

**Annual Program Report
2022-2023**

The report(s) should be inclusive of all levels, degrees (i.e., certificates, bachelor’s, and master’s), modalities and locations.

Department: Engineering Technology

Department Chair: Dr. Nirajan Mani.

Department Assessment Committee Contact: Dr. Abdel Mustafa, Committee Chair (other Committee members: Dr. Soumitra Basu, and Dr. Hong Yu)

This document is to be kept in the department and an electronic file is due to the AVP of Institutional Research and Planning by June 1, 2023.

Section I: Program Assessment (please complete this section for each program in your department)

Program: _____ Engineering Technology _____

A. Program Learning Outcomes (PLOs) (Educational Objectives)

I. List of PLOs and the timeline for assessment

PLO #	PLO – Stated in assessable terms	Where are the learning outcomes for this level/program published? (Please specify) Include URLs where appropriate	Timing of assessment (annual, semester, bi-annual, etc.)	When was the last assessment of the PLO completed?
1.	Apply knowledge, techniques, skills and modern tools of mathematics, science, engineering, and technology to solve broadly-defined engineering problems appropriate to the discipline	University/Department website https://www.fitchburgstate.edu/academics/programs/engineering-technology-bs	Annual	In-process
2.	Design systems, components, or processes meeting specified needs for broadly-defined engineering	University/Department website	Annual	In-process

3.	Apply written, oral, and graphical communication in broadly-defined technical and non-technical environments; and an ability to identify and use appropriate technical literature	University/Department website	Annual	In-process
4.	Conduct standard tests, measurements, and experiments and to analyze and interpret the results to improve processes	University/Department website	Annual	In-process
5.	Function effectively as a member as well as a leader on technical teams	University/Department website	Annual	In-process
6.	Demonstrate an appreciation of professional, ethical, and societal responsibilities	University/Department website	Annual	In-process
7.	Demonstrate an appreciation of commitment to quality, timeliness, and continuous improvement	University/Department website	Annual	In-process

II. **PLO Assessment** (Please report on the PLOs assessed and/or reviewed this year. Programs should be assessing at least one each year.)

Using the table below, list and briefly describe the **direct method(s)** used to collect information assessing whether students are learning the core sets of knowledge (K), skills (S) and attitudes (A) identified as essential.

PLO # (from above)	Assessment description (exam, observation, national standardized exam, oral presentation with rubric, etc.)	When assessment was administered in student program (internship, 4th year, 1st year, etc.)	To which students were assessments administered (all, only a sample, etc.)	What is the target set for the PLO? (Criteria for success)	Reflection on the results: How was the “loop closed”?
1, 2	Midterm Exams and Quizzes in core and concentration courses	Every semester for Freshmen, Sophomore, Junior, and Senior level	All	Minimum: Above Average Performance (B or better)	Identify areas where students need additional help (e.g., refereeing students to the Tutoring Center)
3, 4,5, 6 &7	Group Projects, Lab work reports, Researched paper, Presentations and Senior Capstone	Junior and Senior level	All Senior and Junior Level students	Minimum: Above Average Performance (B or better)	Provide structured feedback to students to address areas require improvement. Example of such structured feed back is attached.

You may use this comment box to provide any additional information, if applicable:

N/A

Summary of Findings: Briefly summarize the results of the PLO assessments reported in Section II above combined with other relevant evidence gathered and show how these are being reviewed/discussed. How are you “closing the loop”?

Reflection Prompt	Narrative Response
<p>Other than GPA, what data/evidence is used to determine that graduates have achieved the stated outcomes for the degree? (e.g., capstone course, portfolio review, licensure examination)</p>	<p>- Employers feedback. For example, feedback from our Industry Partners who are currently members of The Engineering Technology Advisory Board.</p> <ul style="list-style-type: none"> - Department developed grading and checklist for capstone presentation and Department project completions. - Tracking of the licensure examinations success - Feedback from faculty and staffs from other department for students works during Undergraduate Research Conference and Department Project Competition - Tracking Students success during Career fair and their ability to obtain internship, part time and full-time jobs offers from our industry partners and others
<p>Who interprets the evidence? What is the process? (e.g. annually by the curriculum committee)</p>	<p>The Department Chair, the Curriculum Committee, and the Assessment Committee members</p>
<p>What changes have been made as a result of using the data/evidence? (close the loop)</p>	<p>Created an internship course that is designed to be administered in liaison with our Industry Partners. Inviting practitioners as classroom guest speakers to expose the students to industry requirements to supplement their academic learning.</p>

B. Assessment Plan for Program/Department

- I. Insert the program or department Assessment Plan (This is an independent plan from what is reported in this document).
- II. Explain any changes in the assessment plan including new or revised PLOs, new assessments that the program/department plans to implement and new targets or goals set for student success.
- III. If you do not have a plan, would you like help in developing one? Yes

C. Program Review Action Plan or External action Letter/Report

Annual Reflection/Follow-up on Action Plan from last Program Review or external accreditation (only complete the table that is appropriate for your program)

I. Programs that fall under Program Review:

i. Date of most recent Review:

ii. Insert the Action Plan table from your last Program Review and give any progress towards completing the tasks or achieving targets set forth in the plan.

