

2019-2020 Assessment Cycle

Assessment Plan

Mission Statement

Mission Statement - Engineering Studies

Primary Vision

The Department of Engineering Studies will be a leader in providing technical education, academic support, and encouragement to prepare deaf and hard-of-hearing students for careers in engineering, engineering technology and engineering-related fields.

Mission Statement

The Department of Engineering Studies' mission is to provide the best academic experience for our students' growth and achievement during their learning experiences at RIT/NTID in preparation for a successful career.

The Department of Engineering Studies will offer intensive real-world practices in technical classes taught by experienced faculty who communicate well with deaf and hard-of-hearing students. They provide opportunities for students to develop skill sets that are in demand by industry. Students gain fundamental skills for entry-level positions within engineering and engineering technology fields as well as advanced learning opportunities offered through the other colleges of RIT.

Measures

Precision Manufacturing Technology AOS Program Outcome Set

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

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

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

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

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

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

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

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

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

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

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

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

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

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.

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

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

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

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

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

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