

NEW YORK STATE EDUCATION DEPARTMENT

Office of Higher Education—Office of College and University Evaluation

89 Washington Avenue, Albany, NY 12234



Request to Change or Adapt a Registered Program	
Item	Response <i>(type in the requested information)</i>
Institution name and address	<p>ROCHESTER INSTITUTE OF TECHNOLOGY</p> <p>1 Lomb Memorial Drive</p> <p>Rochester, New York 14623</p> <p><i>Additional information:</i></p> <ul style="list-style-type: none"> ▪ Specify campus where program is offered, if other than the main campus:
Identify the program you wish to change	<p>Program title:</p> <p>Computer Integrated Machining Technology</p> <p>Award (e.g., B.A., M.S.):</p> <p>Associate in Occupational Studies (AOS)</p> <p>Credits: Convert 105 (Quarter) to 75 (Semester)</p> <p>HEGIS code: 5312.00</p> <p><u>Program code: 90298</u></p>
Contact person for this proposal	<p>Name and title: Christine M. Licata, Senior Associate Provost</p> <p>Telephone: 585-475-2953 Fax: 585-475-4460</p> <p>E-mail: <u>cmlnbt@rit.edu</u></p>

CEO (or designee) approval	Name and title: Jeremy Haefner, Provost and Sr. Vice President for Academic Affairs
	Signature and date:
	If the program will be registered jointly¹ with another institution, provide the following information:
<i>Signature affirms the institution's commitment to support the program as revised.</i>	Partner institution's name:
	Name and title of partner institution's CEO:
	Signature of partner institution's CEO:

Program Conversion Documentation

This form and accompanying tables should be used for conversion of all RIT programs: Associate, Baccalaureate, Masters, Ph.D., Dual Degree, Certificates and Advanced Certificates. This documentation will be used by the RIT curriculum review bodies and NYSED.

This form should also be used for program discontinuance. In the case of discontinuance, complete Section 1(H) ONLY and follow RIT Policy on Discontinuance (E 20) as appropriate.

Directions: Using the spaces and tables provided in this form, please respond to Section 1 (A-H) and Sections 2-5.

Note: In addition to responding to Section 1 (A-H) through Section 5:

- If you are proposing to change the title of your program please list the old and new program titles on the first page of this document and fill in section 1 (C) with the old and new program titles.
- If your program conversion involves converting a current dual degree program to the semester calendar, please also provide information requested in **Section 1(I)**.
- If your program conversion involves merging or consolidating one of more existing programs into a new program, please provide information requested in **Section 1(J)**.
- Use the program as currently registered with NYSED as the basis from which you describe changes. The last registered version of any program is available from Christine Licata, Sr. Associate Provost.
- Text boxes on this form and on Tables 1, 2 and 3 will expand as you type in them.

Documentation submission:

1. Submit required documentation as a total package to RIT curriculum review bodies.
2. Attach Table 1, Table 3 and Program Level Outcomes Assessment Plan as part of this package. (Directions for completion follow within this document.) There are links in this document to these required tables.
3. Table 2 is imbedded within this form and does not require a separate attachment.
4. Complete the document log on the last page of each “deliverable” before submitting the packet to the appropriate curriculum review body.

If you have questions or need assistance, please contact either your Associate Dean or:

- Charles Border, Chair, ICC
 - 475-7946, cbbics@rit.edu
- Ag Crassidis, Chair, Grad Council
 - 475-4730, alceme@rit.edu
- Christine Licata, Sr. Associate Provost
 - 475-2953, cmlnbt@rit.edu

1. RIT Program Conversion: Overview of Proposed Changes

Describe how program faculty used the calendar conversion process as an opportunity to revise and improve the program.

Program Improvements

In alignment with the NTID Department of Engineering Studies (DES) support of the “quarter to semester” conversion initiative, this proposal outlines significant program improvements that are in the best interests of students and their preparation for the workforce.

Specific benefits of the curriculum conversion include additional instructional time and expanded and new content in precision machining and optics manufacturing. These improvements add a considerable amount of breadth and depth to the program curriculum. An extended, enhanced curriculum, allows students to strengthen their technical skills thereby increasing their chance for employment.

As a result, these conversions will potentially increase and facilitate opportunities to collaborate with other academic programs within RIT as well as other universities. Likewise, the program anticipates a potential increase in course transferability and articulation agreements between the NTID DES and other programs throughout Rochester Institute of Technology.

Finally, the exploitation of these opportunities can result in increased scholarship and faculty/student innovation projects.

Describe how your converted program responds to the RIT Academic Program Profile (see RIT Academic Program Profile: <http://www.rit.edu/conversion/media/documents/secure/ProgramProfile.pdf>). How have you integrated the appropriate Essential Program Learning Outcomes from this profile into your program? Please also include these outcomes in your Program Level Assessment Plan in Section 3 of this form.

