

Program Review

**Associate in Applied Science (AAS) and Certificate (CER)
Industrial Systems Technology—Machine Tool Technology Option
(CIP: 47.0303)
Short-Term Certificate (STC)
Machine Tool Technology
(CIP: 48.0507)**

Program Purpose

What is the published purpose/mission of the program?
The Machine Tool Technology program prepares students for entry-level employment in the industrial maintenance and machine tool technology fields.
How does the program's purpose/mission fit into the overall mission of the college?
The MTT program supports NACC Mission goals three, five, and seven.
Do any changes need to be made to the program's purpose/mission? Explain.
No changes to the program's purpose/mission are needed at this time.
Do any changes need to be made to how the program's purpose/mission fits into the overall college mission? Explain.
No changes to how the program's purpose/mission fits into the overall college mission are needed at this time.

Program Learning Outcomes

What are the program learning outcomes?

Graduates of the Industrial Systems Technology - Machine Tool Technology Option Program will be able to:

- Function as a competent entry-level machinist by demonstrating knowledge and skills retained from coursework (ADM 150-154)
- Perform all tasks in a safe manner. (ADM 150-154)
- Exhibit a positive work ethic. (ADM 150-154)

How are the Program Learning Outcomes assessed?

The student will perform all task in a safe manner.

In ADM 150-154, throughout the class the student will perform tasks in a safe manner with 100% proficiency according to the Standardized Occupational Safety and Health Rubric.

The student will exhibit a positive work ethic.

In ADM 150-154, the student's work ethic will be assessed by scoring at least 30 points on a standardized Workplace Readiness Skills Rubric.

The student will function as a competent entry-level machinist.

In ADM 150-154, before entering the cooperative education program, the student must score a minimum of 75% on a comprehensive knowledge and skills checklist.

What can students do with the knowledge they have after completing the program?

Students who complete the MTT program can pursue gainful employment in the manufacturing sectors of commercial, military, aerospace, medical, and full assembly manufacturing.

What are the plans for reviewing the program learning outcomes and revising them?

Program learning outcomes are reviewed annually and revised as needed through the curriculum committee. Revisions are implemented in the upcoming year.

Assessed Needs and Assumptions

What are the occupational projections for careers for which the program trains?

NATIONAL PROJECTIONS

Source: <https://www.bls.gov/ooh/production/machinists-and-tool-and-die-makers.htm#tab-6>

Job Outlook

About this section

Overall employment of machinists and tool and die makers is projected to show little or no change from 2021 to 2031.

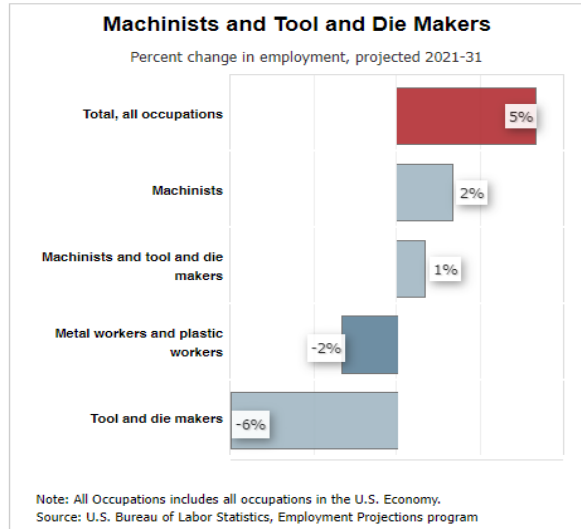
Despite limited employment growth, about 44,100 openings for machinists and tool and die makers are projected each year, on average, over the decade. Most of those openings are expected to result from the need to replace workers who transfer to different occupations or exit the labor force, such as to retire.

Employment

Projected employment of machinists and tool and die makers varies by occupation (see table).

Although machinists will be required to set up, monitor, and maintain systems, such as computer numerically controlled (CNC) machine tools, autoloading, and high-speed machining, their employment growth is expected to be limited as improvements in these technologies increase these workers' efficiency over the projections decade.

