

# Assessment of Student Learning Plan (ASLP): Engineering

2018-19 Academic Year

University of Southern Maine

## A. College, Department, Date

College \_\_\_\_\_CSTH\_\_\_\_\_

Department \_\_\_\_\_Engineering\_\_\_\_\_

Date \_\_\_\_\_5/26/2019\_\_\_\_\_

## B. Contact Person for the Assessment Plan

Name and title \_\_\_\_\_Mariusz Jankowski\_\_\_\_\_

## C. Degree Program

Name of Degree Program \_\_\_\_\_BSEE, BSME\_\_\_\_\_

## D. Assessment of Student Learning: Program Assessment

### Step 1: Identify the Student Learning Outcomes (SLO's)

- a. Do you have your student learning outcomes published on your department's website? Yes/No

Yes, <http://usm.maine.edu/engineering/abet-accreditation>

- i. If yes, please indicate the url: \_\_\_\_\_
- ii. If no, please list 3-5 of the most important student learning outcomes for your program. **What will students know by the end of your program?**
- b. Please identify **which of your student learning outcome(s) were assessed this past academic year**. (One or more of the outcomes and corresponding assessment plans could come from your department's CORE Course Blueprint(s).

All

- c. Do you have a **matrix or curriculum map** showing when your student learning outcomes are assessed and in which courses? Yes/No
- i. If yes, do you have this map published on your website? Please indicate url or attach a copy of the curriculum map.

*Yes, see table attached to end of this document.*

### **Step 2: Assessment Methods Selected and Implemented**

- a. Identify which direct measures (other than course grades), that were used to determine whether students achieved the stated learning outcomes for the degree.

*We use course embedded assessments in multiple required courses (see mapping table at end of this document), accumulate the data and review collectively annually. The end-of-academic year assessment meetings were held 5/21/2019 and 5/28/2019.*

- b. Briefly describe when you implemented the assessment activity, and if a scoring rubric was used to evaluate the expected level of student achievement. (This information may be shown on your curriculum map).

*The current assessment activities were implemented in 2008, updated in 2014, and again in 2018 to reflect the modified list of ABET approved outcomes. Each instructor uses course specific, well documented assessment vehicles and metrics to measure outcome attainment by students.*

### **Step 3: Using the Assessment results to Improve Student Learning**

- a. Briefly describe your unit's process of reviewing the program assessment results (i.e. annual process by faculty committee, etc).

*Annual meeting held at the conclusion of Spring semester to review all department assessment activities and student learning outcomes.*

- b. What specific changes have been or will be made to improve student learning, as a result of using the program assessment results?

See most recent ABET report (ABET 2015).

c. Date of most recent program review/self-study?

See above

**E..Course Assessment Activities:** *Is your program able to report any assessment-related activities at the Course-Level... (i.e. created grading rubrics to use in required courses, examined student progress in entry-level courses, developed a new course, etc)? Please briefly explain any assessment projects.*

*Course-level activities occur in all courses listed in accompanying mapping of student outcomes to courses. Such activities are required by ABET and have been a feature of our accreditation process for several past cycles.*

**F. Community Engagement Activities in your departmental curriculum:**

a. Does your department have a student learning outcome that is related to any community engagement activities? If so, please state the outcome.

Two ABET outcomes address community engagement issues:

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

and

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.

b. Please indicate if any of the community engagement activities listed below are included in your program's curriculum, by noting which activities are required or optional for students in your major.

<u>Community Engagement Activity</u>	<u>Required/Optional</u>
Student Research (related to a community-based problem)	O
Student-Faculty Community Research Project	O
Internship, or a Field Experience	O
Independent Study (community-related project)	O

Capstone Course (community-related project)	R	
Service-Learning (course-based)	R	
Study Abroad, or an International Program		O
Interdisciplinary Collaborative Project (community related)		O
Student Leadership Activities (related to a team project)		O
Students/Faculty Community Leadership (advisory boards, committees, conference presentations)		O
Other activities:		

c. Please list any courses (i.e. EDU 400) that have a community engagement activity in your program.

Entry-level courses: \_\_\_\_\_

Mid-level courses: \_\_EGN 301 and EGN 304

Upper-level courses: \_\_EGN 402

# Mapping of Required Courses to ABET Student Outcomes 1-7

FY19: Fall 2018, Spring 2019

Selected for Assessment:

EE	Both	ME	No data
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	1: problem solving	2: design, global	3: communicate	4: ethics, prof resp	5: team	6: experiment, interpret data	7: new knowledge
ELE 172							
ELE 271							
ELE 342							
ELE 343	Guv, Sp	Guv, Sp				Guv, Sp	
ELE 351							
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							
EGN 260							
EGN 304							
Eth. Inq.				Fa-Sp-Su			
EGN 301		Dav, Sp	Dav, Sp	Dav, Sp	Dav, Sp		
EGN 402	all, Fa-Sp	all, Fa-Sp	all, Fa-Sp				all, Fa-Sp
MEE 150							
MEE 270							
MEE 251							
MEE 259					Dav, Fa	Dav, Fa	
MEE 230							
MEE 360							
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						Gho, 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