

ACADEMIC COUNCIL REPORT

ACTION REQUESTED:

Recommendation
Decision
Discussion/Direction
Information

DATE: 28 July 2020

FROM: Undergraduate Studies Committee

SUBJECT: Program Review 18-Month Follow-up Reports – Bachelor of Engineering in Manufacturing Engineering and Bachelor of Engineering in Mechanical Engineering

COMMITTEE MANDATE:

In accordance with Article 1.1(b) of By-law Number 2, Academic Council “has the authority to establish academic standards and curricular policies and procedures of the University and to regulate such standards, policies and procedures, including determining academic quality, which includes determining the contents and curricula of all programs and courses of study.

Under the Undergraduate Studies Committee (USC) Terms of Reference, USC is to “to approve Final Assessment Reports (FARs) and action plans arising out of the cyclical review of undergraduate programs and report to Academic Council on...the implementation of recommendations from previous reviews”.

MOTION FOR CONSIDERATION:

That, pursuant to the recommendation of USC, Academic Council hereby approve the 18-Month Follow-Up Reports for the Bachelor of Engineering in Manufacturing Engineering and Bachelor of Engineering in Mechanical Engineering Cyclical Program Reviews, as presented.

BACKGROUND/CONTEXT & RATIONALE:

Eighteen months after the completion of a program review the Faculty is asked to report on the progress to date for all items outlined in the Final Assessment Report and Action Plan. The 18-Month Final Assessment Report (18-Month FAR) notes any items which have been completed and those that are still in progress, and provide a rationale and/or

revised timeline for items which may be behind schedule from the timeline noted in the original Action Plan.

RESOURCES REQUIRED:

The Faculty's plans to address any remaining resource needs are outlined in the 18-Month FAR. Information and support will be required from various areas of the University in order to implement the plan as originally agreed.

COMPLIANCE WITH POLICY/LEGISLATION:

The Ontario Universities Council on Quality Assurance (Quality Council), established by the Council of Ontario Universities in July 2010, is responsible for oversight of the Quality Assurance Framework processes for Ontario Universities. The Council operates at arm's length from both Ontario's publicly assisted universities and Ontario's government. Under the Quality Assurance Framework, academic programs must undergo a cyclical review at least every eight years following their implementation. The purpose of the cyclical program review is to critically examine the components of a program with the assistance of outside reviewers with the goal of continuous improvement. A program review's purpose is not solely to demonstrate the positive aspects of the program, but also to outline opportunities that will lead to improvements for the future.

NEXT STEPS:

- Following the approval by Academic Council the 18-Month FARs will be presented to the Board of Governors for information and posted to the University's website

SUPPORTING REFERENCE MATERIALS:

- 18-Month Final Assessment Reports:
 - Manufacturing Engineering
 - Mechanical Engineering



Bachelor of Engineering in Manufacturing Engineering

**18-Month Follow-Up
Dean: Dr. Tarlochan Sidhu**

Under Ontario Tech University's Quality Assurance Framework, all degree programs are subject to a comprehensive review every eight years to ensure that they continue to meet provincial quality assurance requirements and to support their ongoing rigour and coherence. Program reviews involve several stages, including:

1. A comprehensive and analytical self-study brief developed by members of the program under review.
2. A site visit by academic experts who are external to and arm's length from the program who prepare a report and recommendations on ways that it may be improved based on a review of the program's self-study and supporting material, and a two day site visit involving discussions with faculty, staff and students and a tour of the facilities.
3. Development of a plan for improvement by the program and proposed timelines for implementation.

All programs that undergo a review must provide a report eighteen months after the completion of the review to gather information on the progress that has been made implementing the agreed upon plans for improvement.

In 2016-2017 a program review was scheduled for the Bachelor of Engineering in Manufacturing Engineering, with a site visit November 6-7, 2017. The program has submitted to the Provost's Office a comprehensive chart outlining the progress they have made relative to the action plans resulting from the review. A summary of this progress is provided on the following pages. The summary report is reviewed by the appropriate standing committee of Academic Council and is subsequently reported to Academic Council and the Board of Governors.