Employment of tool and die makers is expected to decline as advances in automation, including CNC machine tools, reduce demand for certain tasks that these workers do, such as programming how parts fit together.



Employment projections data for machinists and tool and die makers, 2021-31

Occupational Title	SOC Code	Employment, 2021	Projected Employment, 2031	Change, 2021-31		Employment by Industry
				Percent	Numeric	
Machinists and tool and die makers	—	407,700	411,600	1	3,900	—
Machinists	51-4041	342,600	350,700	2	8,100	Get data
Tool and die makers	51-4111	65,100	61,000	-6	-4,200	Get data

SOURCE: U.S. Bureau of Labor Statistics, Employment Projections program

ALABAMA STATEWIDE PROJECTIONS

Source: <https://www2.labor.alabama.gov/projections/ProjectionsTAB.aspx>

SOC Title	SOC Code	2018 Estimated Employment	2028 Projected Employment	Total Change	Percent Change
Computer Numerically Controlled Machine Tool Pr..	51-4012	460	620	160	35.00%
Computer-Controlled Machine Tool Operators, Met..	51-4011	1,750	1,850	100	5.78%
Machinists	51-4041	5,780	6,350	570	9.76%
Metal Workers and Plastic Workers	51-4000	47,300	50,070	2,770	5.87%

ALABAMA REGION 2 PROJECTIONS

Source: <https://www2.labor.alabama.gov/projections/ProjectionsTAB.aspx>

SOC Title	SOC Code	2018 Estimated Employment	2028 Projected Employment	Total Change	Percent Change
Computer Numerically Controlled Machine Tool Pr..	51-4012	70	100	30	33.78%
Computer-Controlled Machine Tool Operators, Met..	51-4011	460	480	20	3.24%
Machinists	51-4041	580	610	30	6.60%
Metal Workers and Plastic Workers	51-4000	5,410	5,600	190	3.45%

Based on the occupational projections, what is the employment outlook for graduates of the program?

The employment outlook for machinists, CNC programmers, CNC operators, and metal/plastic workers is very good, with an average expected growth in our region of +11.78% and statewide of +14.10% over the next ten years.

What is the outlook for the continued need of the program within the mission of the college?

The Machine Tool Technology program continues to help the college fulfill its mission and specifically, goals 3, 5, and 7. It is expected that this need will continue indefinitely.

Structure

What credentials does the program offer?

Associate in Applied Science Degree (AAS) – Industrial Systems Technology – Machine Tool Technology

Certificate (CER)

- Industrial Systems Technology – Machine Tool Technology

Short-Term Certificate (STC)

- Industrial Systems Technology – Machine Tool Technology
- Machine Tool Technology – Stamping & Forming

What are the requirements for each credential?

Associate in Applied Science Degree (AAS). Degree plan retrieved from NACC DegreeWorks, November 1, 2022.

General Education Core: Areas I-IV

Credits required: 21 Credits applied: 0 Catalog year: 2022-2023

<input type="radio"/>	Minimum Credits Required	Still needed:	You currently have 0 credits including both earned and in-progress courses. You need to successfully complete a minimum of 21 additional credits.
<input type="radio"/>	AREA I - WRITTEN COMPOSITION	Still needed:	1 Class in ENG 100 or 101
<input type="radio"/>	AREA II - HUMANITIES & FINE ARTS		
<input type="radio"/>	Fundamentals of Oral Communication or Public Speaking	Still needed:	1 Class in SPH 106 or 107
<input type="radio"/>	Humanities & Fine Arts	Still needed:	1 Class in ART 100 or 203 or 204 or MUS 101 or PHL 206 or REL 100 or 151 or 152 or SPA 201 or 202 or THR 120 or 126
<input type="radio"/>	AREA III - NATURAL SCIENCES & MATHEMATICS		
<input type="radio"/>	Microcomputer Applications	Still needed:	1 Class in CIS 146
<input type="radio"/>	Mathematics	Still needed:	1 Class in BUS 271 or MTH 100 or 103 or 110 or 112 or 113 or 116 or 120 or 125 or 126 or 227 or 231 or 232 or 237 or 238 or 265
<input type="radio"/>	Math, Science, or CIS	Still needed:	3 Credits in AST 220 or BIO 103 or 104 or 201 or 202 or 220 or 230 or CHM 104 or 105 or 111 or 112 or 221 or 222 or CIS @ or MTH 100 or 103 or 110 or 112 or 113 or 116 or 120 or 125 or 126 or 227 or 231 or 232 or 237 or 238 or 265 or PHS 111 or 112 or PHY 115 or 120 or 201 or 202 or 213 or 214
<input type="radio"/>	AREA IV - HISTORY, SOCIAL, & BEHAVIORAL SCIENCES		
<input type="radio"/>	History, Social, & Behavioral Science	Still needed:	1 Class in ECO 231 or 232 or GEO 100 or HIS 101 or 102 or 201 or 202 or POL 211 or PSY 200 or 210 or SOC 200 or 210

