

NTID
Computer Integrated Machining Technology Program Outcomes Assessment
Plan and Report for AY 2009-2010

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		Assessment of Outcomes		Timeline		Results	
Domain/Task/ Capability	Performance Criteria/ Benchmarks	Instrument/ Opportunity	Assessment of Performance	Develop	Collect	Summarization of Results	Use of Results
1. Technical	<p>Produce machined parts and optical elements to specifications:</p> <p>a. set up and operate two axis, lathes, mills, grinders and polishers to a tolerance of + – .003</p> <p>b. apply math and engineering graphics skills to solve machining problems</p> <p>c. use precision measuring instruments and computers to control quality</p>	<p>Students complete a timed, competency based final exam for CIMT 4 and Precision Optics Manufacturing I.</p>	<p>Given a print, material and lab access, 85% of the students will produce 80% of the specified features in tolerance.</p>	20073	Spring Quarter 20083	<p>Spring 093</p> <p>n=8</p> <p>75% of the students met 80% or above specifications in producing a machined part.</p>	<p>Did not met expectations and currently reviewing skill sets to determine what needs modifications (or improvements).</p> <p>This has been an industry standard practicum to meet the tolerance of + – .003 under a timed, competency based final exam.</p>
2. Technical	<p>Create CNC programs using solid modeling techniques; create, edit, and verify toolpaths; copy and paste parameters,</p>	<p>Students complete a timed, competency based final exam in CNC Graphics and CNC Solids.</p>	<p>Given a print, material and lab access, 85% of the students will produce 80% of the specified features in tolerance</p>	20063	Spring Quarter 20083	<p>Spring 093</p> <p>n=7</p> <p>All of the students met 80% or better on CNC</p>	<p>Met expectations and no action needed.</p>

	toolpaths and tool associative geometry					programming requirements.	
3. Technical	<p>Develop a student-based project that simulates actual job related skills found in industry:</p> <p>a. apply concepts of project planning and development</p> <p>b. demonstrate ability to work in a team atmosphere.</p> <p>c. demonstrate time management skills.</p> <p>d. show abilities to control budget and costs</p>	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	<p>Spring 091</p> <p>n=10</p> <p>All of the students met 80% or above specifications in producing and presenting a capstone project according to contract expectations.</p>	Met expectations and no action needed.
Technical skills evaluation							
4. Job Skills	Students will demonstrate problem-solving, decision-making, responsibility, pride in self and work performance, and other learned behaviors and attitudes necessary for entering the work force	Co-op Supervisor Evaluation Form	Score of 3 or higher on RIT Supervisor On-line Co-op Evaluation system, sections "Interaction in the Work Environment," "Quality of Work," and Communication and Literacy Skills."	On-going	Beginning Summer 20084	<p>For students in the Engineering Studies Department the mean ratings by co-op supervisors who completed the evaluation online during the four quarters 20084-20093 was as follows:</p> <p>4.17 (N=12) for Interaction 1</p>	Met expectations and no action needed.

	and being self-sufficient.					<p>4.42 (N=12) for Interaction 2</p> <p>3.92 (N=12) for Interaction 3</p> <p>4.17 (N=12) for Interaction 4</p> <p>4.27 (N=12) for Interaction 5</p> <p>4.17 (N=12) for Quality of Work 1</p> <p>4.33 (N=12) for Quality of Work 2</p> <p>4.17 (N=12) for Communication 1</p> <p>4.11 (N=12) for Communication 2</p> <p>4.00 (N=12) for Communication 3</p>	
5. Co-op Work Experience	Students will demonstrate technical competency on the job for an approved co-op employer, which will	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	Met expectations and no action needed.

	allow them access to participation within our global society.					<p>four quarters 20084-20093 was as follows:</p> <p>4.17 (N=12) for Overall Satisfaction</p> <p>3.70 (N=12) for Problem Solving 1</p> <p>3.82 (N=12) for Problem Solving 2</p> <p>4.45 (N=12) for Technical Skills 1</p> <p>4.70 (N=12) for Technical Skills 2</p> <p>4.22 (N=12) for Technical Skills 3</p> <p>4.00 (N=12) for Technical Skills 4</p>	
6. Job Placement	Students will demonstrate technical competency on the job for an approved co-op employer, which will allow them access to participation within our global	NCE	90% of graduates will be employed in the field of precision manufacturing and/or precision optics.	On-going	Beginning Winter 20092	For AY 2007-2008 N=4; 50% of students who were seeking employed were working	More students are attempting to transfer to RIT CAST's Manufacturing Engineering Program rather than seeking employment.

	society.						
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 20091 (n=9), 100% 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 no action needed.
Comments:							
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