

## COMMISSION FOR HIGHER EDUCATION

Friday, August 12, 2011

### DECISION ITEM A-1:

**Certificate, Technical Certificate, and Associate of Applied Science in Machine Tool Technology To Be Offered by Ivy Tech Community College South Bend at South Bend and Warsaw, and Fort Wayne at Fort Wayne, and**

**Certificate and Technical Certificate in Machine Tool Technology To Be Offered by Ivy Tech Community College Indianapolis at Indianapolis**

### Staff Recommendation

That the Commission for Higher Education approve the Certificate, Technical Certificate, and Associate of Applied Science in Machine Tool Technology to be offered by Ivy Tech Community College South Bend at South Bend and Warsaw, and Fort Wayne at Fort Wayne, and Certificate and Technical Certificate in Machine Tool Technology to be offered by Ivy Tech Community College Indianapolis at Indianapolis, in accordance with the background discussion in this agenda item and the *Abstract*, July 29, 2011; and

That the Commission recommend no new state funds, in accordance with the supporting document, *New Academic Degree Program Proposal Summary*, July 29, 2011

### Background

The student learning outcomes of the Machine Tool Technology programs are aligned with the industry skill standards, with six different certifications issued by the National Institute for Metalworking Skills (NIMS) built into the curricula:

- Measurement, Materials, & Safety Assessment
- Job Planning, Benchwork, and Layout Assessment
- Manual Turning with Chucking Assessment
- Manual Milling Assessment
- CNC Milling: Operator Assessment
- CNC Turning: Operator Assessment

The Machine Tool Technology programs are designed to meet the accreditation standards of the Association of Technology, Management, and Applied Engineering. These programs will also form the basis for a pilot effort, the Machine Tool Institute – one of several, cohort-based Institutes of the College – that is designed to prepare students for employment in factories and machine shops that require entry level and intermediate skills

on both manual and automated machine tools. The Machine Tool Institute will also utilize embedded math, reading, and writing exercises.

These programs are designed to strengthen the competitiveness of the manufacturing industry in northern and central Indiana. While the state has lost lower skilled manufacturing jobs, the state is projected to add jobs over the long run for computer control programmers and operators – positions for which students pursuing these programs will be prepared. These programs will also help to address a specific gap that has been identified for the orthopedic machine tool industry based in Warsaw.

### **Supporting Documents**

- (1) *Abstract - Certificate, Technical Certificate, and Associate of Applied Science in Machine Tool Technology to be offered by Ivy Tech Community College South Bend at South Bend and Warsaw, and Fort Wayne at Fort Wayne, and Certificate, and Technical Certificate in Machine Tool Technology to be offered by Ivy Tech Community College Indianapolis at Indianapolis, July 29, 2011.*
  
- (2) *New Academic Degree Program Proposal Summary – Cert., T.C., and A.A.S. in Machine Tool Technology to be Offered by Ivy Tech Community College South Bend at South Bend and Warsaw, and Fort Wayne at Fort Wayne, and Cert., and T.C. in Machine Tool Technology to be offered by Ivy Tech Community College Indianapolis at Indianapolis, July 29, 2011.*

## Abstract

Certificate, Technical Certificate, and Associate of  
Applied Science in Machine Tool Technology  
To Be Offered by  
Ivy Tech Community College South Bend at South Bend  
and Warsaw, and Fort Wayne at Fort Wayne

and

Certificate and Technical Certificate in Machine Tool Technology  
To Be Offered by  
Ivy Tech Community College Indianapolis at Indianapolis

July 29, 2011

**Objectives:** To meet the needs of the metals manufacturing industry base in Indiana and to prepare candidates to become skilled machine tool production operators.

**Clientele to be Served:** Traditional students, both full and part time, who are recent high school graduates; non-traditional adult students who are underemployed or preparing to enter/re-enter the workforce; and students who ultimately intend to pursue a baccalaureate degree in a technology-related program but want to start at a community college.

