Outcome (a): an ability to apply systems engineering methods to practical problems involving one or more engineering disciplines.

Outcome (a) : SEM421/521, Fall 2017, Prof. James Eastham

This outcome was assessed in SEM421/521 ð Systems Engineering in Fall 2017 by means of:

Course Final Project: For the final project (paper and presentation), students selected a recent article or industry case involving a serious issue related to a product or service pertaining to the course (e.g. defect, technical issue, reliability problem, supply chain problem, etc.). Students analyzed the issue, explored how the problem could have happened, and developed a set of recommendations based on course learning. The project contained a quantitative component (e.g. data analysis, modeling, survey, interviews).

Five (5) students were assessed in Fall 2017 using the performance criteria listed in the table below. The minimum acceptable performance level was to have above 80% of the students performing at the accomplished or exemplary level in all performance criteria.

Table (a)1 summarizes the results of this targeted assessment. Table (a)1 summarizes the results of this targeted assessment. The results indicate that the minimum acceptable performance level of 80% was met on all performance criteria for this program outcome, that is, 80% of students were able to apply systems engineering methods to practical problems involving one or more engineering disciplines.

Outcome (a): an ability to apply systems engineering methods to practical problems involving one or more engineering disciplines				
Performance Criteria	1-Developing	2-Accomplished	3-Exemplary	%Students >= 2
1 - Knowledge	1	1	3	80%
2 - Application	1	1	3	80%

Below are the recommendations made at the Closing-the-loop meeting based on the assessment results:

The results show that the threshold of attainment of this outcome was met in all performance criteria.

The faculty identified no problem with this outcome, and therefore recommended no changes at this time.

Outcome (b): knowledge and understanding of project management techniques and frameworks

Outcome (b) : SEM422/522, Winter 2018, Prof. James Eastham

This outcome was assessed in SEM422 ð Advanced Systems Engineering in Winter 2018 by means of :

Course Homework: Homework #2 involved demonstration of project management knowledge and tools. Students demonstrated knowledge of the following topics: precedence relations, network diagram, critical path analysis, work breakdown structure, resource analysis, project costing, and project scheduling. Students used MS-Project to create project schedules (Gantt chart), resource charts, and analyze precedence relations and critical path.

Seven (7) students were assessed in Winter 2018 using the performance criteria listed in the table below. The minimum acceptable performance level was to have above 80% of the students performing at the accomplished or exemplary level in all performance criteria.

Table (b)1 summarizes the results of this targeted assessment. The results indicate that the minimum acceptable performance level of 80% was not met on all performance criteria for this program outcome, this is, under 80% of students demonstrated knowledge and understanding of project management techniques and frameworks.

Outcome (b): knowledge and understanding of project management techniques and frameworks				
Performance Criteria	1-Developing	2-Accomplished	3-Exemplary	%Students >= 2
1 - Knowledge	2	0	4	67%
2 - Application	2	0	5	67%

Below are the recommendations made at the Closing-the-loop meeting based on the assessment results:

The results show that the threshold of attainment of this outcome was not met in all performance criteria.

The faculty identified that two (2) students in the course fell short of the assessment target. Both students did not fully complete the assignment, falling short of the homework expectations. The recommendation is to provide more focused lecture time on the importance of the skills developed in the homework assignment. Additionally, faculty should continue to monitor this outcome in Winter 2019.