Academic Program Profile

I. Guiding Principles: Lifelong Learning and Career Orientation

Fostering lifelong learning with a focus on career preparation will always be the essence of the CIMT program in addition to providing students with skills that reflect current industry needs. This is the fundamental reason why our students are successful in finding employment. This tradition will continue and is projected to improve as a result of the proposed program conversions.

The program’s approach to teaching has never been “one size fits all” and comes from our understanding that each student is unique and that our students come from unique and diverse backgrounds. Our curriculum and associated assignments are designed using a tiered approach where all courses build upon one another. These courses are delivered in a variety of modes that maximize comprehension regardless of individual learning styles and communication preferences. Some of these modes include the requisite use of sign language in all classes, supplemented by illustrations and demonstrations for the visual learner, voice and sign language for the auditory learner and extensive repetitive practice for the kinesthetic learner.

Critical Thinking: CIMT students are expected to make precision metal and optical parts. Their

use of critical thinking skills begins with an analysis of a blueprint and specifications. Through this analysis, they must apply mathematical concepts to determine the machining process and apply their knowledge and understanding of material properties while utilizing their skills and abilities in combination with machine tools.

Ethical Reasoning: These concepts are infused throughout the curriculum to ensure that students will, at all times, consider their safety as well as bystanders while operating machinery. Strict adherence to established safety standards is required. These expectations are embedded in every production-based learning activity. In addition, students are required to follow appropriate protocol for the handling, disposal and recycling of materials and chemicals used or produced in the CIMT lab.

Global Interconnectedness: The social/economic and political aspects of global interconnectedness will be addressed in required NTID general education perspective courses. Nevertheless, from a technical standpoint, the CIMT program recognizes the need to extend beyond the boundaries of traditional general education. To accomplish this, the expanded program-based employment preparation course will include a component that requires students to create post and monitor a personal/technical electronic profile on a variety of professional global social networking websites. In addition, although our students primarily produce parts based on standard English units of measurement, they are also taught to understand and use the International System of Units (SI) metric units.

Computational or digital literacy: CIMT students are taught to use a variety of industry-based software. This includes basic knowledge in the use of AutoCAD, Solid Works and Master Cam. In addition, students routinely use digital cameras and photo editing software to develop PowerPoint presentations on selected projects.

Fundamental and advanced mathematical literacy: The ability to apply mathematical concepts to the machining process has always been an essential part of the CIMT program. This expectation will continue to be an integral part of the converted program. Students are required to demonstrate competency in the application of mathematical functions as they relate to machine set-up, operation and product development. Students must complete a math course beyond the foundations level whose sole purpose is to teach and reinforce technical math skills designed specifically for our program.

Communication literacy: In two different technical courses, NCIM-253 and 235, students must prepare and deliver presentations to the class on a topic they have researched on their own. These presentations include concepts that must be communicated in technical language that fellow students can understand. Additionally, students enrolled in the upper level CIMT courses, specifically NCIM-233 and 234, are expected to write a machining process plan for the completion of assigned projects.

Technical literacy: Student learning activities include substantial skill development in the set-up and operation of traditional manufacturing equipment as well as sophisticated CNC machines. As a result of these activities, they also develop an understanding of the machine capabilities and limitations. In addition, students are trained to use a variety of traditional manual and digital measuring instruments as well as computer based coordinate-measuring machine applications.

Aesthetic literacy: Machinists are among the most highly skilled industrial workers. On a basic

level, a machinist is required to understand and review blueprints and specifications, which are transformed into tangible parts. In a figurative sense, pieces of metal, glass, plastic or other solid material become the machinist's canvas. The CIMT program takes a novel approach to teaching students how to write CNC machine code to produce asymmetrical shapes and features. One learning activity in the CNC 2 course requires student to retrieve an image, trace the image in AutoCAD, upload the drawing to Solid Works, plot the image details and write machine code to reproduce the image on a piece of aluminum.

Creative and Innovative Thinking: All students must complete a technical capstone course in their final semester of study. In this course, students are required to develop a product of their choice or one assigned by the faculty. Working as a team, they plan all aspects related to product planning and development, team interaction, management, budget control and cost, synthesis of concepts and application to design. The final product is displayed and presented to an internal audience, and on past occasions, these projects were showcased during Imagine RIT: Innovation and Creativity Festival.

NYSED

Program Goals, Objectives, Focus and/or Design

Have there been changes to the goals, objectives, focus and /or design of the program?

	No changes
√	Slight-moderate changes
	Substantive changes (e.g., substantial change in the focus and design of the program; change of 1/3 or more in program outcomes/objectives and accompanying content of the program).

