EASTERN ILLINOIS UNIVERSITY

Student Learning Outcomes (SLOs) Report for Non-Accredited Programs

(*updated 9/19/23)*

Program Type: **Non-Accredited Program**

Program Name: Engineering Technology (EGT)

Submitted By: Dr. Wutthigrai Boonsuk, Program Coordinator

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Submission Date: 10/17/2014

Review Cycle:

- o **Even Year**
- o Odd Year

Review Round:

- o **Round A** (Associate Dean review)
- o **Round B** (Associate Dean + VPAA review)

All SLO reports are archived here: https://www.eiu.edu/assess/majorassessment.php

DUE: **October 15th** to your Associate Dean or designee

Each academic program is expected to prepare a Summary of the Assessment Data by Student Learning Outcome. This summary may take the form of a chart or other means of presentation that describes the annual data collected, when it is collected, in which course(s), through which assignment or activity, and by whom. This summary should clearly indicate what the program seeks to discover in its students' learning. The summary should correspond to the record-keeping documents maintained by the academic program.

Program Name: Engineering Technology (EGT)

PART 1. OVERVIEW OF STUDENT LEARNING OUTCOMES AND MEASURES

Student Learning Outcome (SLO)	What measures and instruments are you using? This could be an oral or written exam, a regularly assigned paper, a portfolio—administered early and later in coursework.	How are you using this info to improve student learning? What are you hoping to learn from your data? Include target score(s) and results, and specify whether these were met, not met, or partially met for each instrument.	Does your SLO correspond to an undergraduate learning goal (ULG): writing, speaking, quantitative reasoning, critical thinking, responsible citizenship?
a. Develop an understanding of the engineering technology field through hands-on activities and classroom lectures.	TEC 1303 (Applied Computations for Engineering and Construction) – Lab activities EGT 2324 (Electricity and Electronic Controls) – Lab assignments EGT 2424 (Manufacturing and Fabrication Processes) – Embedded exam questions EGT 3063 (3D Modeling) – Homework assignments EGT 3103 (Robot & Control Systems) – Exam 1&2 scores EGT 4943 (Manufacturing Management) – Weekly quiz scores	>85% of students achieve C or above. >15% of students achieve B or above.	Writing, Speaking, Quantitative reasoning, Responsible citizenship
b. Demonstrate technical verbal and written communication skills.	TEC 2004G (Materials Science and Evaluation) – Lab reports EGT 3703 (Machine Design) – Oral presentation of the class activities TEC 3414 (Engineering Technology Project Management) – Oral presentation of the class project	>85% of students achieve C or above. >15% of students achieve B or above.	Writing, Speaking, Quantitative reasoning, Critical thinking

	EGT 4753 (Lean Manufacturing) – Final report of the class project EGT 4943 (Manufacturing Management) – Oral presentation of the class project		
c. Foster critical thinking skills through the analysis of engineering technology problems. Evaluate engineering problems for creating a solution.	EGT 2324 (Electricity and Electronic Control) – Class project EGT 2773 (Safety for Engineering Technology Professional) - Regulation quizzes of safety TEC 3414 (Engineering Technology Project Management) – Project report EGT 4503 (Engineering Technology Cost Analysis) – Final project EGT 4704 (Engineering Technology Capstone) – Final project presentation EGT 4843 (Statistical Quality & Reliability) – Final project External survey questions after internships (TEC 4275) External survey questions for employers	>85% of students achieve C or above. >15% of students achieve B or above. >80% of survey ratings (if applicable).	Writing, Speaking, Quantitative reasoning, Critical thinking, Responsible citizenship

PART 2. IMPROVEMENTS AND CHANGES BASED ON ASSESSMENT

A. Provide a short summary (1-2 paragraphs) or bulleted list of any **curricular actions** (revisions or additions) that were approved over the past two years as a result of reflecting on the student learning outcomes data. Are there any additional future changes, revisions, or interventions proposed or still pending?

1. The Engineering Technology program has been revised and new focus areas have been developed, allowing students to choose according to their career paths. These focus areas include Industrial Distribution & Logistics, Manufacturing Systems & Automation, Safety & Risk Management, Industrial Design & Product Development, and Career-related Track. Therefore, several courses are mapped to specific focus areas (18 hours) while maintaining the required core coursework of 53 hours.

2. The Engineering Technology program intends to apply ATMAE (The Association of Technology, Management, and Applied Engineering) Accreditation. The previous program learning outcomes were revised as follows:
    a. Develop an understanding of the engineering technology field through hands-on activities and classroom lectures.
    b. Demonstrate technical verbal and written communication skills.
    c. Foster critical thinking skills through the analysis of engineering technology problems. Evaluate engineering problems for creating a solution.

These new learning outcomes affects changes in courses and methods used in the previous assessments. The new courses and evaluation methods are provided in the Part I table.

The challenges in collecting data for this new assessment can be:

a. Two-year rotation courses may impact how the data should be collected and analyzed.
b. Relationship with student's employers must be established to receive feedback through external surveys.

B. Provide a brief description or bulleted list of any improvements (or declines) observed/measured in student learning. Be sure to mention any intervention made that has not yet resulted in student improvement (if applicable).

The data for the new assessment will be collected starting in fall 2024. The instructors may be used the attached rubrics (EGT Assessment Rubrics.xlsx) for their evaluations.

C. HISTORY OF DATA REVIEW OVER THE PAST TWO YEARS

Please document annual faculty and committee engagement with the assessment process (such as the review of outcomes data, revisions/updates to assessment plan, and reaffirmation of SLOs).

Date of annual (or periodic) review	Individuals or groups who reviewed the assessment plan	Results of the review (i.e., reference proposed changes from any revised SLOs or from point 2.A. curricular actions)
10/15/2024	Wutthigrai Boonsuk	See provided material above.
10/29/2024	David Wayne Melton	See feedback provided below.

Dean Review and Feedback

The assessment data collected for the Engineering Technology (EGT) program reflects a strengthening of the EGT program since the 2022 assessment reported. The EGT program has done extensive revising of the program that reflects many of the growth areas in this field of study. The EGT program has expanded its program selection to allow students different career paths obtainable through the new innovative EGT program.

As mentioned in the report (see above), the program is pursuing accreditation from the Association of Technology, Management, and Applied Engineering (ATMAE). Over the past year the EGT program has focused on necessitating modifications to the program outcomes to closely align with ATMAE accreditation standards.

Finally, we note that the EGT program learning outcomes have been revised to support student's development in the many diverse fields of Engineering Technology. This includes: 1) strengthening and development of new instructional material that is used in the classroom experiences through lectures, activities, assignments, and examinations; 2) allowing students to demonstrate both verbal and written communication skills in the classroom; and 3) fostering of critical thinking skills through the analyzing of real-world engineering problems that allow for the evaluation of the problem, discussing and determining potential solutions, then communicate those solutions that are based on sound engineering principles.

It is recommended that SLO c be revied to one sentence, such as, "Display critical thinking skills through the analysis of engineering technology problems to create a viable solution, considering cost, quality, and schedule." It is unclear how the assessment results are being used to improve student learning and drive positive program modifications. The EGT faculty should strive to make this connection more explicit in the future.

Dean or designee: David Wayne Melton Digitally signed by David Wayne Melton Date: 2024.11.25 15:53:05 -06'00' Date: 11/25/2024

VPAA Office Review and Feedback (for "Round B" SLO report only)

VPAA or designee Date