

Key Findings

Finding per Measure

▼ Computer Integrated Machining Technology AOS Program Outcome Set

1. Develop technical skills and knowledge needed to transform ideas and drawings into precision machined parts

Student Learning Outcome: Interpret blueprints and specifications to manufacture and inspect products

- ▼ **Measure:** Blueprint Reading 2 [NCIM-102]: Final Exam
Course level; Direct - Exam

Details/Description:

Acceptable Benchmark: 80% of students will score 75% or better on final exam.

Implementation Plan (timeline): Annually at end of Spring semester beginning 2013/2014.

Key/Responsible Personnel: Data collected by Assessment Coordinator

Findings for Blueprint Reading 2 [NCIM-102]: Final Exam

Summary of Findings: 90% of students scored 75% or better on the final exam

Results: Acceptable Benchmark Achievement: Exceeded

Recommendations : no further action required

Reflections/Notes :

Student Learning Outcome: Apply mathematical concepts & engineering graphics skills to solve machining problems

- ▼ **Measure:** Trig for Coordinate Analysis [NMTH-206]: Final Exam
Course level; Direct - Exam

Details/Description:

Acceptable Benchmark: 80% of students will score 75% or better on final exam.

Implementation Plan (timeline): Annually at end of Spring semester beginning 2013/2014
Key/Responsible Personnel: Data collected by Assessment Coordinator

Findings for Trig for Coordinate Analysis [NMTH-206]: Final Exam

Summary of Findings: Nine students were registered for this course. Out of this group, 88% of the students achieved a final score of 75% or better.

Results: Acceptable Benchmark Achievement: Exceeded

Recommendations : The benchmark was exceeded. Therefore, no further action is needed at this time.

Reflections/Notes :

Student Learning Outcome: Use Computer Assisted Programming, Computer Assisted Machining (CAD/CAM) software

▼ **Measure:** CNC 2 [NCIM-252]: Final Project Evaluation
Course level; Direct - Student Artifact

Details/Description: Final Project Evaluation based on scoring guide
Acceptable Benchmark: 80% of students will score 75% or better on scoring guide
Implementation Plan (timeline): Annually at end of Spring semester beginning 2013/2014
Key/Responsible Personnel: Data collected by Assessment Coordinator

Findings for CNC 2 [NCIM-252]: Final Project Evaluation

Summary of Findings: Nine students were originally enrolled in this course. Out of this group, seven students successfully completed the course with a score of 75% or better.

The benchmark was not met for category.

Results: Acceptable Benchmark Achievement: Not Met

Recommendations : Although the benchmark was not met overall, 66% of the students exceeded the benchmark, 11% met the benchmark and 22% did not meet the minimum benchmark. The two students who did not meet the benchmark have withdrawn from the institute.

No further action is needed at this time

Reflections/Notes :

2. Develop skills and knowledge to safely operate conventional and (CNC) machines, tools and other automatic equipment

Student Learning Outcome: Set up and operate conventional lathes, mills, grinders and polishers

▼ **Measure:** CIMT 4 [NCIM-234], and Precision Optics Manufacturing 1 [NCIM-241]: Competency-based Project Score

Course level; Direct - Student Artifact

Details/Description: CIMT 4 [NCIM-234], and [NCIM-241] Precision Optics Manufacturing 1: competency-based project score.

Acceptable Benchmark: 80% of students will score 75% or better on competency based project

Implementation Plan (timeline): Annually at end of Spring semester beginning 2013/2014

Key/Responsible Personnel: Data collected by Assessment Coordinator

Findings for CIMT 4 [NCIM-234], and Precision Optics Manufacturing 1 [NCIM-241]: Competency-based Project Score

Summary of Findings: 95% of students scored 70% or better on competency based exam

Results: Acceptable Benchmark Achievement: Exceeded

Recommendations : Benchmark was exceeded. No further action is needed at this time

Reflections/Notes :

Student Learning Outcome: Create, edit, and verify toolpaths; copy and paste parameters, toolpaths and tool associative geometry for CNC programs

▼ **Measure:** CNC 1 and CNC 2: Competency-based Project.