Explain any proposed changes, the rationale for these changes, the impact of changes on the capacity of current faculty to deliver the revised program, impact, if any, on current admissions standards and the expected impact on enrollment projections. Enrollment Projection changes should be provided by EMCS, as appropriate.

Of all programs in the college of NTID, the Computer Integrated Machining Technology (CIMT) program consistently has one of the highest percentages of students in co-op positions. These placements are primarily in metal fabricating industries. Not surprising, in these difficult economic times, companies are scaling back, thereby making competition for graduating students in all disciplines highly competitive.

These economic realities as well as other factors, prompted department faculty to explore niche manufacturing areas to include in the current program that would use existing faculty and resources. As a result of this analysis, it was agreed that precision optics manufacturing and related courses were ideal additions to the CIMT course mask. This decision was based on the fact that optics and metal manufacturing share similar skills including metrology, blueprint reading, CNC operation, tradition milling and lathe work, grinding and polishing. Essentially, CIMT is uniquely positioned to provide training in both traditional metal and precision optical manufacturing.

Thus, the CIMT program completed and implemented an internal program modification in 2008. This slight modification included the transfer of four (4) optical courses formerly taught in the AAS/AOS Applied Optical Technology programs. Three of these courses served as CIMT technical electives and one became a required course. In addition, several precision machining courses had minor modifications. This action did not require ICC or NYSED approval.

Three of the optics courses will be retained in the converted program. One optics course, Lens

Design and Applications, will be deleted from the program mask. However, the content of this course will be addressed in the NTID LAS Perspective: Scientific Processes-Physics of Light course, which is a required course for all CIMT students. This approach allowed program faculty to retain content and free up space in the mask for additional courses. In general, the program modifications for semester conversion outlined in Table 1a include course deletions restructured courses and the addition of new courses. Despite these modifications, the program's integrity and fundamental goal of preparing students for successful careers in manufacturing remains unchanged.

In summary, the proposed conversion will strengthen the existing CIMT program and enhance the marketability of graduates. There will be no impact on current head count or resource allocations and the admission standards and enrollment rates are expected to remain consistent with current levels.

B. Program Options or Concentrations (i.e., a specific group of related courses that lead to greater understanding in a field or discipline).

NA	No changes to options or concentrations
	Kept current option(s)/concentrations with some revisions
	Added an option(s)/concentration(s)
	Title of new option(s)/concentration(s)
	Eliminated option(s)/concentration(s)

Explain these proposed changes and the rationale for these changes:

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C. Program Title

√	No change in program title
	New program title proposed New program title: Old program title:
	Explain the rationale for any proposed change in program title:

D. Elimination of a requirement for completion (e.g. requirements to be eliminated might include an internship, clinical, cooperative education or other work-based experience).

√	No change in requirements
	Change made to program completion requirements

Describe any change proposed and the rationale for the change:

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E. Change in program award (e.g. BFA to BS, MBA to MS, etc).

√	No change in program award
	Change in program award

Describe any proposed change and the rationale for the change:

--

F. Mode of delivery (e.g. adding distance education format).

√	No change in mode of delivery
	Change in mode of delivery

Describe the change proposed and the rationale for the change:

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G. Format Change (a change that alters the program's financial aid eligibility; e.g. from full-time to part-time, or to an abbreviated or accelerated semester format).

√	No change in format
	Proposed change in format

Describe the proposed change in format and any change in availability of courses, faculty, resources or support services that this proposed format change requires:

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H. Discontinuing a Program

√	No discontinuance
	Proposed discontinuance

Indicate the date by which the program will be discontinued and reason for discontinuance action:

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I. Dual-Degree Program

a) Complete the following table to identify the existing programs:

	Program Title	Degree Award	Program Code
Program 1			
Program 2			

b) Proposed dual-degree program (title and award):

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c) Courses that will be counted toward both awards:

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d) Length of time for candidates to complete the proposed program:

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e) Use the Sample Program Schedule in [Table 1](#) to show the sequencing and scheduling of courses in the dual-degree program.

J. Creating a new program by merging or consolidating with one or more existing programs and basing the new program entirely on existing courses converted to semester calendar

a) Provide Current Program Name(s) and Program Code(s)

b) Brief description of proposed program and rationale for converting the existing coursework to a separately registered program.

c) Brief description of the expected impact on existing program(s).

d) Adjustments the institution will make to its current resource allocations to support the newly created program.

e) Statement confirming that the admissions standards, process and evaluation methods are the same as those in the existing program.

2. Program Course Mask and Schedule

Directions:

- a. Using [Table 1](#), display program course sequencing by semester. Use the table to show how a typical student may progress through the program.
- b. Using **Table 2** (which follows below), display program in the quarter calendar and how program has been converted to the semester calendar. Please follow the course conversion designation directions on Table 2.