Specific area where improvement is needed	Evidence to support the recommended change		Person(s) responsible for implementing the change	Timeline for implementation	Resources needed	Assessment Plan	Progress Made this Year
Curriculum update per new general education curriculum	Existing curriculum documents	ENGT Curriculum Committee members	Spring 2024	Faculty and support staff	In progress	Submitted some AUC proposals as per new updated curriculum	

Laboratory upgrade	Current labs conditions	ENGT department	Fall 2024	Need financial support from University Administration to purchase equipment and space upgrade and management	In progress	Purchased some equipment and still needed more
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iii. If you do not have an action plan, would you like help in developing one based on your last program review and needs of the program? _____ **Yes**

II. Programs with external Accreditation:

- i. Professional, specialized, State, or programmatic accreditations currently held by the program/department.
- ii. Date of most recent accreditation action by each listed agency.
- iii. Date and nature of next review and type of review.

Not applicable at the moment. However, the program is preparing to submit application for ABET Accreditation in 2024.

List key issues for continuing accreditation identified in accreditation action letter or report.	Key performance indicators as required by agency or selected by program (licensure, board or bar pass rates; employment rates, etc.) (If required.)	Update on fulfilling the action letter/report or on meeting the key performance indicators.

Section II - Departmental Outcomes

A. Departmental Strategic Initiatives

Accomplished Initiatives AY22-23 Add more rows as needed	Corresponding Strategic Plan Goal & Strategy Goal # followed by Strategy # ex: 1.3	Indicate (X) if a Diversity, Equity and Inclusiveness (DEI) Goal
Streamlined the newly approved Engineering Technology Curriculum		
Reconfigured the curriculum and the instruction of the Engineering Technology Capstone to meet the requirements of the disciplines within the program.		
Production Technology Certificate Program	Preparing course materials to start Production Technology Certificate program from Fall 2023	
Outreached high schools	Improve enrollment	
Industry Advisory Board Meeting	Organize department-wide industry advisory board meeting and bridge a gap between industry and academic programs; Collect feedback in the curriculum	
Outreach Alumni Meeting	Feedback collection from alumni; track success of alumni, and maintain relationship with our graduates	

Planned Initiatives for AY 23-24 Add more rows as needed	Associated Strategic Plan Goal & Strategy Goal # followed by Strategy # ex: 1.3	Indicate (X) if a Diversity, Equity and Inclusiveness (DEI) Goal
Mapping and reconfiguring core and elective courses to better meet University General Education requirements.	Accreditation/certification and enrollment management; Forge innovative paths to knowledge acquisition, career readiness, social	

	mobility, and lifelong learning (Strategic goal # 1)	
Offering elective courses for concentration and minor in Civil & Environmental Engineering.		
Laboratory Upgrade and lab designation course proposals	Accreditation/certification and enrollment management; Establish inclusive excellence, innovation, and environmental stewardship as signature strengths (Strategic goal # 4); Assert our distinctive value proposition and institutional learning outcomes boldly and widely (Strategic goal # 5)	
Obtained AUC approval for BS, in Construction Management	Recruit students for BS in Construction Management program	
Conduct exit survey and alumni survey	Collect feedback from graduating students and alumni; Become a model student-ready university and narrow the achievement gap (Strategic goal #2)	
Obtained AUC approval for MS, in Construction Management	Recruit national and global students for online Master's degree program	

B. Departmental Accomplishments and Reflection:

The Engineering Technology Department completed and streamlined the program changes from Industrial Technology to Engineering Technology. All the concentrations in the program (Electronics, Architecture, Manufacturing and Energy Management) have finalized the core and electives courses and published their respective 4-year plans. The following are some of the projects completed to support the new Engineering Technology Program during the 2022-2023 academic year:

1. Reviewed the program core courses and mapped the curriculum to meet the University General Education requirements.

2. Convened a meeting with the program Industry Advisory Board and solicited their input to include industry and employers' requirements in the new curriculum.
3. In coordination with the Career Service the Department organized a Career Fair attended by local and regional industry leaders that provide employment and internship opportunities.
4. The Engineering Technology program created a new Internship course and obtained approval from the AUC. The internship will be offered in the 2023-2024 academic year.
5. The Engineering Technology Program reconfigured the Capstone course to cater for all the concentrations. The course now is taught jointly by the faculty in the department.
6. To improve instruction and learning environment, the Department installed an Active Learning Space in Conlon 201 A, equipped with Google Digital screens to facilitate student-faculty interactions.
7. To improve the computer lab capacity to support the new Engineering Technology and The Applied Science programs the Department installed a Simulation, Visualization, and Modeling lab equipped with the state-of-the-art software in Conlon 201E.
8. To stay current with trends and development, The Engineering Technology Department continued The Engineering Visionaries Lecture Series. We had Speakers from Industry and Academia (UTM Texas).

Initiatives that you may be considering for the 23-24 academic year that you did not already capture above.

- We are working to provide more elective courses in Civil and Environmental Engineering in collaboration with the Earth and Geographical Science Department.
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- Realigning the department's existing concentrations and curriculum and submit application for ABET accreditation
- Develop detailed systematic assessments of the department's programs and courses.
- Establish Construction Management Graduate Program and prepare marketing strategy for this program

It is recognized that time is of the essence and we are, therefore, aiming to accomplish the mentioned above initiatives by the Spring of 2024.