PROGRAM(S): MECHANICAL ENGINEERING (BASC), MECHATRONICS ENGINEERING (BASC), MECHATRONICS (OPTION)
MARCH 2025

Program information: *completed by AQUE Office*

Previous review period:	**2020-2021**	Next review period:	**2027-2028**
Final Assessment Report (FAR) Internal Approval Date:	**10/17/2023**		
Link to FAR:	Final Assessment Report		

Signatures:

Please keep this document in Word version. We do require you to sign it or demonstrate your approval. If you have issues with signing a Word document, please confirm your approval by adding the following wording when you send back the document by email "I hereby approve the attached document." We will collect formal signatures at a later stage on a pdf version.

	Required	Signature	Date
Chair/Director	☒		3/3/2025
Dean	☒	Mary Wells	4/7/2025
AFIW Dean	☐		Click or tap to enter a date.
AVPA	☒	Dan DeVidi	4/4/2025
AVPGSPA	☐		Click or tap to enter a date.

Enrollment (past three years): *completed by AQUE Office*

	Mechanical Engineering (BASc)	**Mechatronics Engineering (BASc)**	**Mechatronics Engineering (Option**
2024-25 (CURRENT YR)	951	1138	40
2023-24 (LAST YR)	981	1121	23
2022-23 (LAST 2YRs)	1012	1131	26

Based on Active Student Extract in Quest on March 12, 2025.

Initiatives/Developments since the Final Assessment Report

The MME department now has an Associate Chair Teaching, which is currently held by Carol Hulls. Professor Hulls meets with new faculty, and any other interested faculty, to discuss teaching and provide mentorship. Professor Hulls created a LEARN site: *Teaching and Learning in MME*, which is a great resource for the faculty.

Progress update on Implementation Plan

RECOMMENDATION 1: Some type of performance assessment of the TAs on a course-by-course basis, by the faculty members (or perhaps combined faculty and students) would be helpful.

Completed: ☒Yes ☐No ☐Partially

Progress: The following has been completed.

1. New on-line TA evaluation process for course instructors.
2. Modification of on-line TA application process to include TA job descriptions.
3. Instructor obligations as a TA employer were reiterated to faculty in a department meeting, July 2022.
4. Improved communication of TA rights to graduate students during TA training.

Next steps (if applicable): What has not been completed is updating the instructor manual. This is an ongoing process that will continue forever. Revisions will be required as new technology is adopted by the department. For example, current updates include the addition of information on LEARN, Crowdmark, and Odyssey. In addition to the manual there is now a LEARN site, *Teaching and Learning in MME*, that provides a lot of information and support to the faculty.

We are following Policy 30 which governs TAships, however the uptake of the TA evaluations is low. We are actively working to encourage faculty to rate their TAs at the end of each term. The department chair reminds faculty at the end of every term via emails and announcements at department meetings.

Additional comments: N/A

RECOMMENDATION 2: Upgrade of the laboratories in the ME program is overdue, to ensure that the equipment is modern and well-functioning. This can be integrated as a part of the planned curriculum review.

Completed: ☐Yes ☐No ☒Partially

Progress: The following has been completed:

1. The hiring of a new Materials lab instructor.
2. New welding facilities and lab to support the Welding Specialization.
3. Creation of a shared use Materials lab.
    a. Material preparation and microscopy areas are complete
    b. A dedicated lab coordinator has been hired

Next steps (if applicable): There will be ongoing improvements to the shared use Materials lab. The creation of a new Thermal-Fluids lab is in progress. The department continues to support lab facilities by matching WEEF funding secured by staff and professors. Renovations to the Solids lab have not yet started.

Additional comments: N/A

RECOMMENDATION 3: The curriculum review should also address concerns related to work term preparation. The curriculum review should include revisiting the list of specializations.