IST-Machine Tool Technology: Area V INCOMPLETE

Credits required: 45 Credits applied: 0 Catalog year: 2022-2023

<input type="radio"/>	Minimum Credits Required	Still needed:	You currently have 0 credits including both earned and in-progress courses. You need to successfully complete a minimum of 45 additional credits.
<input type="radio"/>	TECHNICAL CORE		
<input type="radio"/>	Principles of Industrial Mechanics	Still needed:	1 Class in INT 117
<input type="radio"/>	Technical Cooperative Education	Still needed:	3 Credits in ADM 150 or 151 or 152 or 153 or 154
<input type="radio"/>	Workplace Skills	Still needed:	1 Class in WKO 106
<input type="radio"/>	WKO Elective	Still needed:	1 Class in WKO 110 or 131 or 132 or 133 or 134
<input type="radio"/>	Principles of Mechanical Measurement & Technical Drawing	Still needed:	1 Class in INT 119
<input type="radio"/>	Computer Integrated Manufacturing	Still needed:	1 Class in MTT 218
<input type="radio"/>	MTT Electives	Still needed:	27 Credits in CNC @ or MTT @

Industrial Systems Technology – Machine Tool Technology Certificate. Degree plan retrieved from NACC DegreeWorks, November 1, 2022.

General Education Core

Credits required: 12 Credits applied: 0 Catalog year: 2022-2023

<input type="radio"/>	Minimum Credits Required	Still needed:	You currently have 0 credits including both earned and in-progress courses. You need to successfully complete a minimum of 12 additional credits.
<input type="radio"/>	English Composition	Still needed:	1 Class in ENG 100 or 101
<input type="radio"/>	Fundamentals of Oral Communication or Public Speaking	Still needed:	1 Class in SPH 106 or 107
<input type="radio"/>	Mathematics	Still needed:	1 Class in BUS 271 or MTH 100 or 103 or 110 or 112 or 113 or 116 or 120 or 125 or 126 or 227 or 231 or 232 or 237 or 238 or 265
<input type="radio"/>	Microcomputer Applications	Still needed:	1 Class in CIS 146

IST-Machine Tool Technology: Area V

Credits required: 36 Credits applied: 0 Catalog year: 2022-2023

<input type="radio"/>	Minimum Credits Required	Still needed:	You currently have 0 credits including both earned and in-progress courses. You need to successfully complete a minimum of 36 additional credits.
<input type="radio"/>	Principles of Industrial Mechanics	Still needed:	1 Class in INT 117
<input type="radio"/>	Principles of Mechanical Measurement & Technical Drawing	Still needed:	1 Class in INT 119
<input type="radio"/>	Workplace Skills	Still needed:	1 Class in WKO 106
<input type="radio"/>	WKO Elective	Still needed:	1 Class in WKO 110 or 131 or 132 or 133 or 134
<input type="radio"/>	Computer Integrated Manufacturing	Still needed:	1 Class in MTT 218
<input type="radio"/>	MTT Electives	Still needed:	21 Credits in CNC @ or MTT @

Industrial Systems Technology – Machine Tool Technology – Stamping & Forming Short-Term Certificate. Degree plan retrieved from NACC DegreeWorks, November 1, 2022.

