I. Background Information

1. Program Assessed

Program name: Mechatronics

Program code: APMETR

Division: Department:

Type of Award: ☐ A.A. ☐ A.S ☒ A.A.S. ☐ Cert. ☐ Adv. Cert. ☐ Post-Assoc. Cert. ☐ Cert. of Completion

2. Semester assessment was administered (check one):

☐ Fall 20_____

☒ Winter 2018'

☐ Spring/Summer 20_____

3. Assessment tool(s) used (check all that apply):

☐ Portfolio

☒ Standardized test

☐ Other external certification/licensure exam (please describe):_____

☐ Graduate Survey

☐ Employer Survey

☐ Advisory Committee Survey

☐ Transfer follow-up

☐ Externally evaluated performance or exhibit

☐ Externally evaluation of job performance (internship, co-op, placement, other)

☒ Capstone experience (please describe):

☐ Other (please describe):

4. Have any of these tools been used before?

☐ Yes (if yes, identify which tool)

☒ No

If yes, has this tool been altered since its last administration? If so, briefly describe changes made.

5. Indicate the number of students assessed/total number of students enrolled in the course. 16/17

6. Describe how students were selected for the assessment.

   a. Describe your sampling method. ALL PRESENT

   b. Describe the population assessed (e.g. graduating students, alumni, entering students, continuing students)? ALL MEC 224 STUDENTS

II. Results

1. If applicable, briefly describe the changes that were implemented in the program as a result of the previous assessment.

2. State each outcome (verbatim) from the Program Assessment Planning or Program Proposal form for the program that was assessed.

   Design and condtruct a work cell (robotic devise and process) in accordance with industry and safety standards

3. Briefly describe assessment results based on data collected during the program assessment, demonstrating the extent to which students are achieving each of the learning outcomes listed above. ***Please attach a summary of the data collected (as a separate document).***
Summary of Data and notes for Rubric attached
We added a new department tool (test – see below) to evaluate all foundation classes in the Mechatronic program. This tool was designed to give us a knowledge base/ understanding of our students, having taken all the foundation classes. This tool was developed in the final month of the winter 2018 semester and will need to be groomed for future use. The average score of 70 was not surprising as we found a few questions 7,24 and 25 that were confusing and will need to be addressed for the next run. We did notice some areas where additional emphasis in lectures and labs will be made to address.
4. For each outcome assessed, indicate the standard of success used, and the percentage of students who achieved that level of success. ***Please attach the rubric/scoring guide used for the assessment (as a separate document).***
All robotics cells received greater than the average 2.75 project score

5. Describe the areas of strength and weakness in students' achievement of the learning outcomes shown in assessment results.
Strengths:
All students participating learn from their peers in areas of weakness.

Weaknesses:
Current means of assessment does not have feedback to individual students with identifiable areas of weakness for the student (only the team). Testing will be implemented into the class in the future to identify weak areas in a student's portfolio and address

III. Changes influenced by assessment results

1. If weaknesses were found (see above) or students did not meet expectations, describe the action that will be taken to address these weaknesses.
The class needs to be restructured; Capstone projects should be defined having components that are equal in difficulty and require equal contributions from all members. Testing should be developed about the capstone experience to gage level of understanding for each student and for periodic feedback to the students.

2. Identify any other intended changes that will be instituted based on results of this assessment activity (check all that apply). Describe changes and give rationale for change.
a. ☐ Outcomes/assessments from Program Assessment Planning or Program Proposal form:

b. ☐ Program Curriculum:
- ☐ course sequencing
- ☐ course deletion
- ☐ course addition
- ☐ changes to existing program courses (specify):
- ☐ other (specify):

c. ☒ Other (specify):
Based on written test; Emphasis will be put in lectures and labs in areas of weakness found in the data. Improvements will be made on the assessment test component. It will become part of the student's grade for the capstone class.
Capstone projects will be defined in the future to control level of difficulty, as well as identify a means to test ALL students on ALL aspects to the work cell.

2. What is the timeline for implementing these actions?
These will occur in the Fall 2018 semester with the MEC224 capstone projects being defined during the Winter 2019

IV. Future plans

1. Describe the extent to which the assessment tools used were effective in measuring student achievement of learning outcomes for this program.
   The assessment rubric indicated the level of difficulty in projects and showed how difficult it is in its current state to assess at an individual level. Having students build work cells that function as they would in a manufacturing workplace is still important. Controlling the level of difficulty, having all materials readily available, having testing components to ensure ALL students are obtaining the necessary level of learning needs to be addressed.
2. If the assessment tools were not effective, describe the changes that will be made for future assessments.
   Control of what the students do in the work cells. Testing at intervals related to the work cell to get feedback to students.
3. Which outcomes from Program Assessment Planning or Program Proposal form have been addressed in this report?
   All __x___ Selected _____
   If "All", provide the report date for the next full review: ____WINTER 2020_____.

   If "Selected", provide the report date for remaining outcomes: _____.

Submitted by:

Name: _Thomas Penird _____ Date: 10/2/2018
Print/Signature

Department Chair: Thomas Penird _____ Date: 10/2/2018
Print/Signature

Dean: _____ Date: 10/5/18
Print/Signature

Please return completed form to the Office of Curriculum & Assessment, SC 257.