Course level; Direct - Student Artifact

Details/Description:
Acceptable Benchmark: 80% of students will score 75% or better on project scoring rubric
Implementation Plan (timeline): Annually at end of Spring semester beginning AY 2013/2014
Key/Responsible Personnel: Data collected by Assessment Coordinator

Findings for CNC 1 and CNC 2: Competency-based Project.

Summary of Findings: All students, 100%, enrolled in these course achieved a score of 75% or better.

Results: Acceptable Benchmark Achievement: Exceeded

Recommendations : The benchmark was exceeded. Therefore, no further action is needed at this time.

Reflections/Notes :

Student Learning Outcome: Observe and practice industry safety rules and regulations

▼ **Measure:** Faculty Observations and Safety Quiz
Course level; Direct - Exam

Details/Description:
Acceptable Benchmark: 100% of students will score 90% or better on a shop safety quiz
Implementation Plan (timeline): Annually at end of Spring semester beginning AY 2013/2014
Key/Responsible Personnel: Data collected by Assessment Coordinator

Findings for Faculty Observations and Safety Quiz

Summary of Findings: All students are required to follow safety rules. Students are not permitted to use the facility unless they demonstrate appropriate rule.

All students must pass a safety quiz with a score of 100% before they are allowed to operate machinery.

Results: Acceptable Benchmark Achievement: Met

Recommendations : No further action is needed at this time. Benchmark was met.

Reflections/Notes :

3. Develop metrology skills needed to validate the quality of all machined parts and process documents

Student Learning Outcome: Use precision measuring instruments and computers to control and verify quality

▼ **Measure:** Precision Measurements [NCIM-121]: Final grade average
Course level; Direct - Other

Details/Description:

Acceptable Benchmark: 80% of students will score 75% or better on final grade

Implementation Plan (timeline): Annually at end of Spring semester beginning AY 2013/2014

Key/Responsible Personnel: Data collected by Assessment Coordinator

Findings for Precision Measurements [NCIM-121]: Final grade average

Summary of Findings: 100% of students students scored 75% or better on the final exam

Results: Acceptable Benchmark Achievement: Exceeded

Recommendations : no further action required

Reflections/Notes :

Student Learning Outcome: Write complete inspection reports

▼ **Measure:** CIMT 4 [NCIM-234] and Precision Optics Manufacturing 1: Inspection Report for All Machined Parts
Course level; Direct - Student Artifact

Details/Description:

Acceptable Benchmark: 80% of students will accurately & completely fill out an inspection report for all machined parts.

Implementation Plan (timeline): Annually at end of Spring semester beginning AY 2013/2014
 Key/Responsible Personnel: Data collected by Assessment Coordinator

Findings for CIMT 4 [NCIM-234] and Precision Optics Manufacturing 1: Inspection Report for All Machined Parts

Summary of Findings: All finished lab projects must be accompanied by a written inspection report. Projects are considered incomplete with an inspection report.
 All student follow this grading policy.
 Results: Acceptable Benchmark Achievement: Met
 Recommendations : Benchmark met . No further action needed at this time
 Reflections/Notes :

4. Develop basic understanding of materials used in manufacturing including ferrous and non-ferrous metals, glass and polymers

Student Learning Outcome: Identify characteristics of various industrial materials

▼ **Measure:** Precision Optics Manufacturing 1 [NCIM-241] and CIMT 4 [NCIM-234] - Final Exam
Course level; Direct - Exam

Details/Description:
 Acceptable Benchmark: 80% of students will score 75% or better on the final exam.
 Implementation Plan (timeline): Annually at end of Spring semester beginning AY 2013/2014
 Key/Responsible Personnel: Data collected by Assessment Coordinator

Findings for Precision Optics Manufacturing 1 [NCIM-241] and CIMT 4 [NCIM-234] - Final Exam

Summary of Findings: 95% of students scored 70% or better on competency based exam
 Results: Acceptable Benchmark Achievement: Exceeded
 Recommendations : no further action required
 Reflections/Notes :

5. Students will develop practical job related and employment seeking skills for careers in manufacturing, metalworking or precision optics
 ...and express satisfaction with their program of learning.