Next Scheduled Program Review: 2023-2025

Action Items	Process Status	Comments
Addition of six faculty members to the Faculty of Engineering to help improve the faculty to student ratio.	<i>Complete</i>	<i>Since 2018, there have been 2 TTT and 3 TF hired. A further 2 TTT are currently being hired (one being a Tier 1 CRC).</i>
Move the Manufacturing Engineering program into newly created, smaller department.	<i>Complete</i>	<i>Proposal to form a Department of Mechanical and Manufacturing Engineering and a Department of Automotive and Mechatronics Engineering has been approved by Faculty Council and Academic Council. Council.</i>
Move academic advising to a departmental model as opposed to centralized.	<i>On hold</i>	<i>There are currently budgetary restrictions that prevent this from proceeding.</i>
Make ACE's machine shop available to undergraduate students and provide the appropriate safety training.	<i>On hold</i>	<i>There are a number of safety and budgetary issues that need to be addressed before this can move forward.</i>
Implement mandatory co-op and internship courses within the program.	<i>Complete – resources in place to implement changes</i>	<i>The Faculty has further strengthened support for its co-op and internship program with two dedicated staff. Implementation of mandatory courses not yet defined.</i>
Manufacturing program curriculum committee to review curriculum to see if there is a way to differentiate the second year curriculum.	<i>Complete</i>	<i>Several changes to enhance the curriculum are being proposed, but these changes will primarily be in the third and fourth year.</i>
Increase the number of technical electives offered to three.	<i>Complete</i>	<i>Several changes to enhance the curriculum are being proposed, with a course on industrial automation and a course on additive manufacturing being added. It is planned to make these core courses, so it might not be possible to add a third technical elective.</i>



Bachelor of Engineering in Mechanical Engineering

18-Month Follow-Up Dean: Dr. Tarlochan Sidhu

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All programs that undergo a review must provide a report eighteen months after the completion of the review to gather information on the progress that has been made implementing the agreed upon plans for improvement.

In 2016-2017 a program review was scheduled for the Bachelor of Engineering in Mechanical Engineering, with a site visit November 13-14, 2017. The program has submitted to the Provost's Office a comprehensive chart outlining the progress they have made relative to the action plans resulting from the review. A summary of this progress is provided on the following pages. The summary report is reviewed by the appropriate standing committee of Academic Council and is subsequently reported to Academic Council and the Board of Governors.

Next Scheduled Program Review: 2023-2025

Action Items	Process Status	Comments
Introduce departmental research and teaching awards.	<i>On hold - Pending Board approval for action item #3.</i>	<i>Waiting formation of new departments (see below).</i>
Addition of six faculty members to the Faculty of Engineering to help increase the faculty to student ratio.	<i>Complete</i>	<i>Since 2018, there have been 2 TTT and 3 TF hired. A further 2 TTT are currently being hired (one being a Tier 1 CRC).</i>
Move the Mechanical Engineering program into newly created, smaller department.	<i>Complete</i>	<i>Proposal to form a Department of Mechanical and Manufacturing Engineering and a Department of Automotive and Mechatronics Engineering has been approved by Faculty Council and Academic Council.</i>
Define the Departmental Chair role and responsibilities.	<i>Complete</i>	<i>Governed by new Collective Agreement.</i>
Develop more online content for courses, being careful to prioritize quality over speed and quantity.	<i>Complete*</i>	<i>Professors are continually developing online content for their courses. This varies from course to course.</i>
Form a First Year Curriculum Committee with instructors from the Faculty of Science to coordinate the delivery of Natural Science courses to Engineering students.	<i>Complete</i>	<i>Discussions have taken place to enhance the first year curriculum.</i>
Make ACE's machine shop available to undergraduate students and provide the appropriate safety training.	<i>On hold</i>	<i>There are a number of safety and budgetary issues that need to be addressed before this can move forward.</i>
Increase the number of administrative and technical support resources.	<i>Complete</i>	<i>New Mechatronics Technician hired.</i>

**The Faculty deems this action item as a priority requiring ongoing review and consideration.*