MTT - Stamping & Forming: Area V

Credits required: 13 Credits applied: 0 Catalog year: 2022-2023

<input type="radio"/> Minimum Credits Required	Still needed:	You currently have 0 credits including both earned and in-progress courses. You need to successfully complete a minimum of 13 additional credits.
<input type="radio"/> Fundamentals	Still needed:	1 Class in CNC 158
<input type="radio"/> Die Construction & Tryout	Still needed:	1 Class in CNC 160
<input type="radio"/> Die Maintenance & Repair	Still needed:	1 Class in CNC 161
<input type="radio"/> Basic Tool & Die	Still needed:	1 Class in CNC 232

Industrial Systems Technology – Machine Tool Technology – Short-Term Certificate. Degree plan retrieved from NACC DegreeWorks, November 1, 2022.

IST - Machine Tool Technology: Area V

Credits required: 12 Credits applied: 0 Catalog year: 2022-2023

<input type="radio"/> Minimum Credits Required	Still needed:	You currently have 0 credits including both earned and in-progress courses. You need to successfully complete a minimum of 12 additional credits.
<input type="radio"/> MTT or CNC Courses	Still needed:	12 Credits in CNC @ or MTT @

How often are the requirements for the degree reviewed?

Degree requirements are reviewed at least annually, with changes posted in the college catalog.

Are there any plans for revising the degree requirements?

At this time, consideration is being given to the addition of more Machine Tool credits, and possibly including more Advanced Manufacturing courses focused on project-based learning in both individual and team applications.

Accreditation

What is the institutional accreditation for the program?

The Machine Tool Technology is within the institutional accreditation granted by the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) and reaffirmed in 2015.

Does the program have any program-specific accreditations?

The MTT program is recognized by the National Institute of Metalworking Skills (NIMS) as an Accredited Education & Training Facility and is a Certified Education Center (CEC) for the Fabricators and Manufacturers Association (FMA) International. NACC and the MTT program are recognized by The Manufacturing Institute as a member of the M-List, which recognizes high schools, community colleges, and universities that teach manufacturing students based upon industry standards.

Instructors

Who are the current instructors in the program, and what are their credentials?

Hugo DeAngelis (Full-Time)

- AAS in Industrial Systems Technology, Machine Tool Technology (Northeast Alabama Community College 2015)
- Eighteen years of teaching experience in machine tool technology
- Twenty-five years of work experience in machining
- NIMS Certified Machining Instructor
- MSSC Certified Instructor
- NC3 Certified Instructor

How have the instructors in the program developed professionally over the past two years?

Individualized professional development for NCSIMUL software.
Individualized professional development for VERICUT software.

What are any planned professional development activities for instructors in the program?

All MTT instructors will update and keep current their NIMS, NC3, & MSSC certifications.
All MTT instructors will complete training workshops & webinars to enhance knowledge about multi-axis and feature-based programming & machining.

Are any additional instructors anticipated within the next five years? If so, please explain.

It is anticipated that one or more adjuncts could be needed based on industry needs and enrollment demands.

Instructional Quality and Enhancements/Curriculum Design

How is the general education core incorporated into the course of study for this program?
--

The Machine Tool Technology AAS Degree includes 21 credit hours of general education in the 66 total: ENG 100 or 101, SPH 106 or 107, three hours of humanities or fine arts, CIS 146, any 100-level math class, and three hours of Math, Science, or Computer Science, and three hours History, Social and Behavioral Sciences.
--

How is curriculum of each program option evaluated to ensure it is relevant and current? Examples include advisory committee suggestions, student learning outcome evaluations, student evaluations, etc.
--

The full-time instructor and the Dean of Workforce Development review the curriculum at least annually based on input from the program advisory committee and other local employers.
--

Describe changes that have been made in the delivery of the courses in each option of the program as a result of review of the program learning outcomes over the last five years.

