

ACADEMIC COUNCIL REPORT

ACTION REQUESTED:

Recommendation
Decision
Discussion/Direction
Information

DATE: 26 March 2024

FROM: Undergraduate Studies Committee

SUBJECT: Minor Program Adjustment – Bachelor of Engineering – Automotive Engineering program and Engineering and Management program

COMMITTEE MANDATE:

In accordance with Section 1. b) of the Undergraduate Studies Committee (USC) Terms of Reference, USC has the responsibility “to approve minor program adjustments and report them to Academic Council for information.”

BACKGROUND/CONTEXT & RATIONALE:

The Faculty proposed to:

- Remove MECE3420U: Solid Mechanics II as a core course from Year 3, Semester 1, and add to the list of engineering electives for the Automotive Engineering program
- Remove MANE4045U: Quality Control as a core course from Year 4, Semester 2 and add to the list of engineering electives for the Automotive Engineering program
- Remove MATH 2070U: Numerical Methods from Year 2, Semester 2
- Add ENGR 2100U: Computational Engineering Applications to Year 2, Semester 2
- Remove MECE 3270U: Kinematics and Dynamics of Machines from Year 3, Semester 1
- Add New Course AUTE 3170U: Automotive Component Design to Year 3, Semester 1
- Remove MECE 3220U: Machine Design from Year 3, Semester 2
- Remove MECE 3210U: Mechanical Vibrations from Year 3, Semester 2
- Add New Course AUTE 3210U: Automotive Vibrations Year 3, Semester 2
- Remove AUTE 4010U: Vehicle Dynamics and Control from Year 4, Semester 1 and add to the list of engineering electives
- Add statement to Engineering Electives list that at minimum 2 must be with AUTE prefix

The changes to the Automotive Engineering program reflect the continuous improvement process. The Faculty is creating Automotive specific courses that focus on fundamental aspects and reducing reliance on mechanical stream courses. This allows for a streamlined curriculum

offering five courses per semester in the upper years which aims to strike a balance between academic rigor and mental wellness. This is being accomplished by combining courses to reduce content overlap and offering some of the more highly specialized topics as engineering electives. These changes include giving students more freedom in their elective choices.

The changes enhance the program, and the student learning experience as follows:

- Quality over quantity: the focused curriculum will enhance student engagement by providing more time to facilitate better understanding and applications of the fundamental concepts.
- Reduced mental load: The five courses per semester allow for a more manageable course load that contributes to reduced stress and anxiety levels leading to a supportive and productive learning environment.

Due to these changes, the overall credit hours for the program have been reduced from 141 to 129.

RESOURCES REQUIRED:

No additional resources required.

TRANSITION PLAN:

MECE3420U and MANE4045U: as of Fall 2024 students will not be required to take these courses.

Additional Changes:

Fall 2023 entry (students starting year 2 in Fall 2024) and Fall 2024 entry (students starting year 1) - students will follow the new program map. This is possible because year 1 courses were not impacted. This will be communicated prior to registration.

Fall 2022 entry (students starting year 3) - students will take the new courses AUTE 3170U: Automotive Component Design and AUTE 3210U: Automotive Vibrations. This will be communicated prior to registration.

Students who are missing any of the courses that have been removed will be directed to speak with an Academic Advisor.

CONSULTATION AND APPROVAL:

- ✓ FEAS Curriculum Committee: 23 November 2023, 18 January 2024
- ✓ Faculty Council: 30 November 2023, 25 January 2024
- ✓ Undergraduate Studies Committee (Approval): 16 January 2024, 20 February 2024
- Academic Council (Information): 26 March 2024

Additional consultation and feedback from faculty and students was garnered through representation at program and department level meetings.

NEXT STEPS:

Following presentation to Academic Council, this change will be included in the 2024-2025 Academic Calendar.

SUPPORTING REFERENCE MATERIALS:

- [Minor Program Adjustment Proposal](#)
- [New Course Proposal – AUTE 3170U](#)
- [New Course Proposal – AUTE 3210U](#)