

Cyclical Program Review of Mechanical and Materials Engineering One Year Progress Report on Implementation Plan

At the conclusion of the cyclical program review, a final assessment report and implementation plan was agreed by the Vice-Provost (Teaching and Learning), Dean, Faculty of Engineering and Applied Science, and the Vice-Provost and Dean, School of Graduate Studies. These deans are responsible for monitoring the implementation plan.

Please complete the table below to report on progress made in the past year against the implementation plan. Add further explanation if necessary in the *additional notes* section. The table is to be completed by the academic unit and reviewed by the relevant dean/associate deans.

Please complete this report and return it to quqap@queensu.ca by May 15, 2018. The Vice-Provost (Teaching and Learning) will review this progress report and discuss with the Provost. Please note that monitoring reports will be made available to the public on the Provost's Office web site.

ONE YEAR FOLLOW UP

Recommendation (N.b., RT refers to review team recommendation)	Proposed Follow-up	Responsibility for Leading Follow-up	Timeline for Addressing Recommendation	Please indicate whether the implementation is on target and on time, and provide a brief description.
<p>1. Review Mechanical Engineering curriculum in light of Mechatronics Engineering perspective. Sustain MECH 452 (RT 1).</p>	<p>Continue curriculum review begun in Spring 2016. Develop plan, including improvement of the integration and content of the ECE courses in the MME program. Engage all stakeholders, including the Industry Research Advisory Committee.</p>	<p>Department Head to monitor work of relevant committee/faculty group.</p>	<p>Aim to implement curriculum enhancements starting in the academic year 2017/18. Aim to implement changes to MECH 452 in 2017.</p>	<ul style="list-style-type: none"> • MECH 452 has been sustained and renewed with new materials and experiences. This process will continue as the courses that feed into it develop further. • MECH 350 (core) labs have been upgraded to incorporate microcontroller based mechatronic elements. • MECH 217 (core) was delivered for the first time in Fall 2017, emphasizing the microcontroller applications for measurement and simple control in embedded systems. • The UG Chair met with ECE Head, UG Chair, and instructors for ECE courses in the MME program. He emphasized the need to have courses reflect useful applications in mechanical and mechatronics fields. Although the Dean authorized new hires to support mechatronics, ECE courses for MME students continued to be taught by adjunct and temporary faculty through the 2017/18 academic year, with minimal change in delivery. • MME has deleted ELEC 310 from our curriculum for 2018/19 to enable taking

				<p>more relevant electives. For 2019/20 ELEC 210 will be deleted from the curriculum and replaced with mechatronics courses in both second and third year. A new mechatronics faculty member in MME will be in place to support this development.</p> <ul style="list-style-type: none"> • Pace on many of the Undergraduate curriculum changes has been intentionally slowed based on advice to avoid being in the midst of curriculum change during a CEAB Evaluation Year or Visit (December 2017).
2. Provide support for faculty members to deliver active learning (RT 3).	<p>Continue flipped classroom development in MECH 228 in 2016-17. Engage professors to see benefits of this teaching style by increasing exposure of the MECH 228 experience. Plan for expansion to other courses, including</p>	Department Head	<p>Increase active learning offerings over the next 5 years. Supported by move to new Innovation and Wellness centre by 2018-19.</p>	<ul style="list-style-type: none"> • Online course materials developed in MECH 221, MECH 241 and under development in MECH 346 provide critical instructional resources for expanding flipped classroom offerings when more facilities are available. • MECH 217 was delivered in a flipped model in Fall 2017 and Fall 2018 and is being revised based on lessons learned. • The MECH 228 instructor has been sharing practical experience with other faculty and is to present on the topic at the faculty wide teaching showcase this May 22. • MECH 350 just received a grant from Dean's Educational Enhancement Grant program to enhance online resources and labs to improve the student experience.

	work to secure appropriate space.			<ul style="list-style-type: none"> Innovation and Wellness Centre to open Fall 2018 and the following courses are slated to be taught in the new 240 seat active learning space: MECH 217, MECH 228, MECH 321, MECH 323, MECH 346, MECH 350, MECH 396/7/8/9 and MECH 464. Each course being taught in the new space is being transitioned to a blended or fully flipped instructional mode.
<p>3. Work to enhance the graduate student experience with regard to:</p> <ul style="list-style-type: none"> - Advising (RT 10) - Professional skills-advertise existing opportunities (RT 10) - Identify distinguishing features of M.Eng and M.A.Sc (RT 5) - Consider establishment of graduate students' association (RT 6) 	<p>Review and inquire into the needs of graduate students. Hold graduate students' research day, Spring 2017.</p>	<p>Departmental Graduate Committee, working closely with School of Graduate Studies. Department Head to monitor progress</p>	<p>Begin review 2016-17 academic year. Investigate interest in graduate student association in 2016-17.</p>	<ul style="list-style-type: none"> MME is working with FEAS to improve the M.Eng. program. This will lead to changes in recruitment, delivery and management. Graduate Student Day was not implemented due to limited funds and personnel required to organize the event. A graduate student association in MME was not formed. The department added a third SGPS representative and connected the representatives to the undergraduate "Mech Exec" to represent the graduate student population in events. Plan for 2018/19 to schedule a career development workshop (resume writing, job searching, interview tips) for graduate students in MME, hosted by Career Services
<p>4. In light of issues around space, morale, and direction, engage faculty, staff, and students in problem-solving, aiming for small successes. This includes placing coffee</p>	<p>Space Committee to address issues of space. Fall 2016 event on</p>	<p>Space Committee Department Head</p>	<p>Spring 2018</p>	<ul style="list-style-type: none"> Major renovations in McLaughlin Hall begun in Fall 2017 with Phase I expected to be completed August 2018. This includes creating a new administrative home (Main Office) just inside the main doors of building for easier access, additional faculty

