### Program Goal:

Program Goal: Students develop job entry skills for the precision machining and/or precision optics manufacturing. Graduates have a working knowledge of manufacturing processes, equipment, and software. Technical jobs may include machinists and lathe and milling machine operators, both traditional and CNC, for the precision machining and/or precision optics industries.

### Critical Outcomes for all Students

<table>
<thead>
<tr>
<th>Domain/Task/ Capability</th>
<th>Performance Criteria/ Benchmarks</th>
<th>Assessment of Outcomes</th>
<th>Timeline</th>
<th>Results</th>
</tr>
</thead>
</table>
| 1. Technical             | Produce machined parts and optical elements to specifications:  
                          a. set up and operate two axis, lathes, mills, grinders and polishers to a tolerance of + – .003  
                          b. apply math and engineering graphics skills to solve machining problems  
                          c. use precision measuring instruments and computers to control quality | Students complete a timed, competency based final exam for CIMT 4 and Precision Optics Manufacturing I.  
Given a print, material and lab access, 85% of the students will produce 80% of the specified features in tolerance. | Spring Quarter 20083  
20073  
n=8  
75% of the students met 80% or above specifications in producing a machined part. | Barely met expectations and no action required.  
The shift in percentage occurred because faculty converted projects and added geometric tolerance "as needed" for upcoming semester courses. We had 10 weeks to offer materials, instead of 15 weeks. Yes, we will monitor this event during the semester cycle. |
| 2. Technical             | Create CNC programs using solid modeling techniques; create, edit, | Students complete a timed, competency based final exam in CNC  
                          Given a print, material and lab access, 85% of the students will produce 80% of the | Spring Quarter 20083  
20063  
n=8  
Met expectations and no action required. |
and verify toolpaths; copy and paste parameters, toolpaths and tool associative geometry

<table>
<thead>
<tr>
<th>Graphics and CNC Solids.</th>
<th>specified features in tolerance</th>
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<tbody>
<tr>
<td>88% of the students met 80% or better on CNC programming requirements.</td>
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</table>

3. Technical

Develop a student-based project that simulates actual job related skills found in industry:

a. apply concepts of project planning and development

b. demonstrate ability to work in a team atmosphere.

c. demonstrate time management skills.

d. show abilities to control budget and costs

Students must complete and present a capstone project within the time limit of the fall quarter in Automated Machining (0813-258) or Precision Optics II (0813-245)

Given a contract that specifies budget limits, technical specifications, and time constraints, 85% of the students will produce all of the contract expectations.

20083  
Beginning Fall 20091  
Fall 111  
n=11  
100% of the students met 80% or above specifications in producing and presenting a capstone project according to contract expectations.

Technical skills evaluation

| Co-op Supervisor Evaluation Form | Score of 3 or higher on RIT Supervisor Online Co-op Evaluation system, sections “Interaction in the Work Environment,” “Quality of Ongoing  
Beginning Summer 20084  
For students in the Engineering Studies Department the mean ratings by co-op supervisors who completed the evaluation online during the four quarters 20104-

4. Job Skills

Students will demonstrate problem-solving, decision-making, responsibility, pride in self and work performance,

Co-op Supervisor Evaluation Form

Score of 3 or higher on RIT Supervisor Online Co-op Evaluation system, sections “Interaction in the Work Environment,” “Quality of Ongoing  
Beginning Summer 20084  
For students in the Engineering Studies Department the mean ratings by co-op supervisors who completed the evaluation online during the four quarters 20104-

Met expectations and no action required.
and other learned behaviors and attitudes necessary for entering the work force and being self-sufficient.

20113 was as follows:

- 4.73 (N=16) for Interaction 1
- 4.75 (N=16) for Interaction 2
- 4.75 (N=16) for Interaction 3
- 4.88 (N=16) for Interaction 4
- 4.69 (N=16) for Interaction 5
- 4.75 (N=16) for Quality of Work 1
- 4.94 (N=16) for Quality of Work 2
- 4.88 (N=16) for Communication 1
- 4.64 (N=16) for Communication 2
- 4.87 (N=16) for Communication 3
5. Co-op Work Experience

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

Co-op Supervisor Evaluation Form

Score of 3 or higher on RIT On-line Co-op Evaluation system, sections “Problem Solving” and “Technical Skills.”

On-going

Beginning Summer 20084

For students in the Engineering Studies Department the mean ratings by co-op supervisors who completed the evaluation online during the four quarters 20104-20113 was as follows:

- 4.88 (N=16) for Overall Satisfaction
- 4.44 (N=16) for Problem Solving 1
- 4.38 (N=16) for Problem Solving 2
- 4.88 (N=16) for Technical Skills 1
- 4.93 (N=16) for Technical Skills 2
- 4.55 (N=16) for Technical Skills 3
- 4.53 (N=16) for Technical Skills 4

Met expectations and no action required.

6. Job Placement

Students will demonstrate technical

NCE

90% of graduates will be employed in

On-going

Beginning Winter 20092

For AY 2009-2010 N=2; 100% of students in

Met expectations and no
competency on the job for an approved co-op employer, which will allow them access to participation within our global society.

the field of precision manufacturing and/or precision optics.

Computer Integrated Machining Technology who were seeking employed were working. Two additional graduates were continuing in school.

| 7. Student Satisfaction | Graduating students will indicate satisfaction with program and courses. | Survey | 85% of students will rate all aspects of the program and courses as satisfactory or above. | On-going | Beginning Fall 20081 | For quarter 20111 (n=9), 88% of students “agreed” or “strongly agreed” that “Overall, I am satisfied with the courses in this program.” Also, 100% of students “agreed” or “strongly agreed” that “Overall, I believe that this program will help me with my career.” | Met expectations and will continue to seek ways to improve the overall satisfactory rating. |

Comments:

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