**Curriculum:** The total semester credit hours required to complete each program are: Certificate, 21; Technical Certificate, 31-33; Associate of Applied Science, 62-65, distributed as follows:

### CERTIFICATE

Professional/Technical Core (21 credit hours)

- Graphic Communications for Manufacturing (3)
- Introduction to Print Reading (3)
- Introduction to Machining (3)
- Turning Processes (3)
- Milling Processes (3)
- Abrasive Processes I (3)
- CNC Setup and Operations I (3)

### TECHNICAL CERTIFICATE

General Education (7-9 credit hours)

- Fundamentals of Public Speaking (3) OR
- English Composition (3)
- Geometry/Trigonometry (3)
- Life Skills Elective (1-3)

Professional/Technical Core (24 credit hours)

- Graphic Communications for Manufacturing (3)
- Introduction to Print Reading (3)
- Introduction to Machining (3)
- Turning Processes (3)
- Milling Processes (3)
- Abrasive Processes I (3)
- CNC Setup and Operations I (3)
- CNC Programming I (3)

ASSOCIATE OF APPLIED SCIENCE

General Education (20-23 credit hours)

- Fundamentals of Public Speaking (3)
- English Composition (3)
- Life Skills Elective (1-3)
- Geometry/Trigonometry (3)
- College Algebra (3)
- Physics I (4)
- Humanities/Social and Behavioral Sciences/Mathematics/Life and Physical Sciences Electives (3-4)

Professional/Technical Core (27 credit hours)

- Graphic Communications for Manufacturing (3)
- Introduction to Print Reading (3)
- Introduction to Machining (3)
- Turning Processes (3)
- Milling Processes (3)
- Abrasive Processes I (3)
- CNC Setup and Operations I (3)
- CNC Programming I (3)
- CNC Machining (3)

Statewide Electives (15 credit hours)

***Employment Possibilities:*** Graduates will be directly employable in many entry level jobs located within machine shops across Indiana. These Jobs include entry level machinist, entry level CNC operations, Precision machinist, Tool and Die Maker, CNC Programmer, and CAD/CAM Technician.

**NEW ACADEMIC DEGREE PROGRAM PROPOSAL SUMMARY**  
July 29, 2011

**I. Prepared by Institution**

Institution/Location: Ivy Tech Community College-South Bend at South Bend  
Program: Cert./T.C./A.A.S. in Machine Tool Technology

	Year 1 FY2012	Year 2 FY2013	Year 3 FY2014	Year 4 FY2015	Year 5 FY2016
<b>Enrollment Projections (Headcount)</b>					
Full-Time	12	19	23	24	24
Part-Time	14	22	27	28	28
<b>Total</b>	<b>26</b>	<b>41</b>	<b>50</b>	<b>52</b>	<b>52</b>
<b>Enrollment Projections (FTE)</b>					
Full-Time	12	19	23	24	24
Part-Time	7	11	13	13	13
<b>Total</b>	<b>19</b>	<b>30</b>	<b>36</b>	<b>37</b>	<b>37</b>
<b>Degree Completions Projection</b>					
	0	0	2	6	12
<b>New State Funds Requested (Actual) *</b>	<b>-0-</b>	<b>-0-</b>	<b>-0-</b>	<b>-0-</b>	<b>-0-</b>
<b>New State Funds Requested (Increases) *</b>	<b>-0-</b>	<b>-0-</b>	<b>-0-</b>	<b>-0-</b>	<b>-0-</b>

**II. Prepared by CHE**

<b>New State Funds To Be Considered For Recommendation (Actual) *</b>	<b>-0-</b>	<b>-0-</b>	<b>-0-</b>	<b>-0-</b>	<b>-0-</b>
<b>New State Funds To Be Considered For Recommendation (Increases) *</b>	<b>-0-</b>	<b>-0-</b>	<b>-0-</b>	<b>-0-</b>	<b>-0-</b>

CHE Code: 11-14  
Campus Code: 8423  
County: St. Joseph  
Degree Level: 02, 03, 04  
CIP Code: Federal – 480503; State – 480503

\* Excludes new state dollars that may be provided through enrollment change funding.