Table 2

Program Course Conversion Table: Quarter Calendar and Semester Calendar Comparison

Name of Program: Computer: **Integrated Machining Technology**

Degree: **Associate in Occupational Studies**

Directions: Use the following legend to show course comparison in quarter calendar and semester formats. Display all required program courses and program-specific elective courses. Display General Education course requirements with generic label (not each course) of "Liberal Arts and Sciences "= X Credits. Clarify how course sequences in the quarter calendar convert to semesters by either bracketing or using some other notation.

Course Conversion Designations

Semester Equivalent (SE) – Closely corresponds to one quarter course (e.g., a 4 quarter credit hour (qch) course which becomes a 3 semester credit hour (sch) course.) The semester course may develop material in greater depth or length, but no new content is added. Identify the number and the title of the quarter course being converted.

Semester Replacement (SR) – A semester course (or courses) taking the place of previous a quarter course(s) by rearranging or combining material from a previous quarter course(s) (e.g. a two semester sequence that replaces a three quarter sequence). List the new semester course or sequence and the old quarter course or sequence it is replacing. For all SR designations, if additional space is needed to describe the distribution of content among courses, use space provided in the last column.

New (N) - No corresponding quarter course(s). This course adds significant new curriculum content.

Course Deleted (D) – No corresponding semester course.

Year	QUARTER: Current Program Courses			SEMESTER: Converted Program Courses			Course Conversion Designation	
	Course #	Course Title	QCH	Course #	Course Title	SCH	Course Conversion Designation SE, SR, N, D	Additional comments on content distribution within semester courses
1	0813-220	Engineering Fundamentals	4	-----	-----	-----	D (from program mask)	Removed as a requirement for CIMT but retained for other departmental curricular needs.
	0890-212	Comp. Tools for ET.	4	-----	-----	-----	D (from program mask)	Removed as a requirement for CIMT but retained for other departmental curricular needs.
	0884-180	Foundations of Algebra	4	NMTH-180	NTID LAS Foundations: Foundations of Algebra	3	-----	-----
	0883-210	Career Eng. 1	4	NENG-212	NTID LAS Foundations: Career English I	3	-----	-----
	0887-200	Freshman Seminar	2	NCAR-100	Freshman Seminar	1	-----	-----

Year	QUARTER: Current Program Courses			SEMESTER: Converted Program Courses			Course Conversion Designation	
	0813-222	Manufacturing Processes	4	NCIM-131	Comp. Integr. Mach. Tech. I	3	SR	Expanded/Blended content from 0813-222 & 0813-231. Blueprint Reading I NCIM-101 added as corequisite.
	0890-214	CAD Applications for ET	4	.....	.....	.....	SR	Minimal selected content will be included in NCIM-102
	0885-154	Physics of Matter	3	.....	.....	.....	D (from program mask)	NTID-NSCI-200-Physics of Light will become the new science requirement for all CIMT students. Moved to Year 2
	0883-211	Career English 2	4	NENG-213	NTID LAS Foundations: Career English II	3	.....	.....
	0813-231	CIMT 1	3	NCIM-132	Comp. Integr. Mach. Tech. II	3	SR	Expanded/Blended Content from 0813-231 CIMT1 & 0813-232 CIMT2
	0813-250	Intro to CNC	2	.....	.....	.....	SR	Combined content of 0813-250 & 0813-252. Offered Fall semester, year 2, as NCIM-251
	0813-255	Precision Measurement	2	NCIM-121	Precision Measurement I	3	SE	Expanded content
	0884-205	Trig. For Coord. Analysis 1	3	NMTH-206	Trig.for Coord. Analysis	3	SR	Consolidation of Trig for Coord. Analysis I - 0884-205 and Trig for Coord. Analysis II - 0884-206
	0883-200	Career English 3	4	.....	.....	.....	.....	.....
	0813-239	Blueprint Reading	2	NCIM-101	Blueprint Reading I	3	SE	Expanded Content.
	(0813-241)	(Advanced Blueprint Reading)	(2)	NCIM-102	Blueprint Reading II	3	SR	0813-241 was removed from the CIMT mask in

