UNIVERSITY OF SOUTHERN MAINE

Assessment of Student Learning Plan (ASLP)

2019-2020 Academic Year

Overview Information:

College _CSTH_____

Department _**Engineering**

Degree Program _BSEE, BSME_____

Contact Person for the Assessment Plan: _Carlos Lück_____

Current Date: _7/15/2020_____

List the date of the most recent academic program review/self-study:_ABET 2014/2015_

Program Assessment Plan Information:

Do you have a Formal Program Assessment Plan? **_x_Yes** **____No**

If YES, please attach your Program Assessment Plan/Cycle, or indicate the link on your website: _https://usm.maine.edu/engineering/abet-accreditation. Then, complete **Step 3** of this ASLP form (see **pages 4-5**) to describe how the assessment results were used for program improvement purposes.

If NO, your department/program does not have a Formal Assessment Plan (beyond this academic year), please complete all sections of this ASLP form.

*(Please see assessment website for an example/template of a 3-year assessment plan)

Mission Statement:

1. Provide your program's mission statement in the space below, or provide a link to the statement from your program's webpage.

The University of Southern Maine- Department of Engineering is a unit of a public, regional, urban, comprehensive university that serves traditional and non-traditional students with broad and diverse backgrounds. We are dedicated to providing our students with a high-quality, accessible, and affordable engineering education based on a foundation of mathematics, science, and the liberal arts. We offer baccalaureate degrees in electrical engineering, including a concentration in computer engineering, and mechanical engineering with emphasis on electromechanical systems and materials science. We are a technical resource to the community by linking our teaching, research and public service capabilities to the needs of industries and organizations of the southern Maine region. Our strong regional associations translate into internship opportunities for our students and employment opportunities for our graduates. We promote a strong sense of community through active participation in student group activities and membership in professional organizations. While responsive to local needs, we provide an education that meets national and global standards.

2. Briefly describe the ways in which your program's mission statement is aligned with the USM mission.

USM's mission statement is linked to the Engineering Department mission statement.

Diversity, Equity, and Inclusion

If your program has diversity, equity, and inclusion related goals, or a diversity, equity, and inclusion statement; please provide a link to the statement and/or goals. Then, briefly describe any assessment activities related to your program statement/goals regarding diversity, equity, and inclusion.

See Student Learning Outcomes 3 and 5.

Assessment of Student Learning: Program Assessment Steps

Step 1: Program-level Student Learning Outcomes (SLO's)

a. Please provide the **URL** for your **program-level student learning outcomes** as published on your department's website:
https://usm.maine.edu/engineering/abet-accreditation

b. Please provide the **URL** of your **curriculum assessment map** showing when your student learning outcomes are assessed and in which courses:

See below.

If your program's curriculum assessment map is **not** published, please complete the template (on page 6 of this document), and include it with your ASLP, or attach your own version.

c. Please list the program learning outcomes which were assessed since the submission of your last ASLP (May 2019).

All.

Step 2: Assessment Methods Selected and Implemented /Summary of Results

a. **Identify the assessment measures (evidence of student learning) that were used to determine whether students achieved the stated learning outcomes for the degree.** Please check all the measures used since the submission of your last ASLP (May 2019), on the chart below. Also indicate when you implemented the assessment activity.

Check Assessment Methods Used this Academic Year	***When Implemented***		
__Artistic Exhibition/Types of Performance	Fall	Spring	Summer
X_Class assignments/Exams/Papers (completed in course)	Fall	Spring	Summer
X_Capstone Project (written project, non-thesis paper)	Fall	Spring	Summer
__Comprehensive or licensure exam (created by external org)	Fall	Spring	Summer
__Exit Exam (created by department or program)	Fall	Spring	Summer
X_Exit Interview (individual or indiv self-reports of outcomes)	Fall	Spring	Summer
X_Employer meetings/discussions on student outcomes	Fall	Spring	Summer
__Focus Groups (self-reports of outcome attainment)	Fall	Spring	Summer
__Internship/Fieldwork (evaluations of performance)	Fall	Spring	Summer
X_Oral Performance/conference presentation	Fall	Spring	Summer
__Portfolio of student work	Fall	Spring	Summer
__Reflection Essays (self-report of outcome achievement)	Fall	Spring	Summer
__Research Papers (used for course & program assessment)	Fall	Spring	Summer
__Supervisor/Employer Evaluation (performance outside of class)	Fall	Spring	Summer
X_Student Survey information (student self-reports on outcomes)	Fall	Spring	Summer
__Thesis/Dissertation (used for course & program assessment)	Fall	Spring	Summer
__Other: please explain			

b. **Briefly describe the implementation process** (i.e. where were students assessed, what courses, what class levels, or any other specific details, etc).