Completed: ☐Yes ☐No ☒Partially

Progress: The following has been completed:

1. A department retreat was held in April 2023. The retreat did not discuss specializations.
2. The committee has discussed specializations, but has focused primarily on other changes to the curriculum.
3. The Curriculum Review Committee's most substantial deliverable was a proposal to change core courses in 3B into a set of restricted electives (e.g., choose 3 of the following 5 courses). This was presented at a department meeting in April 2023, but was ultimately rejected by the department. However, changes that were implemented as a result of a retreat were:
   a) Automation & Controls (A&C) group updated calendar description and curriculum for ME 262.
   b) A&C group updated calendar description for ME360 to reflect what is taught in the course.
   c) A&C group initiated a few course (Machine Learning for Mechanical Engineers) which will launch in Fall 2025.
   d) Solids group developed a plan to reorganize their line of courses (ongoing).
4.

Next steps (if applicable): The first-year instructors and First Year Engineering continue to remind students of the supports available to them.

The Curriculum Review Committee meets 6 to 8 times per term, generally, on a bi-weekly basis. The curriculum review has discussed specializations on more than one occasion, the addition of specializations to the program has not yet been pursued.

Additional comments: N/A

RECOMMENDATION 4: The Faculty should adopt a formal Faculty code of ethics and introduce in-program ceremonies or rituals akin to the Iron Ring ceremony where students are invited to publicly and regularly commit to the prescribed standard of behaviour. This requires that the practice be fully endorsed by the faculty members.

Completed: ☒Yes ☐No ☐Partially

Progress: The following has been completed:

1. The faculty introduced an iron pin ceremony and code of ethics starting in the fall 2023. Students, faculty, and staff were able to participate.
2. The faculty were reminded of a mandatory ethics statement in course syllabi at a department meeting in July 2022.
3. An ethics course requirement has been mandatory in the undergraduate program. Effective Fall 2023, students can take either PHIL 315 or PD 22.
4. First-year students receive ethics lectures in their concept courses (ME 100 and MTE 100)

Next steps (if applicable): N/A

Additional comments:

It was originally proposed that the Department work with the Office of Academic Integrity to offer ethics seminars to both students and faculty. Upon consideration, and with the return to in person instruction and assessment, this is no longer deemed necessary. We have implemented in our first-year undergraduate course (ME 100) the following:

ME 100 has 2 hours of lecture/activity on Engineering ethics, a 1-hour visit from our Liaison Librarian, who talks about information seeking, and proper citation of work, and 1 hour discussion about ethical/academic integrity issues of GenAI. We also have lectures on the engineering profession and professional responsibility, as well as 1 hour on ethical use of GenAI in design and programming. Furthermore, both Engineering Graphics and Design and Programming components of the course have an anti-plagiarism document that talks students through what collaboration is allowed and what is not on individual assessments. We also have teamwork assessments for the group projects.

RECOMMENDATION 5: The Faculty should recommit to a Continuous Improvement Process as identified by the CEAB, wherein the class achievement of the course Learning Outcomes is assessed, and this assessment metric data is used to inform changes to the curriculum.

Completed: ☐Yes ☐No ☒Partially

Progress: The following has been completed:

1. A Curriculum Review Committee (CRC) was formed in 2019 consisting of teaching track faculty and chaired by the departments' outcome-based assessment coordinator (Prof Andrew Milne). The mandate of the Curriculum Review Committee is to focus on the curriculum, not on the teaching practices of faculty, though this is a topic of discussion by the committee. There is an Associate Chair Teaching who will meet with faculty regarding their teaching practices and how to improve, which has been effective in increasing student perception survey results for several faculty.
2. Stakeholder interviews have been conducted with students, faculty, and the Departments' industry review panel. Results were presented to the Department in July 2022.
3. A department retreat was held in April 2023.
4. Changes to the courses:
   a. Instructors have been implementing changes to ME262 in practice. The instructor reported that the Fall 2024 offering of ME262 covered 95% of the proposed content for the course.
   b. The calendar description for ME360 was changed to reflect what is being taught in the course, so it was already in practice.

Next steps (if applicable): As a result of the retreat the A&C group met during the Spring 2023 term. This led to updated calendar descriptions for ME 262 and ME 360, which are currently being prepared for FOPS. In addition, a course on machine learning for mechanical engineers is currently being developed.