Student Learning Outcome: Produce machined parts and optical elements to exact specifications

▼ **Measure:** Precision Optics Manufacturing 1 [NCIM-241] and CIMT 4 [NCIM-234]: Competency-based Final Exam
Course level; Direct - Exam

Details/Description: Students complete a competency based final exam in CIMT 4 and Precision Optics Manufacturing I.
 Acceptable Benchmark: 85% of the students will produce 80% of specified features within tolerance.
 Implementation Plan (timeline): Annually at end of Spring semester beginning AY 2014/2015
 Key/Responsible Personnel: Data collected by Assessment Coordinator

Findings for Precision Optics Manufacturing 1 [NCIM-241] and CIMT 4 [NCIM-234]: Competency-based Final Exam

Summary of Findings: 95% of students scored 70% or better on competency based exam
 Results: Acceptable Benchmark Achievement: Met
 Recommendations : Benchmark was met. No further action needed at this time
 Reflections/Notes :

Student Learning Outcome: Observe and practice industry safety rules and regulations

▼ **Measure:** Faculty Observation Checklist - Co-op Supervisor Evaluation Form
Course level; Direct - Other

Details/Description: Faculty observation checklist
 Co-op Supervisor Evaluation Form
 Acceptable Benchmark: 100% of the students will follow safety standards
 Implementation Plan (timeline): Annually at end of Spring semester beginning AY 2014/2015
 Key/Responsible Personnel: Data collected by Assessment Coordinator

Findings for Faculty Observation Checklist - Co-op Supervisor Evaluation Form

Summary of Findings: 100% of the students who successfully completed this course practiced industry safety rules as defined by the employer.

Coop employers maintain strict safety rules that all students are required to follow.

Results: Acceptable Benchmark Achievement: Met

Recommendations : no further action is needed at this time

Reflections/Notes :

Student Learning Outcome: Demonstrate problem-solving, decision-making, responsibility, pride in self and work performance, and other learned behaviors and attitudes

...necessary for entering the work force.

▼ **Measure:** NCE Alumni Data: Co-op Self Assessment Evaluation Form

Details/Description: NCE Alumni data
Co-op Self Assessment Evaluation Form

Acceptable Benchmark: 80% of students will score 3 or more on a 1-5 evaluation scale

Implementation Plan (timeline): Data collected every third year.

Key/Responsible Personnel: Data collected by Assessment Coordinator

Findings for NCE Alumni Data: Co-op Self Assessment Evaluation Form

Summary of Findings: This category was not evaluated during this assessment cycle

Results: Acceptable Benchmark Achievement: Not Met

Recommendations : CIMT program faculty will work with NCE to collect data related to our graduates who are currently working the the field. Findings will be addressed in 2018/2019

Reflections/Notes :

Student Learning Outcome: Demonstrate technical competency on the job for an approved co-op employer, which provides access to participation within our global society

Demonstrate technical competency on the job for an approved co-op employer, which will allow them access to participation within our global society.

▼ **Measure:** Co-op Supervisor

Details/Description:

Acceptable Benchmark: 90% of graduates will be employed in the field of precision manufacturing and/ or precision optics.

Implementation Plan (timeline): Annually at the beginning of Fall semester AY 2015/2016

Key/Responsible Personnel: Data collected by Assessment Coordinator

Findings for Co-op Supervisor

Summary of Findings: 81% of students registered for NCIM Co-op 299 successfully completed all requirements

Results: Acceptable Benchmark Achievement: Not Met

Recommendations : CIMT will explore alternative mechanisms to increase the efficiency of document flow. Specifically, required co-op supervisor reports.

Reflections/Notes :

Student Learning Outcome: Affirm satisfaction in their career/academic preparation

▼ **Measure:** Student Satisfaction Survey

Program level; Indirect - Survey

Details/Description:

Acceptable Benchmark: 80% of students will respond they are “very satisfied” or “satisfied” with overall program and courses satisfaction.

Implementation Plan (timeline): Annually at the beginning of Fall semester AY 2015/2016

Key/Responsible Personnel: Data collected by Assessment Coordinator

Findings for Student Satisfaction Survey

Summary of Findings:	This category was not assessed during this cycle.
Results:	Acceptable Benchmark Achievement: Not Met
Recommendations :	DES will evaluate and revise questionnaire given to outgoing outgoing students . New survey will be implemented within the next assessment cycle.
Reflections/Notes :	

Overall Recommendations

No text specified

Overall Reflection

No text specified