

Short-Term Recommendations From the Faculty of Engineering Task Force On Virtual Teaching and Learning

Background: In the Fall of 2020, Dean Puri struck a Task Force to identify short- and long- term recommendations that would provide the best possible student learning experience in a virtual environment. In order to ensure a rich teaching and learning experience, the need for faculty members to maintain balance and well-being given all the demands placed on their time and energy is recognized. The balance is an often overlooked aspect when talking about teaching and learning.

This document identifies strategies that both improve the student learning experience while also decreasing the load on faculty members in the short term. The recommendations listed here focused for the upcoming Winter 2021 term and they are complementary to the [recommendations made by the University-Wide Task Force](#). Ongoing work continues to identify recommendations over the medium and long term.

1. It is recommended that each Department/Program maps assessment activities, such as tests, quizzes, assignments, projects and reports for all courses in a central place (e.g. in a MS Teams shared calendar as an example). This will permit the scheduling of these activities for each level (2, 3, 4 and 5) so that workload can be adjusted and harmonized. Ideally, this information would be made available to Academic Advisors, so that they can better advise students.
2. Minimize and standardize platforms for learning to Avenue, Teams, and Zoom. Further, we recommend that Teams/Zoom be used to deliver content and that **Avenue** be used as the **central point of communication as well as for overall management of the course**.
3. Include incentives (can be in many forms and at the discretion of the instructor, including credit, certificates) for students to participate in events organized by the engineering community in order to improve their mental/physical health and well-being. By explicitly acknowledging the importance of these issues, the students will recognize that we care and hopefully encourage their social, mental, and physical health. The MES has offered to support this by sharing their experiences gained through 1P10 and 1P13.
4. At the Faculty level, develop a website/diagram/app that clearly tells students where they need to go for help. This could include asking probing questions to the student for direction to the right place.
5. Encourage students to attend office hours. Many students currently do not or cannot participate in office hours. Consider offering office hours later in the day, so to give more opportunities for students to attend.
6. Improve communication:
 - a. To faculty members from Senior Leadership and Chairs as some faculty members are unsure that they have the autonomy to adjust course load. Learning outcomes and contact hours need to be met, but instructors have discretion over workload.

- b. To students from faculty members:
 - i. Explaining how assessment is done and why
 - ii. Promoting and creating opportunities for teamwork as a means to learn and to build community.
 - iii. Obtaining feedback frequently using very short micro-surveys (usually with binary answers) that can be completed in one or few minutes during class time (not in addition to class time).
 - iv. Posting on Avenue should be done judiciously and preferably only once a week. Avoid over-posting.
 - c. Between instructors by forming peer groups (of 3-5) faculty members that meet for 30 minutes a week to discuss their course, teaching, challenges, and opportunities. By working together, we can ensure that the workload on the students is coordinated and looked at in an integrated manner, not as a course in isolation.
 - d. Between instructors and TAs. Instructors should facilitate and ensure that the TAs have everything needed to deliver the course material, such as cameras, reliable internet and training on how to use the teaching/learning platforms. Instructors should meet regularly with TAs (weekly).
 - e. During classes. More specifically, it is essential for classes that are heavy in problem solving to attempt to emulate the experience of having a blackboard. This can be achieved with current technology, e.g., writing pads, iPads, Lightboards, etc.
7. Provide a brief bullet point guideline for students to help them manage their workload (what to do and what not to do), including resources on mental health awareness. This could even be prepared by students rather than faculty. The goal is for students to be informed of all the services already available at McMaster to support them (such as academic advisors, the Student Wellness Centre and others).
 8. Budget permitting, [create a fund to support students](#) that are having difficulty to access tech needed to complete assessments, mainly those requiring proctoring software.
 9. We recommend that before next term starts, the instructors submit a short plan to the Chair/Director containing: (1) what technology platform(s) will be used for the delivery; (2) how assessment will be made; (3) if proctoring software will be used; (4) mode of delivery, such as synchronous, asynchronous and/or flipped classroom (5) if applicable, a sample video of a lecture. For first year courses, and courses with many activities, instructors should consider creating a quiz on avenue on the topic of the course outline, to ensure that they understand the plan ahead.
 10. Faculty members should make an effort to continue learning about teaching – online and in person. Faculty members are encouraged to attend at least 1 online-teaching-related webinar or course per term.

11. It is recommended that small breaks are taken during schedule classes to minimize fatigue for the instructors and for the students.

In addition to the recommendations listed in this document, the reader should also consult:

1. [The recommendations made by the University-Wide Task Force.](#)
2. [The Virtual Learning Task Force & MacPherson Institute Document](#), that contains invaluable tips that with minimum time investment (10 mins or less), are very likely to result in substantial improvement of the teaching/learning experience.
3. The Department of Mechanical Engineering has created a [central website](#) that contains invaluable resources on the use of technology and videos for training (including TAs).

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