Also because of the retreat, the Solids group expressed interest in improving their thread of courses. This process has been ongoing. Since the Solids thread of courses involve a Physics course, discussions with Physics started in the Fall 2024.

Additional comments: N/A

RECOMMENDATION 6: The Faculty should continue the efforts on addressing gender equity and diversity, and Indigenous issues.

Completed: ☐Yes ☐No ☒Partially

Progress: There are several ongoing initiatives within the Faculty of Engineering.

Within MME:

1. The department's Wellness Coordinator started running workshops for both first-year mechanical and mechatronics engineering that consisted of viewing Picture a Scientist with a follow up discussion. This is supported by SVPRO.

2. The department is in the process of hiring a staff member to support curriculum development for gender equity throughout the program.
3. Starting in Fall 2023, several of the MME faculty have been taking part in an Indigenization Circle. In the Winter 2024 MME joined Systems Design Engineering and Biomedical Engineering.

Next steps (if applicable): Addressing gender equity, diversity, and Indigenous issues is an ongoing process.

Additional comments: N/A

RECOMMENDATION 7: Explore opportunities for the creation of pathways for transfer students from other institutions, or promotion of opportunities to study abroad.

Completed: ☒Yes ☐No ☐Partially

Progress: The following has been completed:

1. The ability to study and work abroad is heavily supported by MME, the FOE, and the University.
2. International study restarted in Winter 2022.

Additional Comments: The Department is open to student transfers. Unfortunately, to qualify for a transfer, applying students must meet UW admission standards and be capable of meeting co-op requirements for graduation. There must also be space in the class that they'll be joining. While transfers are considered (and sometimes successful), they are difficult to facilitate.

	Recommendations	Proposed Actions	Responsibility for Leading and Resourcing (if applicable) the Actions	Timeline for addressing Recommendations
1.	Some type of performance assessment of the TAs on a course-by-course basis, by the faculty members (or perhaps combined faculty and students) would be helpful	Updates to instructor manual, and associated instructor resource material.	MME, Undergraduate Office and Associate Chair Teaching	Ongoing process.
2.	The upgrade of the laboratories in the ME program is overdue, to ensure that the equipment is modern and well-functioning. This can be integrated as a part of the planned curriculum review.	There will be ongoing improvements to the shared use Materials lab. The creation of a new Thermal-Fluids lab is in progress. The department continues to support lab facilities by matching WEEF funding secured by staff and professors. Renovations to the Solids lab have not yet started as renovations are on hold due to budget constraints.	MME, Space Committee	The target is to renovate the Solids lab within the next 2 years, pending budget availability
3.	The curriculum review should also address concerns related to work term preparation. The curriculum review should include revisiting the list of specializations.	N/A	N/A	Complete
4.	The Faculty should adopt a formal Faculty code of ethics and introduce in-program ceremonies or rituals akin to the Iron Ring ceremony where students are invited to publicly and regularly commit to the prescribed standard of behaviour. This requires that the practice be fully endorsed by the faculty members.	N/A	N/A	Complete

5.	The Faculty should re-commit to a Continuous Improvement Process as identified by the CEAB, wherein the class achievement of the course Learning Outcomes is assessed, and this assessment metric data is used to inform changes to the curriculum.	Updated calendar descriptions for ME 262 and ME 360, which are currently being prepared for FOPS. A course on machine learning for mechanical engineers is currently being developed. The Solids group expressed interest in improving their thread of courses. This process has been ongoing. Since the Solids thread of courses involve a Physics course, discussions with Physics started in the Fall 2024.	MME	Ongoing
6.	The Faculty should continue the efforts on addressing gender equity and diversity, and Indigenous issues.	Addressing gender equity, diversity, and Indigenous issues is an ongoing process.		Ongoing
7.	Explore opportunities for the creation of pathways for transfer students from other institutions, or promotion of opportunities to study abroad.	N/A	N/A	Complete

The Department Chair/Director, in consultation with the Dean of the Faculty shall be responsible for monitoring the Implementation Plan.