Course delivery methods are primarily traditional lecture and lab due to the nature of the program and curriculum content. However, whenever appropriate, theory content and virtual lab training content are made available online to facilitate hybrid & online options.
--

Are courses in the program scheduled to maintain availability and accessibility in accordance with the college's mission? Explain.

In accordance with NACC Mission Goal 3, courses are routinely offered and made available so that students can graduate on time.

Program Resources

Describe the physical facilities and resources, including any laboratories, used in the program. Are the physical facilities and resources adequate? Explain.

The MTT program currently utilizes IST 107 as a classroom and IST 110 as the machine shop lab. The shop has a small tool room and access to a material storage/cutting area.

The classroom contains 15 computer workstations. The lab houses 4 laptop workstations, 1 CMM, 25 stocked hand tool boxes, 5 manual lathes, 5 manual mills, 2 surface grinders, 2 saws, 6 CNC mills, 6 CNC lathes, 1 UMC 5th Axis, 1 Wire EDM, 1 heat treat oven.

Both the classroom and shop lab are at maximum capacity. Making sure every student has adequate time using the shop equipment requires careful & rotational scheduling and sometimes limits class offerings. Increasing the number of machines would be ideal, however, a larger space would be required.

Are there any plans for major expansion or upgrade of facilities or major replacement/expansion of equipment? Explain the rationale and include projected costs.

It is anticipated that the MTT program will be relocated into the new Workforce Development Center once completed. Current plans for the new building reflect an expanded shop area and an increased classroom size with an additional quality control and inspection area. Advanced precision measuring instruments will be added, and it is anticipated that the number of shop machines will be increased with the addition of 3 manual mills, 3 manual lathes, 3 CNC mills, 3 CNC lathes, 1 UMC, 1 surface grinder, 1 plastic injection machine, 1 punch press, 1 RAM EDM, and 1 radial arm drill.

Describe the technological resources used in the program. Are the technological resources adequate? Explain.

The MTT classroom and lab are equipped with equipment and instructional technology appropriate to the courses taught, including the following: CAD/CAM Programming, Manual Milling, CNC Milling, Manual Turning, CNC Turning, Surface Grinding, and Inspection/Quality Control.

The computer workstations in the classroom utilize various CAD/CAM related software such as MasterCAM, Surfcam, Vericut, NCSIMUL and CALYPSO. The curriculum also incorporates various online content such as CamInstructor and Immerse2Learn which provide written content, as well as video tutorials, and virtual lab applications. These resources are also made available for student use off-site.

Are there any plans for major expansion or upgrade of technological resources? Explain the rationale and include projected costs.

It is anticipated that the MTT program will be relocated into the new Workforce Development Center once completed. In addition to relocating existing equipment & technology, the plans for the new building include various additions and upgraded technological resources common to educational offices, classrooms, labs, and shops.

Consideration is being given to the following technology updates:

- Expanding the Immerse2Learn curriculum to include annual updates (\$3000/year)
- Adding 4 additional laptops for the shop (\$3000 each)

Describe the library resources that are available to the program.

Program instructors subscribe to both the online *AWS Learning Library* and *AWS Digital Library*. NACC's Learning Resources Center provides access to the following online learning resources: an online catalog, EBSCO's Discovery Service, EBSCO's *Associates Programs Source Plus* database, EBSCO's *Academic eBook Collection*, Alexander Street Press's *Academic Video Online* database, and America's News' *Newsbank* database, and the *Alabama Virtual Library*. Combined, these resources provide students and faculty with access to over 50,000 print books, 250,000 eBooks, 60 print periodicals, 24,000 online periodicals, 79,000 audiovisual materials and digital media. In addition, the LRC has over 450 laptops and hotspots for students to check out. Librarians assist students in person and via text, phone, chat, and email. Subject-specific research guides are located at <https://libguides.nacc.edu/>

Are the library resources adequate for the program? Explain.

Yes. Program-specific resources and computers are available for on or off campus use by students and faculty.

Are there any plans for expansion or upgrade of library resources for the program? Explain the rationale and include projected costs.

While library resources are currently adequate, library resources are continually being updated. The projected cost for expanding library resources in this subject is \$500.