<p>lounge close to machine shop (RT 2).</p>	<p>internship program. Sessions on strategic vision for future of department</p>			<p>office space, upgraded graduate office and dry lab space, updated washrooms on the 1st floor and a separate faculty/staff only lunch room. Phase II will include updated washrooms on the 2nd and 3rd floor.</p> <ul style="list-style-type: none"> • Bi-monthly staff meetings have been implemented to increase communication. • A new Department Head was appointed in January 2018, Dr. Pilkey. In his new role, he has invited all faculty and staff to meet with him. He plans to create a committee to work on a 5-year Strategic Plan for his tenure, following on the Faculty's Strategic Plan.
<p>5. Maintain and develop efforts to recruit more women into undergraduate and graduate programs. Continue efforts to increase number of female faculty members.</p>	<p>Make hiring women faculty a priority throughout the next phase of faculty renewal. Profile past women graduates with Masters and PhDs on websites. Expand and leverage presence of women role</p>	<p>Department Head to direct and monitor</p>	<p>Ongoing</p>	<ul style="list-style-type: none"> • A task force has been created, along with guidance from the Equity Office, to gather information from female undergraduate students, graduate students, staff and faculty regarding the climate for women in MME. This committee will make preliminary recommendations to be implemented by a soon-to-be-established standing committee on Women in MME. • The department is currently hiring 3 faculty positions in in 2018. In consultation with the Equity Office, the job postings for these positions were crafted to be more attractive to women, emphasizing opportunities, mentorship and resources to help new faculty develop their research and teaching careers. As a result, the number of

	models (faculty, staff, and through grad alumni network).			<p>applications from highly-qualified female candidates increased significantly. At this point, offers have been made for the first 2 faculty positions, with both going to women.</p> <ul style="list-style-type: none"> • The department is working with FEAS Marketing and Communications team to update our marketing materials (website and flyers) to increase images of female students and faculty. Plans include reaching out to alumni to profile • Online content for courses (videos, etc) that are currently being created has a focus on equity seeking students being used to allow for potential students to “see themselves” at Queen’s U.
6. Encourage staff, faculty, and students to work together to promote nominations for teaching, staff support, and student achievement awards external to the faculty and university (RT 7).	Seek out opportunities to nominate staff and faculty for awards. Connect to faculty-wide initiatives.	Department Manager and Head	Goal is to have 1 external staff award and 1 external faculty award by the end of 2018.	<ul style="list-style-type: none"> • FEAS Dean is reviewing Staff Excellence award options with assistance of FEAS department managers. Aiming for Fall 2018 awards event. • FEAS Dean created Teaching Assistant Excellence Awards and the first recipients were awarded in Spring 2018. • Bi-annual staff appreciation events are held at the FEAS level which also encourages getting to know staff counterparts in other FEAS departments. • Continue with Silver and Bronze wrench awards for Best Instructor and Best TA as voted on by the MME undergraduate

				students and presented at the year-end banquet.
7. Recommend developing new recruiting strategies, together with a review and possible modification of graduate programs, programming and delivery approaches to increase the appeal of graduate programs in MME, particularly to domestic students (RT 8).	Enhance online presence. Promote the department's research and opportunities for graduate students. Work with SGS on strategic recruitment initiatives.	Department Manager and Head	Ongoing	<ul style="list-style-type: none"> • Combined BASc/MASc program approved to promote an accelerated graduate studies program to our top undergraduate students • MME has been actively promoted by FEAS and Queen's via social media • FEAS has inaugurated two scholarships to promote domestic PhD students • Additional staffing hours added to assist graduate assistant with managing online application pool for a more timely follow-up with potential new graduate students.
8. Recommend tracking information about the placement and career trajectories of graduates from the undergraduate and graduate programs to facilitate future cyclical reviews and support improved recruitment and curriculum design (RT 9).	A cohort-based graduate outcomes survey is ready to be launched province-wide and the SGS is allows exploring opportunities to track graduate labour market outcomes in	Department Head in conjunction with Dean, School of Graduate Studies and Dean, FEAS	2017	<ul style="list-style-type: none"> • MME continue to agree with the Dean that this information would be useful and that the University needs to support this effort through the Office of Institutional Research/Planning.

	partnership with Education Policy Research Initiative (EPRI).			
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Additional Notes: