

Information Engineering Technology Program

Plan for

Assessment and Evaluation of Student Outcomes

Assessment Processes

The high-level process for defining, assessing, and evaluating student outcomes is shown in Figure 1. The assessment and evaluation processes are described below in some detail.

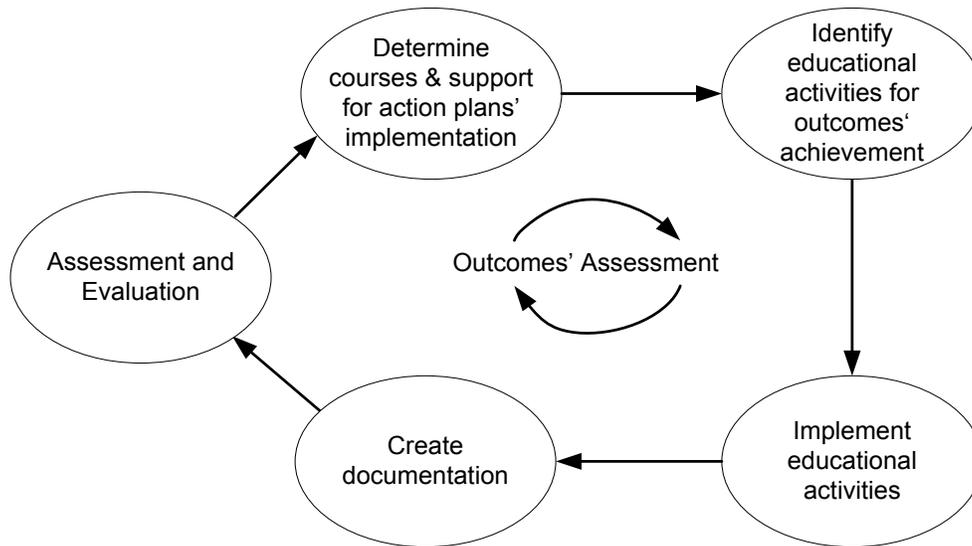


Figure 1. The process for defining, evaluating, and assessing program outcomes.

Assessment and Evaluation

At least once per year, faculty members meet (either a special meeting or at a weekly faculty meeting) to discuss assessment and evaluation of student outcomes (please refer to Appendix for the definition of student outcomes). During these meetings, participants analyze the assessment reports of each course in which assessments were to be conducted. By the end of a semester, every instructor of courses where assessment activities take place is required to turn in an assessment report.

Assessment reports must include the following information:

- Grades: the number of students who obtain an A, B, C, D, F, or an incomplete/drop.
- Assessment tools/activities/instruments/data collection processes used to measure the level of attainment of student outcomes, presented in a table.
- A section with at least the following information:

- Methodology: when/how much time students were given for this activity; tools (software/hardware/applications) students used to complete the activity; type of activity (theoretical, hands-on, simulation).
- Target: the expected level of performance of a student in a given activity. Since the activity is mapped to a student outcome, the target represents the expected level of attainment of the corresponding student outcome. During the Department meeting of Dec. 10, 2012 (see minutes), the target for all activities was set at 70 % (previously the target was set by the instructor of the class).
- Description: an explanation of the activity and how different items of the activity contribute to the achievement of student outcomes being assessed and evaluated; description of each question/task used for evaluation purposes.
- Results: comprehensive analysis of the results for all questions/tasks used for assessment and evaluation purposes; results may be broken down for each question or reported collectively.
- Conclusion and action plans: the instructor provides concluding remarks based on the analysis of the results of the activities. The instructor may highlight those activities that were successfully implemented and that might be worth repeating or strengthened. Action plans are recommendations (justified on evaluations of results) to be implemented in future offerings of the course and are intended to correct identified issues/deficiencies/problems. Recommendations are then presented during the assessment and evaluation meetings and confirmed/changed/denied by faculty members.

Each course of the Information Engineering Technology program has an assessment coordinator (a full-time faculty member who is usually the instructor of the course) responsible for the course. The assessment coordinators are listed in Table 1. Note that assessment and evaluation are not conducted in all classes of the program.

Table 1. Per course assessment coordinators.

Code	Name	Assessment Coordinator
EECE 105L	Micro-computer Systems	Raul Peralta
ENGR 110	Intro. to Engineering	Ashis Nandy
EECE 132	Computer Networks I	Steve Cox
EET 200	Electrical Systems I	Ivan Lopez
CS 201	Math Foundation of CS	Alfredo Perez
EECE 329	Human Computer Interaction	Steve Cox
EECE 330	Computer Networks II	Jorge Crichigno
EECE 342	Wireless and Mobile Computing	Jorge Crichigno
IT 350	Database Management	Raul Peralta
IT 410	Info. Assurance and Security	Jorge Crichigno
EECE 440	Advanced Computer Networks	Jorge Crichigno
ENGR 480	Engineering Project Management	Ivan Lopez
IT 490	Capstone I	Jorge Crichigno / Steve Cox
IT 491	Capstone II	Jorge Crichigno / Steve Cox

Instructors and assessment coordinators identify educational activities such as laboratory development and rubrics to measure and judge performance, exams, quizzes, educational materials, and hands-on activities. If educational activities are changed or added to a course, then these activities may require a modification of specific knowledge, techniques, and skills that are subsequently mapped to student outcomes.

Based on Table 2, courses include activities and assessment instruments for each student outcome that instructors assess and evaluate, as described below.

Table 2. Curriculum MAP – Information Engineering Technology Program

Code	Name	Student Outcome															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
EECE 105L	Micro-computer Systems												X				
ENGR 110	Intro. To Engineering									X	X		X				
CS 201	Math Foundation of CS																X
EET 200L	Electrical Systems I			X										X			
EECE 329	Human Computer Interaction		X		X								X				
IT 350	Database Management	X					X						X				
IT 410	Info. Assurance & Security		X	X			X									X	
EECE 440	Advanced Computer Networks	X										X	X	X	X		X
ENGR 480	Engr. Mgmt. and Project Mgmt.																X
IT 490	Capstone I				X	X		X	X	X	X	X					X
IT 491	Capstone II				X	X		X	X			X					X

Data Collection Schedule – Current Cycle (3-year cycle, 2015 to 2017)

Table 3 shows the schedule for the data collection.

Table 2. Data collection schedule

Semester	Courses
Spring 2015	EECE 105, EECE 152, EECE 440
Spring 2016	EET 200L, IT 490, IT 491
Fall 2016	ENGR 110, CS 201, IT 350
Spring 2017	EECE 329, EECE 440, ENGR 480, IT 490, IT 491
Fall 2017	IT 410, IT 490, IT 491

Frequency of Assessment Processes

Faculty members have established an assessment policy in which each course is assessed at least once during a three-year cycle (see Department meeting minutes of 12/10/12). With this policy, the programs guarantee continuous improvement through the implementation of action plans listed in assessment reports. This window of time allows the instructors and assessment coordinators to implement those plans. Prior to the current 3-year cycle (years 2009-2014), the program followed an assessment process which was approved by the ABET accreditation team during the ABET visit in September of 2013.

APPENDIX: Student Outcomes

	Student Outcomes - NNMC Information Engineering Technology Program
1	An appropriate mastery of the knowledge, techniques, skills, and modern tools of their disciplines.
2	An ability to apply current knowledge and adapt to emerging applications of mathematics, science, engineering, and technology.
3	An ability to conduct, analyze and interpret experiments, and apply experimental results to improve processes.
4	An ability to apply creativity in the design of systems, components, or processes appropriate to program educational objectives.
5	An ability to function effectively on teams.
6	An ability to identify, analyze and solve technical problems.
7	An ability to communicate effectively.
8	A recognition of the need for, and an ability to engage in lifelong learning.
9	An ability to understand professional, ethical and social responsibilities.
10	A respect for diversity and a knowledge of contemporary professional, societal and global issues.
11	A commitment to quality, timeliness and continuous improvement.
12	The application of computer and network hardware, operating systems, system and network administration, programming languages, applications software, and databases in the building, testing, operation, and maintenance of hardware and software systems.
13	The application of electrical, electronic, telecommunications, and digital signal propagation fundamentals in the building, testing, operation, and maintenance of hardware and software systems.
14	The ability to design, implement, maintain and provide for the security of facilities involved with the processing and transfer of information.
15	The ability to apply project management techniques to facilities that process and transfer information.
16	The ability to apply discrete mathematics, and probability and statistics in the support of facilities that process and transfer information.