Recommendations from the Faculty of Engineering Task Force on Virtual Teaching and Learning for the Fall of 2021 and Beyond

May 10, 2021

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. This group has previously provided a series of recommendations to guide the delivery of the classes for the Winter 2021 term. A year of virtual teaching and learning has helped us learn a lot about ourselves as faculty, staff and students, specifically:

1. We are a resilient community that can adapt quickly. Faculty, staff and students were able to make dramatic changes in a short period of time.

2. There were many things that worked well virtually. There were things that did not. Reflecting on all past experiences in a balanced manner, will inform us on how to provide the best possible teaching and learning experiences.

3. Things change very quickly, and the only certainty we have is that we are still facing uncertainty. Planning is important, but even more important is to maintain a culture of support, kindness, drive for excellence, and flexibility. It is important to accept that circumstances change. Our ability to access campus might become more restrictive, or less restrictive, than anticipated; flexibility is needed for both possibilities.

Principles and Values

These recommendations are made based on the following principles:

1. Acknowledging the fact that there will be limitations in the Fall of 2021 and that we cannot expect that all students will be able to come to campus. Students that cannot come to campus must have access to online delivery of content and to participate virtually in class activities. In-person and online equivalents of a tutorial, lab, or assessment must cover the same materials and assess students in an equitable, accessible, and inclusive manner.


3. Giving the maximum possible opportunity for students, faculty, and staff to have in-person/on-campus interactions as early as possible. This is a priority.
4. Taking a long-term perspective to changes in teaching and learning – we should not plan only for the Fall of 2021, but rather for the next several years.

5. Establishing this report as a living document and returning to it to provide new recommendations as we continue discussion with all members of our community.

6. Recognizing the fact that each member of the community (faculty/staff/students) should be able to perform their work while maintaining a good work-life balance.

7. Recognizing that not all courses are the same and some of these recommendations will need to be adapted to fit unique circumstances. The instructors of the courses and the Department Chairs/Associate Chairs are the people best equipped to make the best judgment on what will lead to the best learning outcomes.

8. All members of the McMaster Community (Students, TAs, Instructors and Staff) will be made aware that the McMaster Code of Conduct applies both in person and online. It is important that community members behave in a way that reinforces McMaster’s commitment to foster an ethical, safe, inclusive and fair campus and online environments that are conducive to learning and that value integrity, inclusiveness and teamwork. Fostering an inclusive environment of mutual respect and trust is the responsibility of all community members.

**RECOMMENDATIONS**

**Course Delivery**

1. It is recommended that for the Fall of 2021, whenever possible and without sacrificing quality, lectures be delivered online.

2. It is recommended that priority for in person delivery should be given to activities such as labs, tutorials and group-based work. These should be done to the maximum extent possible, while respecting public health guidelines and University policy. The instructor, in consultation with the Chair/Associate Chair, will decide what activities are best offered in-person or online. Sensitivity should be given to the personal comfort of instructors, the instructional team, and students in returning to campus.

3. We recommend that major assessments for the Fall of 2021, including final exams, be conducted online. The Provost has presented various possible scenarios for the Fall and none include a return of all students.

4. The selection of mode of delivery such as blended, hybrid, synchronous or asynchronous, should be left to the instructor and the Department Chair/Associate Chair. No preferred mode should be mandated. However, the expectations should be clearly communicated to students. It is also beneficial if instructors spend some time during the first lecture to provide some tips to students on how to manage the workload of the course so they can be successful.
5. It is also recommended that some component of the course be synchronous (e.g., at least one synchronous office-hour/lecture/tutorial/lab a week) for purposes of establishing a point of contact between instructors and students, and to allow students the opportunity to promptly receive clarification on content or course work.

6. It is recommended that content be delivered in a way that is conducive to healthy and sustainable work habits for both instructors and students. Care should be taken to ensure that lecture, tutorials, labs, and other course components:
   a. follow the calendar schedule (e.g., a 50-minute lecture ends promptly at the 50 minute mark),
   b. are recorded (where appropriate),
   c. are properly paced (e.g., pausing for questions between topics, avoid compacting too much content in a scripted lecture recording), and
   d. include breaks (where appropriate), especially in sessions lasting longer than 50 minutes in length.

