



## Program Assessment Report (PAR)

### Aerospace Systems Engineering (ASE) Masters Degree

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**ACADEMIC YEAR COVERED BY THIS REPORT:** 2020-2021

#### I. PROGRAM LEARNING OUTCOMES

Graduates of this program will be able to 1. Compete in the job markets and obtain employment or pursue doctoral degree in aerospace system engineering or related engineering field 2. Apply advanced engineering analysis techniques to solve complex engineering problems 3. Communicate the technical results effectively in written and/or oral form in engineering field

#### II. PROCEDURES USED FOR ASSESSMENT

##### A. Direct Assessment

Outcome 1. % of students employed, % of students continue on PhD program Outcome 2. Class final exams for ME6330 (compressible fluid flow) and ME7120 (finite element method applications) collected, in a scale of points out of 10 for 3 data points total for all students in this program are sampled to ensure that the data are representative. Outcome 3. Class final exams ME7120 collected, in a scale of points out of 10 for 3 data points, and/or thesis/papers/project reports/presentations, in a scale of poor, fair, good, excellent, based on the supervisor's evaluation, for all students in this program are sampled to ensure that the data are representative.

##### B. Scoring of Student Work

1. Data collected by Masters program chairs during an academic year 2. Master program chairs will score student's work based on the collected data 3. For outcome 1, the scoring of student's level of performance is based on the percentage (employment and PhD study) score from 0-100% For outcome 2, the scoring of student's level of performance is based on the averaged grade for

three data points for a rating from 0-10 For outcome 3, the scoring of student's level of performance is based on a rubric scale of poor, fair, good and excellent

### **C. Indirect Assessment**

Outcome 1. Indirect assessment MS exit survey. Outcome 2. Indirect assessment MS exit survey. Outcome 3. Indirect assessment MS exit survey.

### **III. ASSESSMENT RESULTS/INFORMATION:**

Assessment May 2021 Outcome 1. Exit surveys data are not collected for academic year of 2020 because there was no student graduated from the ASE program. Outcome 2. Direct assessment for three data points from ASE grad course ME6330 (compressible fluid flow) and three data points from ME7120 (Finite Element Methods Applications) are obtained and analyzed in relation to outcome 2. Outcome 3. Direct assessment for a final report from ASE grad course ME7120 (Finite Element Methods Applications) will be obtained and analyzed in relation to outcome 3.

Outcome 1. No available data for this assessment for the academic year of 2020. Outcome 2. Direct assessment from two core ASE grad classes in 2020 indicated 100% of students meeting objective (grade C and above) with an averaged grade of 7.5/10. Outcome 3. Direct assessment from a core ASE grad class in 2020 indicated 100% of students meeting objective (grade C and above) with an averaged grade of 9/10.

Outcome 1 This assessment cannot be done because of the inavailability of the data. Outcome 2 Students are meeting outcome 2. Next assessment year will focus on a different graduate class. Outcome 3 Students are meeting outcome 3 strongly. Next assessment year will focus on a different graduate class.

### **IV. ACTIONS TO IMPROVE STUDENT LEARNING**

The 2020 assessment cycle is an ongoing effort. In the fall of 2021, the results will be disclosed to the CQI committee, who will analyze the data and draft specific suggestions and charge the appropriate grad committee with actions. The grad committee will then report the feedback based on the results after those actions are taken. The actions, results and feedback will be documented and reported in future years.

## **V. SUPPORTING DOCUMENTS**

Additional documentation, when provided, is stored in the internal Academic Program Assessment of Student Learning SharePoint site.