**NEW ACADEMIC DEGREE PROGRAM PROPOSAL SUMMARY**

July 29, 2011

**I. Prepared by Institution**

Institution/Location: Ivy Tech Community College-South Bend at Warsaw  
 Program: Cert./T.C./A.A.S. in Machine Tool Technology

	Year 1 FY2012	Year 2 FY2013	Year 3 FY2014	Year 4 FY2015	Year 5 FY2016
<b>Enrollment Projections (Headcount)</b>					
Full-Time	22	35	43	45	45
Part-Time	18	29	35	37	37
<b>Total</b>	<b>40</b>	<b>64</b>	<b>78</b>	<b>82</b>	<b>82</b>
<b>Enrollment Projections (FTE)</b>					
Full-Time	22	35	43	45	45
Part-Time	9	14	16	17	17
<b>Total</b>	<b>31</b>	<b>49</b>	<b>59</b>	<b>62</b>	<b>62</b>
Degree Completions Projection	0	0	4	10	19
New State Funds Requested (Actual) *	-0-	-0-	-0-	-0-	-0-
New State Funds Requested (Increases) *	-0-	-0-	-0-	-0-	-0-

**II. Prepared by CHE**

New State Funds To Be Considered For Recommendation (Actual) *	-0-	-0-	-0-	-0-	-0-
New State Funds To Be Considered For Recommendation (Increases) *	-0-	-0-	-0-	-0-	-0-

CHE Code: 11-14  
 Campus Code: 8423  
 County: Kosciusko  
 Degree Level: 02, 03, 04  
 CIP Code: Federal – 480503; State – 480503

\* Excludes new state dollars that may be provided through enrollment change funding.

**NEW ACADEMIC DEGREE PROGRAM PROPOSAL SUMMARY**

July 29, 2011

**I. Prepared by Institution**

Institution/Location: Ivy Tech Community College-Fort Wayne at Fort Wayne  
 Program: Cert./T.C./A.A.S. in Machine Tool Technology

	Year 1 FY2012	Year 2 FY2013	Year 3 FY2014	Year 4 FY2015	Year 5 FY2016
<b>Enrollment Projections (Headcount)</b>					
Full-Time	16	26	31	32	32
Part-Time	22	35	43	45	45
<b>Total</b>	<b>38</b>	<b>61</b>	<b>74</b>	<b>77</b>	<b>77</b>
<b>Enrollment Projections (FTE)</b>					
Full-Time	16	26	31	33	33
Part-Time	11	17	20	21	21
<b>Total</b>	<b>27</b>	<b>43</b>	<b>51</b>	<b>54</b>	<b>54</b>
Degree Completions Projection	0	0	3	9	18
New State Funds Requested (Actual) *	-0-	-0-	-0-	-0-	-0-
New State Funds Requested (Increases) *	-0-	-0-	-0-	-0-	-0-

**II. Prepared by CHE**

New State Funds To Be Considered For Recommendation (Actual) *	-0-	-0-	-0-	-0-	-0-
New State Funds To Be Considered For Recommendation (Increases) *	-0-	-0-	-0-	-0-	-0-

CHE Code: 11-14  
 Campus Code: 9926  
 County: Allen  
 Degree Level: 02, 03, 04  
 CIP Code: Federal – 480503; State – 480503

\* Excludes new state dollars that may be provided through enrollment change funding.

**NEW ACADEMIC DEGREE PROGRAM PROPOSAL SUMMARY**

July 29, 2011

**I. Prepared by Institution**

Institution/Location: Ivy Tech Community College-  
 Program: Cert./T.C. in Machine Tool Technology

	Year 1 FY2012	Year 2 FY2013	Year 3 FY2014	Year 4 FY2015	Year 5 FY2016
Enrollment Projections (Headcount)					
Full-Time	22	35	43	45	45
Part-Time	24	38	46	49	49
Total	46	73	89	94	94
Enrollment Projections (FTE)					
Full-Time	22	35	43	45	45
Part-Time	11	18	22	23	23
Total	33	53	65	68	68
Degree Completions Projection	0	0	4	11	22
New State Funds Requested (Actual) *	-0-	-0-	-0-	-0-	-0-
New State Funds Requested (Increases) *	-0-	-0-	-0-	-0-	-0-

**II. Prepared by CHE**

New State Funds To Be Considered For Recommendation (Actual) *	-0-	-0-	-0-	-0-	-0-
New State Funds To Be Considered For Recommendation (Increases) *	-0-	-0-	-0-	-0-	-0-

CHE Code: 11-14  
 Campus Code: 9917  
 County: Marion  
 Degree Level: 02, 03  
 CIP Code: Federal – 480503; State – 480503

\* Excludes new state dollars that may be provided through enrollment change funding.