Advisory Committee

Is an advisory committee in place for the program? If so, list the committee members and their affiliation in the community. If not, are plans in place to establish an advisory committee?

Yes.

Dr. David Campbell (ex officio), NACC President
Kerry Wright, NACC Dean of Workforce Development
Hugo DeAngelis (convener), NACC Machine Tool Technology Instructor
Larry Holland, VIZION Tool & Die
John Headrick, GH Metal Solutions
Heath Osborne, GH Metal Solutions
Blake Gifford, Dynetics
Reggie Lowe, Newman Technologies
Steve Avans, Avans Machine and Tool
Kevin Wagner, Dixie Machine Shop
Adam Mason, Lozier
Joe Scott, JSA Machinery
Greg Brown, Brown Precision, Inc.
Jonathon Andrews, R & M Machine Shop
Ronny Kisor, Alabama Technology Network

What is the purpose and role of the advisory committee?

The purpose of the MTT Advisory Committee is three-fold:

1. Assure the relevance of the program and curriculum to local industry
2. Assure the quality of educational programs through external review
3. Establish relationships with local business and industry that will result in advantages to students within the program

The goal of each advisory committee meeting is to work toward program improvement.

Describe any changes that have been made to the program as a result of advisory committee activity or suggestions.

- Incorporated more quality control and inspection content that includes GD&T topics
- Added a Tool & Die certificate to cover stamping, forming and injection molding
- Developed a DOL approved Tri-State Apprenticeship Consortium
- Established a DOL approved apprenticeship with Dynetics
- Established individualized apprenticeship agreements with NEWMAN, Westrock, & PPG

Enrollment and Completions**What are the enrollment trends in the program over the last five years?**

**Number of Students Majoring in Industrial Systems Technology – Machine Tool
Technology
Fall 2017 – Fall 2021**

Fall 2017	Fall 2018	Fall 2019	Fall 2020	Fall 2021
27	41	34	23	18

Source: ACCS DAX Student Headcount by Program Report. Retrieved November 1, 2022.

What are the enrollment trends in the program over the last five years by gender?

**Number of Students Majoring in Industrial Systems Technology – Machine Tool
Technology
By Gender
Fall 2017 – Fall 2021**

	Fall 2017	Fall 2018	Fall 2019	Fall 2020	Fall 2021
Male	27	37	2	22	16
Female	-	4	32	-	2
Total	27	41	34	22	18

Source: ACCS DAX Student Headcount by Program Report. Retrieved November 1, 2022.

What are the enrollment trends in the program over the last five years by race/ethnicity?

**Number of Students Majoring in Industrial Systems Technology – Machine Tool
Technology
by Race/Ethnicity
Fall 2017 – Fall 2021**

	Fall 2017	Fall 2018	Fall 2019	Fall 2020	Fall 2021
African American	-	-	-	-	-
Asian	-	-	-	-	-
Hispanic	-	2	2	1	-
American Indian	1	3	2	-	-
Other	-	1	1	-	-
Two or More Races	-	-	-	3	4
White	26	35	29	18	14
Total	27	41	34	22	18

Source: ACCS DAX Student Headcount by Program Report. Retrieved November 1, 2022.

What are the total number of enrollments and credit-hour production over the last five academic years?

**Total Enrollments and Credit Hour Production
Machine Tool Technology (MTT) Courses
AY 2017-2018 through AY 2021-2022**

	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022
Course Enrollment	192	181	177	104	98
CHP	576	543	531	312	294

Source: NACC AS400 Database, Retrieved 2021. ACCS DAX Report Credit Hour Trend by Department, Retrieved November 1, 2022.

What are the course success and retention rates in the program over the last three academic years?*

**Course Success and Retention Rates
Machine Tool Technology (MTT) Courses
Summer, Fall, and Spring Semesters 2019-2022**

	A	B	C	D	F	W	Enrollments	ABC	Success Rate
Summer 2019-Spring 2020	80	66	16	4	-	8	174	162	93.1%
Summer 2020-Spring 2021	52	20	18	2	2	15	109	90	82.6%
Summer 2021-Spring 2022	48	28	7	1	4	10	98	83	84.7%

Source: Office of Institutional Planning and Assessment, NACC Course Success and Retention Rates Reports, 2019-2022.