In-class work, all levels.

c. **Provide a brief summary (numerical or narrative) of your assessment results** (e.g., . an illustration of the rubric-based scores, percentage of those who met the learning outcome you assessed, number of students assessed and findings, copies of instruments or rubrics used, etc.)

100% of the graduates meet the Student Learning Outcomes.

d. **Provide a brief summary of what your program learned or concluded from the evidence you collected** (e.g., did your program meet the expected goal or benchmark, does the new knowledge raise additional questions, do you need to collect additional types of data, did you get insights about the assessment procedures or about teaching and learning in your program?, etc.)

Student Learning Outcomes are being met.

Step 3: Using the Assessment results to Improve Student Learning

a. Who interpreted or analyzed the results that were collected this past year? (check all that apply)

X_Program instructors/faculty
X_Faculty committee
__Ad hoc faculty group
X_Dept Chair/Program Director/Dean
X_Faculty advisor
__Students (assistants, interns)
X_Other: Engineering Advisory Board

b. How did they evaluate, analyze, or interpret those results? (check all that apply)

X_ Used a rubric or scoring guide(s) for an assignment, paper, etc.
X_ Scored exams/tests/quizzes
X_Used professional judgments (no rubric or scoring guide)
X_Compiled or reviewed survey results

X_Reviewed qualitative methods (interviews, focus groups, open-ended responses)
__External organization scored/analyzed data (licensure, comp exams)
X_Other: annual faculty workshop, Engineering Advisory Board meeting

c. Indicate how the program will use (or has used) the results (check all that apply):

X_Assessment procedure change (student outcomes, curriculum map, rubric, evidence collected, sampling procedure, communications with faculty, etc.)
X_Course changes (course content, courses offered, new course, pre-requisites, course requirements, etc.)
X_Course pedagogy changes (teaching)
__Personnel or resource allocation changes
__Program policy changes (admission requirements, student probation policies, course feedback forms, etc.)
__Student's out-of-course experiences (co-curricular requirements, program website, program handbook, student workshops, etc.)
__Student Advising experiences (advisor-advisee relationship, communication of changes or expectations, etc.)
__Results indicated no action needed, students met expectations
__Other: please explain

d. Briefly explain each of the program changes/improvements indicated above.

Data are constantly reviewed and correction items are implemented as needed.

e. Indicate when the program improvements (noted above) will be implemented or if you already made program changes (e.g., during the summer months, beginning of the fall semester, etc.).

Fall and Spring.

Other Assessment Activities: Briefly describe any additional assessment-related activities being done at the course level (e.g., common assignments and/or assignment rubrics for use across different sections of required courses, examining student progress in entry-level, capstone, or other courses, other assessment projects implemented by individual faculty, etc.)

n/a

No assessment activities: If your program did not engage in any assessment activities this past academic year, please explain, and please indicate what assistance you need.

n/a

Mapping of Required Courses to ABET Student Outcomes 1-7

FY20: Fall 2019, Spring 2020

Selected for Assessment:

EE	Both	ME	No data

	1: problem solving	2: design, global	3: communicate	4: ethics, prof resp	5: team	6: experiment, interpret data	7: new knowledge
ELE 172					Jan, Fa		
ELE 271							
ELE 342							
ELE 343	Guv, Sp	Guv, Sp				Guv, Sp	
ELE 351			JWS, Fa				JWS, Fa
EGN 325							
EGN 329							
ELE 314	Jan, Fa						
ELE 486							
ELE 489		Jan, Sp				Jan, Sp	
EYE 112							
EGN 160							
Commun.			Fa-Sp-Su				
EGN 248							
ELE 216							
ELE 217							Luc, Sp
ELE 219			Luc, Sp		Luc, Sp	Luc, Sp	
ELE 323				Luc, Fa			
EGN 260							
EGN 304							
Eth. Inq.				Fa-Sp-Su			
EGN 301		Lan, Sp	Lan, Sp	Lan, Sp	Lan, Sp		
EGN 402	all, Fa-Sp	all, Fa-Sp	all, Fa-Sp				all, Fa-Sp
MEE 150							
MEE 270							
MEE 251	Gho, Fa						
MEE 259					Lan, Fa	Lan, Fa	
MEE 230							
MEE 360	Dav, Fa						
MEE 432			Dav, Sp				
MEE 439						Dav, Sp	
MEE 331							
MEE 339							
MEE 372		Gho, Sp					Gho, Sp
MEE 373	Gho, Fa						
MEE 374							
MEE 379						Lan, Sp	

Criterion 3. Student Outcomes

The program must have documented student outcomes that support the program educational objectives. Attainment of these outcomes prepares graduates to enter the professional practice of engineering. Student outcomes are outcomes (1) through (7), plus any additional outcomes that may be articulated by the program.

1) an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2) an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3) an ability to communicate effectively with a range of audiences
4) an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5) an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6) an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7) an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.