

ACADEMIC COUNCIL REPORT

ACTION REQUESTED:

Recommendation
Decision
Discussion/Direction
Information

DATE: 24 October, 2023

FROM: Undergraduate Studies Committee

SUBJECT: Program Review Final Assessment Report 18-Month Follow-up –
Bachelor of Engineering (Hons), Automotive Engineering

COMMITTEE MANDATE:

In accordance with Article 8 of the Ontario Tech University Institutional Quality Assurance Process (IQAP) Cyclical Review and Auditing Procedures, eighteen months following the completion of a program review the Dean will prepare a brief follow up report and “A summary of the progress report will be approved by the appropriate standing committee of Academic Council”. This summary report will be reported to Academic Council for information and subsequently posted to the Ontario Tech corporate website.

BACKGROUND/CONTEXT & RATIONALE:

Eighteen months after the completion of a program review the Faculty is asked to report on the progress to date in implementing the agreed upon plans for improvement. The report is sent to the Academic Resource Committee for review and further follow-up, if required.

RESOURCES REQUIRED:

The Faculty’s plans to address any remaining resource needs are outlined in the 18-Month report. 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:- 2 -

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 presentation to Academic Council this summary will be posted to the University's website.

SUPPORTING REFERENCE MATERIALS:

18-Month Report Summary



**18-Month Follow-Up
SUMMARY REPORT
September 8, 2023
Bachelor of Engineering (Hons), Automotive Engineering
Dean: Dr. Hossam Kishawy**

Under Ontario Tech University's Institutional Quality Assurance Process (IQAP) and the Ontario Quality Assurance Framework (QAF), all programs are subject to a comprehensive review at least/at minimum 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. The visit involves discussions with senior academic administrators, faculty, staff, and students.
3. Submission of an external reviewers' report including recommendations on ways the program may be improved based on a review of the program's self-study brief, discussions during the site visit and supporting material.
4. Internal responses to the external review and recommendations prepared separately by the Program and Dean.
5. Development of an Implementation Plan prepared by the Dean including resource requirements and a timeline for acting on and monitoring the implementation of the recommendations.

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 2019 - 2021 a review was scheduled for the Bachelor of Engineering in Automotive Engineering program, with a site visit on June 7 - 9, 2021. The program has submitted to the Provost's Office a report outlining the progress they have made relative to the implementation plan resulting from the review. A summary of this progress is provided on the following pages.

	Implementation Plan Action Item(s) <i>(corresponding recommendation # from reviewers' report)</i>	Timeline	Status*	Comments from Dean
1	Expand upon the Thermofluids content within the program curriculum.	2022-2023	Complete	The new course AUTE 4100U: Road Vehicle Aerodynamics (with a laboratory component) has been added as an elective to the program. A scale model of the full ACE wind tunnel is being commissioned at present in a dedicated laboratory (in the basement of OPG building) which will be integrated into the existing hands-on laboratory exercises for the course. This is also a partial response to addressing Recommendation # 6, offering economical and readily available access to a wind tunnel that simulates the ACE wind tunnel.
2	Expand upon the Automotive Engineering specific elective course options available to students. Develop/revise Automotive specific content within the program to bring it up-to-date with recent industry directions.	2022-2023	Complete	The new core course AUTE 3500U: Automotive Instrumentation and Controls was added to Year 3 – Semester 2 of the program. The course features new automotive specific laboratories. AUTE 4080U: Hybrid and Electric Vehicles was made a core course in the program in Year 4 – Semester 1. AUTE 4090U: Autonomous Vehicles and AUTE 4100U: Road Vehicle Aerodynamics have been added as elective courses to the program.
3	Review program curriculum to ensure consistency and fluidity of content between existing Automotive specific courses, with an eye to elimination of unnecessary overlap in content.	2023-2024	In-Progress	This is recommendation is being addressed and is in discussion at the Program Curriculum Committee level. While some overlap and repetition is necessary to ensure that key fundamental concepts sit well, careful mapping out of the course materials will better identify unnecessary duplication

				through examining all lectures materials thoroughly. This may generate some shuffling of content between courses.
4	Introduce students to Automotive Engineering specific content earlier in the program.	2022-2023	Complete	The program has been modified to move AUTE 3010U: Introduction to Automotive Engineering, now called AUTE 2010U: Fundamentals of Automotive Engineering, to Year 2 – Semester 2. The course is now only offered to Automotive Engineering students and is no longer an elective course in other programs. A laboratory component is being added to the course for the 2023-2024 academic year. Earlier placement in the program should also help with retention (Recommendation # 12) by exposing students earlier to engaging hands-on exercises and automotive specific subject matter.
6	Clearly define the relationship between the ACE and the Faculty of Engineering and Applied Science, particularly the facility's role within the Automotive Engineering Program, and ensure it is reflected in the messaging that is sent to prospective students. Look for ways to improve student access/involvement with the ACE Facility at undergraduate level.	2023	Complete	The Dean has worked with the Director of ACE to clearly define the role of ACE within the Automotive Engineering program and the Faculty of Engineering and Applied Science in general to eliminate any ambiguity. ACE provides experiential learning opportunities for a small number of students through co-op and internship placements. As noted in Recommendation #2, a scale model of the full ACE wind tunnel is being commissioned at present in a dedicated laboratory which will be integrated into the existing hands-on laboratory exercises for AUTE 4100U: Road Vehicle Aerodynamics. This will allow for economical and readily available access to a wind tunnel that simulates the ACE wind tunnel.
8	Review faculty compliment to ensure there is sufficient regular (TTT) faculty to comfortably meet the program's needs, now and going forward.	2023	In-Progress	The Dean is working with the University to secure more TTT positions for the program. There is currently one TTT position in Mechatronics/Automotive that is open.

12	Investigate the program's student retention, particularly students choosing to switch into another program.	2023	Complete	The issue of students switching into other programs was investigated. Since 2020, 54 students switched out of Automotive Engineering, while at the same time 20 students switched into the program. It is expected that the program changes done as a result of Recommendations #1-4 will help with student retention.
13	Develop supports to assist student performance and retention. Consider establishing a program- specific scholarship that can be offered to the first-year quality-selected students, and to continuing students with both quality-based and need-based selections, and/or some expanded peer mentoring or opportunities for assistance from teaching assistants.	2023-2024	In-Progress	Numerous programs exist at Ontario Tech to help with student performance and retention. The Student Learning Centre (SLC) offers specific supports in the areas of math, science, engineering, and writing. As well, the SLC offers a peer tutoring program to help students. The Faculty is working with the Advancement Office to secure donations for program specific scholarships.

*Process Status Legend:

Complete: Accomplished action item; no further steps required.

Continuous: Initial action item complete but requires ongoing monitoring and/or enhancement.

In Progress: Progress on the action item has been initiated but is not complete at this time. Outline all steps taken in the comment's column.

On Hold: Unable to complete due to other dependent factor(s).

Cancelled: Item no longer relevant or resources unavailable.

This summary report will be sent for approval to the appropriate standing committee of Academic Council (USC or GSC), and will subsequently be reported to Academic Council. It will then be posted on the Ontario Tech corporate website.

Next Scheduled Program Review: 2027 - 2029