Year	QUARTER: Current Program Courses			SEMESTER: Converted Program Courses			Course Conversion Designation	
								2006 but retained by the department. Course will be reintroduced and converted to NCIM-102 with enhanced content including portions of 0890-214.
2	.....	.....	.....	NSCI-200	NTID LAS Perspective: Physics of Light	3	.....	Replaces 0885-154-Physics of Matter (Year 1)
	0813-232	CIMT 2	4	.....	.....	.....	.....	Content is fully incorporated in NCIM-131
	0813-233	CIMT 3	4	NCIM-233	Comp. Integr. Mach. Tech. III	3	SE	Expanded content
	0813-234	CIMT 4	4	NCIM-234	Comp. Integr. Mach. Tech. IV	3	SE	Expanded content
	0813-252	CNC Graphics	3	NCIM-251	CNC I	3	SR	Combined content of Intro to CNC 0813-250 and CNC Graphics 0813-252
	0884-206	Trig. for Coord. Analysis 2	3	.....	.....	.....	SR	0884-206 & 0884-205 consolidated as NCIM-206
	0813-251	Industrial Materials	3	.....	.....	.....	SE	Former required course will become a CIMT technical elective as NCIM-207
	0813-254	CNC Solids	3	NCIM-252	CNC II	3	SE	Combined content from CNC Solids 0813-254 & CNC Tool Paths 0813-257
	0813-244	Precision Optics Manuf. I	2	NCIM-241	Precision Optics Manuf. I	3	SE	Expanded content
	<i>Technical Electives</i>	<i>Choose one of the following electives</i>	3					
	<i>0813-240</i>	<i>Lens Design & Applications</i>	<i>(3)</i>	.....	.....	.....	<i>D</i>	<i>Most of the content is included in NSCI-200-Physics of Light</i>
	<i>0885-201</i>	<i>Physics I</i>	<i>(3)</i>	.....	.....	.....	<i>D</i>	.....

Year	QUARTER: Current Program Courses			SEMESTER: Converted Program Courses			Course Conversion Designation	
	0890-216	Design, Dimensioning and Tolerancing	(3)	.....	.....	.....	(from program mask) D (from program mask)	.....
	Adv.Tech. Electives	Choose one of the following advanced electives	3	.....	Choose two of the following CIMT Technical electives	6	.....	.....
	0813-257	CNC Tool Paths	(3)	.....	.....	.....	.....	Formerly offered as a technical elective. Content is fully incorporated in required course NCIM-252
	0813-242	Optical Testing	(3)	NCIM-243	Optical testing	(3)	SE	Retained as a program technical elective with expanded content
	.....	.....	.....	NCIM-207	Industrial Materials	(3)	SE	Former required course 0813-251 becomes a CIMT technical elective
	.....	.....	.....	NCIM-222	Precision Measurement II	(3)	N	.....
	.....	.....	.....	NCIM-242	Precision Optics Manuf. II	(3)	SE	Precision Optics Manuf. II 0813-245 retained as a program technical elective with expanded content
	0806-101	Job Search	2	NCIM-201	Job Search Process for CIMT	2	SE	Expanded content
	08xx-xxx	Deaf Study/ASL	3	NHSS-xxx	NTID LAS Foundation: ASL/Deaf Cultural Studies	3	.....	.....
	0880-xxx	Communications studies	3	NHSS-xxx	NTID LAS Perspective	3	.....	.....
	0882-xxx	Social Science	3	NHSS-xxx	NTID LAS Perspective	3	.....	.....
	0880-xxx	Humanities	3	NHSS-xxx	NTID LAS Elective	3	.....	.....
	0813-299	Cooperative Education	0	NCIM-299	Cooperative Education	0	SE	.....

Year	QUARTER: Current Program Courses			SEMESTER: Converted Program Courses			Course Conversion Designation	
	0882-295	Social Sciences, Humanities, and Technology: Capstone Seminar (AOS)	3	.....	.....	.....	.....	.....
	0806-201	Employment Seminar	1	.....	.....	.....	D (from program mask)	
	.....	.....	.....	NCIM-237	Precision Grinding	3	N	New required course added to program mask
	<i>Manuf. Tech. Elective</i>	<i>Choose one of the following electives</i>	6					
	0813-245	<i>Precision Optics Manuf. II</i>	(6)	.....	.....	.....	.....	Becomes NCIM-242. Retained as a program Tech. Elective.
	0813-258	<i>Automated Machining</i>	(6)	NCIM-235	Comp. Integr. Mach. Tech. V	3	SR	Former elective becomes a required course. NCIM-235 is the lecture component of 0813-258 and becomes corequisite for NCIM-236
	.....	.....	.....	NCIM-236	Comp. Integr. Mach. Tech. V lab	3	SR	NCIM-236 is the lab component of 0813-258 and becomes the corequisite for NCIM-235
N/A	0813-398	Special Topics CIMT	varies	NCIM-289	Special Topics CIMT	(1 to 3)	SE	.....
	0813-399	Independent Study CIMT	varies	NCIM-199	Independent Study CIMT	(1 to 3)	SE	.....
	0813-241	Adv. Blueprint Reading	(3)	.....	.....	.....	.....	Removed from CIMT mask in 2006 but retained by dept. Converted to NCIM-102 and required in year 1.
		Total	105		Total	75		

3. Program Level Outcomes Assessment Plan

See Program Outcomes Assessment [Overview and Directions](#) for guidance, required form, and sample plans.