*Academic year is represented by summer, fall, and spring semesters.

What do the data indicate about enrollment and student retention in the program?

While enrollment has trended down, retention has been steady.

What are the plans for increasing enrollment and retention rates in the program?

Plans are in place for more advertisement and recruitment and to make more online and hybrid classes available to students.

How many students have earned a credential in the program in the last five academic years?

**Degrees and Certificates Conferred in
Industrial Systems Technology – Machine Tool Technology
AY 2017-2018 through AY 2021-2022**

Credential	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022
AAS Degree	4	4	10	8	5
Certificate	1	5	10	3	9
Short-Term Certificate	8	24	11	33	14

Source: NACC Argos Report: Graduates by KM. Retrieved November 1, 2022.

What are the plans for increasing the completion rates in the program?

Plans are in place to provide students with a more flexible timeframe to complete course work through online, hybrid, and virtual lab opportunities.

Licensure passage rates

Does the program lead to the opportunity for licensure? If so, what are the licensure opportunities?

No.

What are the licensure pass rates, if applicable?

N/A

Does the program or any coursework in the program lead to any type of industry certification? If so, what are the certifications?

- National Institute for Metalworking Skills (NIMS) - Machining Level 1
- National Coalition of Certification Centers (NC3) – Precision Measurement
- Manufacturing Skill Standards Council (MSSC) – Safety, Quality, Production, Maintenance, and full Certified Production Technician
- OSHA 10

What are the industry certification pass rates, if applicable?

95%

Job Placement Rates and Employer Satisfaction

What are the job placement rates for graduates of the program?

The most recent Fact Book published by the NACC Office of Institutional Planning and Assessment shows a job placement rate of 100% for the MTT program.

Is employer satisfaction of graduates assessed? If so, are employers satisfied with graduates of the program? Please describe.

Employer satisfaction is assessed during the required cooperative education experience. All feedback from employers and/or advisory committee members has been positive.
--

Student Follow-Up Reports

Is student satisfaction with the program assessed? If so, are students in the program satisfied with the program? Please describe.

Overall student satisfaction with the program is not assessed. In fall semester, students complete instructor evaluation surveys. In the spring, students complete advisor evaluation surveys. The results from these surveys has been consistently positive.

Is alumni satisfaction with the program assessed? If so, are alumni of the program satisfied with the program? Please describe.
--

Not at this time. The Office of Institutional Planning and Assessment is currently revising all Alumni survey components.

Findings of Review (THIS IS THE MOST IMPORTANT PART OF THE PROGRAM REVIEW!)

<p>What are the strengths of the program?</p> <ul style="list-style-type: none"> • The employment rate of students completing the MTT program is 100% • The program has added new equipment that is applicable for training for current industry needs • The program has incorporated technology that integrates online content and virtual lab components to supplement traditional classroom and lab training • The program has an excellent relationship with advisory committee members and is in regular contact with business and industry representatives regarding not only curriculum but co-op and apprenticeship opportunities • Faculty are well-qualified, participate in appropriate professional development activities, and maintain a solid reputation within the machining industry • The co-op and apprenticeships available within the program ensure all students gain real-world job experience prior to graduation
<p>What are recommendations for improvement?</p> <ul style="list-style-type: none"> • Overall program improvement is a continuous process guided by local industry needs and technological advancements and trends within the machining field • There should be continued efforts to increase enrollment and improve student engagement, retention, certifications, & completion • Seek additional certification opportunities • Increase number of machines to provide 1:1 student/machine ratio
<p>Please provide any other findings that are pertinent to the review.</p> <p>None</p>

Report Affirmed by:

Signed:	Date:
Signatures on file in Office of Institutional Planning and Assessment	
Hugo Signed	
Kerry Signed	
Dr. Da Signed	
<p>Kelly Black, Chair of the Curriculum Committee</p>	