Science Education I	5284	Health Science Education II: Nursing
Health Sciences	Vet	5211	Veterinary Careers I	5212	Veterinary Careers II
Hospitality and Human Services	Cosmo	5802	Cosmetology I	5806	Cosmetology II
Hospitality and Human Services	Culinary Arts	5440	Culinary Arts and Hospitality I	5346	Culinary Arts and Hospitality II: Culinary Arts
Hospitality and Human Services	Hospitality Mgmt	5440	Culinary Arts and Hospitality I	5458	Culinary Arts and Hospitality II: Hospitality Management
Hospitality and Human Services	Human and Social Services	5336	Human and Social Services I	5462	Human and Social Services II
STEM/Information Tech	Computer Science/Programming	4801	Computer Science I	5236	Computer Science II
				5250	Computer Science III: Databases
				5251	Computer Science III: Informatics
				5249	Computer Science III: Software Development Capstone
				5253	Computer Science III: Cybersecurity Capstone

Information Tech	Networking	5234	Networking I	4588	Networking II: Infrastructure
					Networking II: Servers
					Networking II: Cybersecurity Capstone
Information Tech	PC Support/IT Tech	5230	Information Technology Support	5234	Networking I
Manuf and Logistics	Advanced Manuf	5608	Advanced Manufacturing I	5606	Advanced Manufacturing II
Manuf and Logistics	Electronics	5684	Electronics and Computer Technology I	5694	Electronics and Computer Technology II
Manufacturing and Logistics	Industrial Technical Maint	5686	Industrial Technical Maintenance I	5688	Industrial Technical Maintenance II
Manuf and Logistics	Robotics	5610	Industrial Automation and Robotics I	5612	Industrial Automation and Robotics II
Manuf and Logistics	Logistics and Supply Chain	5602	Warehouse Operations and Materials Handling	5601	Supply Chain Management and Logistics
Manuf and Logistics	Machine Tech	5782	Precision Machining I	5784	Precision Machining II
Manuf and Logistics	Welding	5776	Welding Technology I	5778	Welding Technology II
Public Safety	Crim Just	5822	Criminal Justice I	5824	Criminal Justice II Advanced
Public Safety	EMT/Paramedic	5282	Health Science Education I	5210	Emergency Medical Services
		5820	Fire and Rescue I	5210	Emergency Medical Services
Public Safety	Fire and Rescue	5820	Fire and Rescue I	5826	Fire and Rescue II
STEM	Engineering	4814/ 5644	Principles of Engineering PLTW/ non PLTW	4820/ 5650	Civil Engineering and Architecture PLTW/ non PLTW
				4816/ 5518	Aerospace Engineering PLTW/ non PLTW
				4810/ 5534	Computer Integrated Manufacturing PLTW/ non PLTW
				4826/ 5538	Digital Electronics PLTW/ non PLTW
STEM	Engineering	4814/ 5644	Principles of Engineering PLTW/ non PLTW	4818	Environmental Sustainability
Transportation	Auto Collision	5514	Automotive Collision Repair I	5544	Automotive Collision Repair II
Transportation	Auto Tech	5510	Automotive Services Technology I	5546	Automotive Services Technology II
Transportation	Aviation flight and Operations	5524	Aviation Flight	5528	Aviation Operations
Transportation	Aviation Maint	5520	Aviation Maintenance I	5522	Aviation Maintenance II
Transportation	Diesel Services Tech	5620	Diesel Service Technology I	5624	Diesel Service Technology II
Transportation	Recreation and Mobile Equip	5842	Recreational and Mobile Equipment I	5844	Recreational and Mobile Equipment II
Transportation	Tractor Trailer Operations	5620	Diesel Service Technology I	5622	Tractor/Trailer Operation
		5510	Automotive Services Technology I		
		5497	Construction Trades: Heavy Equipment I		

Vertical line 1

Vertical line 2

Vertical line 3

Vertical line 1

Vertical line 2

Vertical line 3

Vertical line 1

Vertical line 2

Vertical line 3



Vertical line 1

Vertical line 2

Vertical line 3

Vertical line 1

Vertical line 2

Vertical line 3

Vertical line 1

Vertical line 2

Vertical line 3

Vertical line 1

Vertical line 2

Vertical line 3

Vertical line 1

Vertical line 2

Vertical line 3

Vertical line 1

Vertical line 2

Vertical line 3

Vertical line 1

Vertical line 2

Vertical line 3

Vertical line 1

Vertical line 2

Vertical line 3



Vertical line 1

Vertical line 2

Vertical line 3

Vertical line 1

Vertical line 2

Vertical line 3

Vertical line 1

Vertical line 2

Vertical line 3

**Attachment B: SAMPLE PROGRAM OF STUDY**

Name of Cluster: Information Technology Name of Pathway: Computer and Information Systems Support/Analyst

Postsecondary Credits Available: 19 dual credits

Promoted Certifications: CompTIA A+, Security+, Network+, CISCO Networking

Industry Experience Options: Work Based Learning experience through ###

Ed Levels	Purpose/ Grade Range	Core Academic Classes	Other Req'd courses	Recommended or Related electives	CTE Courses and/or Degree Major Courses	Credentials Earned	Sample Occupations
Secondary	Exploratory 8-10	<ul style="list-style-type: none"> <li>English</li> <li>Algebra I</li> <li>Biology</li> </ul>	<ul style="list-style-type: none"> <li>World History</li> <li>Physical Education</li> </ul>	<ul style="list-style-type: none"> <li>Digital Applications and Responsibilities</li> </ul>	<ul style="list-style-type: none"> <li>Preparing for College and Careers</li> <li>Intro to Computer Science</li> </ul>		
	Engagement/Preparation 10-12	<ul style="list-style-type: none"> <li>English/Language Arts</li> <li>Geometry/Algebra II</li> <li>ICP/Chemistry</li> <li>US History</li> </ul>	<ul style="list-style-type: none"> <li>Health and Wellness</li> <li>World Language</li> </ul>	<ul style="list-style-type: none"> <li>Computer Science I</li> </ul>	<ul style="list-style-type: none"> <li>Information Technology Support I*                             <ul style="list-style-type: none"> <li>ITSP 135 (4) - Hardware/Software Support</li> <li>INFM 109 (3) – Informatics Fundamentals</li> </ul> </li> <li>Networking I*                             <ul style="list-style-type: none"> <li>CSIA 105 (3) – Cybersecurity</li> <li>NETI 105 (3) – Networking Fundamentals</li> </ul> </li> </ul>	Industry Certs: Comp TIA A+ Comp TIA Security+	Computer User Support Specialist
Secondary/Early College	Experience/Early College 11-14	<ul style="list-style-type: none"> <li>English Composition/ AP Language</li> <li>Probability/Stats/ AP Prob and Stats</li> <li>Physics</li> <li>Government/ Economics</li> </ul>		<ul style="list-style-type: none"> <li>Pre-Calc/ Trigonometry</li> </ul>	<ul style="list-style-type: none"> <li>Networking II – Infrastructure/Servers                             <ul style="list-style-type: none"> <li>NETI 115 (3) – Routing and Switching</li> </ul> </li> <li>Information Tech Support Capstone                             <ul style="list-style-type: none"> <li>ITSP 165 (3) – Frontline IT Customer Support</li> </ul> </li> </ul> <p>And/or</p> <ul style="list-style-type: none"> <li>Work Based Learning Capstone -</li> </ul>	Industry Certs Comp TIA Network+ Cisco Networking Post Sec Certificate Ivy Tech Cert	Computer Network Support Specialist
Post-Secondary	Post-Secondary Associates	<ul style="list-style-type: none"> <li>English Composition</li> <li>Quantitative Reasoning or Higher</li> <li>Fundamentals of Public Speaking</li> </ul>		<ul style="list-style-type: none"> <li>Humanities/Social and Behavioral Sciences Elective</li> <li>Life/Physical Sciences Elective</li> </ul>	<ul style="list-style-type: none"> <li>SVAD 111 (3) – Linux and Virtualization Technologies and Fundamentals</li> <li>SVAD 121 (3) – Enterprise Computing</li> <li>DBMS 110 (3) – Database Design and Management</li> <li>ITSP 215 (3) – Mobile and Wireless Computing Support</li> <li>Information Technology Support Selective(s)</li> <li>Computing and Informatics Project</li> </ul>	Industry Certs Post-Sec Certificate Technical Cert Associates	Network and Computer Systems Administrator
	Post-Secondary Bachelors					Bachelors	