X	a. Attach updated Program Level Outcomes Assessment Plan which should include how your program meets the RIT Essential Program Outcomes outlined in the RIT Academic Program Profile . b. Program Assessment Plan should follow one of the formats found at: Program Level Outcomes Assessment Plan Blank Form Option 1 Program Level Outcomes Assessment Plan Blank Form Option 2 Program Level Outcomes Assessment Plan Blank Form Option 3
X	c. Complete information requested in Table 3 for Middle States. (See: Sample Completed Form for guidance and other information.)

4. RIT Incremental Resources (faculty, space, library holdings, equipment, other)

It is not expected that significant incremental resources will be required to deliver the same program outcomes in a semester format. If you believe that incremental resources are required, please explain.

None

5. RIT Course Outlines

Course outlines for all required courses offered by the program and any program-specific electives must be deposited in the course outlines-final PDF module using the proper naming conventions. Use the RIT [Course Outline Form](#).

For guidance on assignment of appropriate credit hour/contact hour designation, please refer to: <http://www.msche.org/documents/Degree-and-Credit-Guidelines-062209-FINAL%5B1%5DDec09.pdf>

Programform.doc

NYSED Documentation Form

Audience

This document is intended for all department chairs and program directors.

Summary

This document includes the information and required forms for submission of program to NYSED for semester conversion.

Change Log

Responsible	Date	Version	Short description
Chris Licata	6/15/2010	1	Document originator
Dominic Peroni	11/18/10	1.1	Initial Document Posted
Dominic Peroni	12/07/10	1.2	Revised per NCC feedback
Dominic Peroni	03/18/11	1.3	Revised per NTID Curriculum Resource Associate feedback

Table3.doc

Version 1

Audience

This document is intended for all department chairs and program directors.

Summary

This document is used to collect information on the use of program-level outcomes data to make improvements and changes to programs.

Change Log

Responsible	Date	Version	Short description
Anne Wahl	6/15/2010	1	Document originator
Dominic Peroni	11/18/10	1.1	Initial Document Posted
Dominic Peroni	12/07/10	1.2	Revisions per NCC feedback

TABLE 3

Use of Program Level Assessment Data to Inform Calendar Conversion

Program Name/College Computer Integrated Machining Technology / NTID

Program Assessment Contact Dino Laury (Chair) & James Fugate (Assessment Coordinator)

Describe how you used the results from your current program level outcomes assessment plan to inform proposed changes to your program made as part of the conversion to semesters.

Changes to Curriculum (program focus, content, requirements, course inventory, etc.)	Data Source (2009-10) List data, measures, findings, etc. used to inform change(s).
Eliminated three common Engineering Studies core courses from the program mask. Converted a former technical elective in blueprint reading to a required course.	75% of the students met 80% or above specifications in producing a machined part. These results did not meet outcome expectations. Consequently, Blueprint Reading 2, which was formerly a technical elective, is now a required course under the semester system.
A new course in precision grinding was added to the program mask.	Feedback from program faculty. Learning outcomes will be assessed using the Co-op Supervisor Evaluation Form. Data collection to begin Fall semester 2015
As a result of the 15 week semester structure, all machining based courses have been strengthened by increasing time-on-task.	Feedback from program faculty and industry confirm that additional time devoted to skill development will have a positive effect.
Three precision optics courses are included in the CIMT program mask.	Based on industry feedback and recommendations from program faculty, the inclusion of optics courses within the program mask increases the employment opportunities for all CIMT students.
Changes to Instruction (pedagogy, strategies, etc.)	
The method of classroom instruction remains unchanged. The additional five weeks of instruction allows flexibility to expand the number of projects students are required to complete.	Within the current quarter system, students are often rushed to complete their projects. The additional five weeks of instruction should resolve this issue. Student survey will be the primary assessment tool. Date

	collection will begin Fall semester 2015
All machining based courses will begin with a lab safety component.	New outcome assessment will be developed and implemented by 2013.
Changes to Program Assessment Plan (outcomes, data sources, instruments, etc.)	
Program goal outcome assessment plan was revised to address RIT's Essential Program Outcomes.	Data collection will begin with the implementation of the semester system beginning AY 2013/2014
Other Programmatic Changes/Comments	
CAD Applications for ET was formally a required course for all CIMT students. Program faculty believes strongly that a better approach is to include CAD content in two required blueprint reading courses.	Blueprint Reading 1 and 2 will be the primary instruments for assessing these skills. Data collection will begin at the end of Spring semester 2014

Table 1a: Undergraduate Program Schedule

CIMT AOS

- Indicate academic calendar type: Semester Quarter Trimester Other (describe)
- Label each term in sequence, consistent with the institute's academic calendar (e.g., Fall 1, Spring 1, Fall 2)

Term: Fall 1		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
NCIM-131 Comp. Integr. Mach. Tech I	3		√		Coreq. NCIM-101	
NTID LAS Foundation-Math-NMTH-180 or above	3	√			none	
NTID LAS Foundation-NENG-212 Career English I	3	√				
NCAR-100 Freshman Seminar	1				none	
NCIM-101 Blueprint Reading I	3		√		none	
Term credit total:	13	6	6			
Term: Spring 1		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
NTID LAS Foundation-NENG-213 Career English II	3	√			NENG-212	
NMTH-206 Trig for Coordinate Analysis	3		√		NMTH-180 or placement score	
NCIM-121 Precision Measurement I	3		√		none	
NCIM-132 Comp. Integr. Mach. Tech II	3		√		Prerq. NCIM-131 Coreq. NMTH-206, NCIM-102,121	
NCIM-102 Blueprint Reading II	3		√	√	NCIM-101	
Term credit total:	15	3	12			
Term: Fall 2		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
NCIM-233 Comp. Integr. Mach. Tech III	3		√		Prerq. NCIM-132 Coreq. NCIM-251	
NCIM-251 CNC I	3		√		NCIM-132	
NCIM-241 Precision Optics Mfr. I	3		√		NCIM-101,121	
NTID LAS Perspective-Scientific Processes- NSCI-200 Physics of Light	3	√			NMTH-180	
NCIM-201 Job Search Process for CIMT	2		√			
PE-activity	0					
NTID LAS Foundations-ASL/Deaf Cultural Studies*	3	√				
Term credit total:	17	6	11			
Term: Spring 2		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
NCIM-234 Comp. Integr. Mach. Tech IV	3		√		NCIM-233	
NCIM-252 CNC II	3		√		NCIM-251	

Term: Summer 2		(Check course classification (s))				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
NCIM-299 Co-op Work Experience	0		√		Dept. Permission	
Term credit total:	0	0	0			
Term: Fall 3		(Check course classification (s))				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
NCIM-235 Comp. Integr. Mach. Tech V	3		√		Prerq. NCIM-234 Coreq. NCIM-236	
NCIM-236 Comp. Integr. Mach. Tech V Lab	3		√		Prerq. NCIM-234 Coreq. NCIM-235	
NTID LAS Perspective-Communication, Social and Global Awareness	3	√				
NTID LAS Elective	3	√				
NCIM-237 Precision Grinding	3		√	√	NCIM-234	
PE-Wellness	0					
Term credit total:	15	6	9			
Program Technical Electives						
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
NCIM-207-Industrial Materials	3		√		NCIM-131	
NCIM-243-Optical Testing	3		√		NCIM-121	
NCIM-222-Precision Measurement II	3		√	√	NCIM-121, 131	
NCIM-242-Precision Optics Mfr. II	3		√		NCIM-241	
Term credit total:						
Term:		Check course classification (s)				
Course Number & Title	CR	LAS	Ma	New	Prerequisite(s)	

NCIM-Program Technical Elective	3		√									
NCIM-Program Technical Elective	3		√									
NTID LAS Perspective-Creative and Innovative Exploration	3	√										
Term credit total:	15	3	12									
Program Totals:	Credits: 75			Liberal Arts & Sciences: 24				Major: 50			Elective & Other: 1	

Cr: credits **LAS:** liberal arts & sciences **Maj:** major requirement **New:** new course **Prerequisite(s):** List prerequisite(s) for the noted

***NHSS-150 Deaf Perspectives on Contemporary Civilization or NASL-190 American Sign Language I**

Option 1

Program Level Outcomes Assessment Plan

Program Name/College: Computer Integrated Machining Technology/NTID AOS

College Contact for Program Assessment: Dino Laury

Program Goals	Student Learning Outcomes	Academic Program Profile	Data Source/Measure Curriculum Mapping	Benchmark	Timeline	Data Analysis Key Findings	Use of Results Action Items and Dissemination
Please List program-level goals	Students will be able to: (task, capability, knowledge, skills, and dispositions) Use measurable verbs.	Alignment to the five RIT essential outcomes - check all that apply <input checked="" type="checkbox"/> Double click on the check box and find the Default Value and click Checked to check the box. To uncheck, the box, double click and then click Not Checked .	Assessment opportunity (course/experience) method/measures, assignment/rubric)	Standard, target, or achievement level (usually a %) Statement of student Success	Identify when and how data are collected, aggregated, and analyzed	Identify who is responsible and list key findings	Identify how results are used and shared. List any recommendations or action items
1. Develop technical skills and knowledge needed to transform ideas and drawings into precision machined parts.	Interpret blueprints and specifications to manufacture and inspect products	<input checked="" type="checkbox"/> Critical Thinking <input type="checkbox"/> Ethical Reasoning <input checked="" type="checkbox"/> Integrative Literacies <input type="checkbox"/> Global Interconnectedness <input type="checkbox"/> Creative/Innovative Thinking	NCIM-102 Blueprint Reading 2: Final Exam	80% of students will score 75% or better on final exam.	Annually at end of Spring semester beginning 2013/2014	Data collected by Assessment Coordinator	Shared with program faculty, annual college summary report, NTID Annual Report, and RIT requested reports
	Apply mathematical concepts & engineering graphics skills to solve machining problems		NMTH-206 Trig for Coordinate analysis: Final Exam	80% of students will score 75% or better on final exam.			
	Use Computer Assisted Programming, Computer Assisted Machining (CAD/CAM) software.		NCIM-252 CNC 2: final project evaluation based on scoring guide	80% of students will score 75% or better on scoring guide			
2. Develop skills and knowledge to safely operate conventional and (CNC) machines, tools and other automatic equipment.	Set up and operate conventional lathes, mills, grinders and polishers.	<input checked="" type="checkbox"/> Critical Thinking <input checked="" type="checkbox"/> Ethical Reasoning <input checked="" type="checkbox"/> Integrative Literacies <input checked="" type="checkbox"/> Global Interconnectedness <input type="checkbox"/> Creative/Innovative Thinking	NCIM-234 CIMT 4 and NCIM-241 Prec. Opts. Manuf.: competency based project score.	80% of students will score 75% or better on competency based project	Annually at end of Spring semester beginning AY 2013/2014	Data collected by Assessment Coordinator	Shared with program faculty, annual college summary report, NTID Annual Report & RIT requested reports.
	Create, edit, and verify toolpaths; copy and paste parameters, toolpaths and tool associative geometry for CNC programs.		CNC 1 and CNC 2: competency based project.	80% of students will score 75% or better on project scoring rubric			

2. Continued.	Observe and practice industry safety rules and regulations.		Faculty observations and safety quiz	100% of students will score 90% or better on a shop safety quiz			
3. Develop metrology skills needed to validate the quality of all machined parts and process documents.	Use precision measuring instruments and computers to control and verify quality.	<input checked="" type="checkbox"/> Critical Thinking <input type="checkbox"/> Ethical Reasoning <input checked="" type="checkbox"/> Integrative Literacies <input type="checkbox"/> Global Interconnectedness <input type="checkbox"/> Creative/Innovative Thinking	NCIM-121 Precision Measurements: Final grade average.	80% of students will score 75% or better on final grade	Annually at end of Spring semester beginning AY 2013/2014	Data collected by Assessment Coordinator	Shared with program faculty, annual college summary report, NTID Annual Report, and RIT requested reports
	Write complete inspection reports.		CIMT 4 and Precision Optics Manufacturing 1	80% of students will accurately & completely fill out an inspection report for all machined parts.			
4. Develop basic understanding of materials used in manufacturing including ferrous and non-ferrous metals, glass and polymers.	Identify characteristics of various industrial materials	<input type="checkbox"/> Critical Thinking <input type="checkbox"/> Ethical Reasoning <input checked="" type="checkbox"/> Integrative Literacies <input type="checkbox"/> Global Interconnectedness <input type="checkbox"/> Creative/Innovative Thinking	NCIM-241 Precision Optics Manufacturing 1 and NCIM-234 CIMT 4	80% of students will score 75% or better on the final exam.	Annually at end of Spring semester beginning AY 2013/2014	Data collected by Assessment Coordinator	Shared with program faculty, annual college report, NTID Report, and RIT requested reports
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.	Produce machined parts and optical elements to exact specifications.	<input checked="" type="checkbox"/> Critical Thinking <input checked="" type="checkbox"/> Ethical Reasoning <input checked="" type="checkbox"/> Integrative Literacies <input checked="" type="checkbox"/> Global Interconnectedness <input type="checkbox"/> Creative/Innovative Thinking	Students complete a competency based final exam in CIMT 4 and Precision Optics Manufacturing I.	85% of the students will produce 80% of specified features within tolerance.	Annually at end of Spring semester beginning AY 2014/2015	Data collected by Assessment Coordinator	Shared with program faculty, annual college summary report, NTID Annual Report, and RIT requested reports
	Observe and practice industry safety rules and regulations.		Faculty observation checklist Co-op Supervisor Evaluation Form	100% of the students will follow safety standards			

5. Continued	Demonstrate problem-solving, decision-making, responsibility, pride in self and work performance, and other learned behaviors and attitudes necessary for entering the work force		NCE Alumni data Co-op self assessment Evaluation Form	80% of students will score 3 or more on a 1-5 evaluation scale	Data collected every third year.		
	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	90% of graduates will be employed in the field of precision manufacturing and/ or precision optics	Annually at the beginning of Fall semester AY 2015/2016		
	Affirm satisfaction in their career/academic preparation.		Student Satisfaction Survey	80% of students will respond they are "very satisfied" or "satisfied" with overall program and courses satisfaction.			

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