7. It is recommended that all course communications and submissions be kept in one platform (e.g., Avenue to Learn), to prevent any confusion for students.

8. It is recommended that Students Accessibility Services (SAS) should update their documents to match the requirements of online teaching & learning. It is also recommended that SAS clearly communicates with students the limitations of the accommodations related to the online environment (e.g., technical issues does not grant students to use their SAS accommodation), so students can plan accordingly.

Resources

Having flexibility requires resources. Some resources will be needed for the long term, while others will be mainly needed for the Fall of 2021 (with planning for an extension to the Winter of 2022).

1. It is recommended, that the capabilities be established such that every class, tutorial, and lab be recorded and available to students after that session is completed. The recommendation is made that this should be continued long after the pandemic is over and all sessions are in-person. Recording gives students with different learning styles further opportunities to succeed. It can also relieve pressure on instructors and TAs by making it easier for students to revisit material they are uncomfortable with on their own time. The University is upgrading more rooms with the appropriate equipment.
   a. The recommendation is made that we work with the University to develop a clear and transparent plan on how/when these upgrades are going to be done. Providing instructors and TAs with the tools to record sessions if the rooms are not properly equipped.
   b. The recommendation is that each Department consult with their instructors and TAs on what they need to be able to “broadcast” and record lectures and tutorials offered on campus.
2. The nature of a hybrid system of delivery (combination of virtual and in person) will require additional TAs. Departments should be asked to identify how additional human resources would elevate hybrid delivery. This includes considering the potential recruitment of Course Developers/Educational Technologists that could work across multiple Departments.

Workload Issues

1. It is recommended that a long-term approach be taken on deciding changes to be made regarding the model for course delivery. Important questions to consider in developing long-term plans are:
   a. Will the additional work result in improved student experience?
   b. Is the effort to maintain that mode of delivery sustainable?
   c. What resources will be needed to sustain that model?

2. It is recommended that faculty and TAs clearly communicate expectations regarding availability. In a virtual environment, it is easy to be “connected” all the time and the workload associated with that constant availability can easily result in burnout and the potential to exceed the hours specified for TAs.

3. It is recommended that instructors critically assess the workload given to students with different modes of delivery and assessment. It is recommended that each Department keep track of these workloads, for example by using Google calendars where the instructors record the various graded activities students must complete.

4. It is recommended that the load of online courses be carefully monitored to ensure they remain in line with comparable courses with in-person delivery. There has been feedback from students stating that the number of “lectures” and deliverables in classes on-line tends to be substantially higher than in-person.
   a. For example, in a standard three lecture a week course, if an instructor posts 50 minutes of video, there should be at most 100 minutes of synchronous lecture.

5. Time constraints should be respected. Classes should maintain 10 min breaks between lectures. Standard lectures should remain 50 mins in length.

6. During weeks with major assessments, e.g. midterms, instructors should consider lightening the load of the course. For example, post fewer videos, treat a lecture period as a review session/office hour, hold the midterm during the lecture slot, etc.

7. It is recommended that instructors collect interim feedback on their course from students to gauge the sustainability of the current workload and adjust deliverables accordingly.
8. It is recommended that students become familiar and make use of the many resources the University offers for developing academic skills. These include:

   a. Academic Skills libguide: [https://libguides.mcmaster.ca/sb.php?subject_id=133401](https://libguides.mcmaster.ca/sb.php?subject_id=133401) This includes tip sheets on staying focused, communicating in an online world, online learning and time management.

   b. Academic skills in general [https://studentsuccess.mcmaster.ca/academic-skills/online-learning/](https://studentsuccess.mcmaster.ca/academic-skills/online-learning/)

**Identifying Innovation**

One of the main reasons for Dean Puri to establish this taskforce was to identify opportunities for innovation in teaching and learning, taking advantage of the use of technology and the virtual world. The key step in achieving this is identifying the ideas that have the potential to transform educational experiences and the people that have the drive to make them happen. Once these are identified, they need to be properly supported.

1. We recommend that an annual call is made for projects targeting the development of new class/lab experiences that have the potential to be transformative. The taskforce identified the area of creating blended labs as being a potentially fertile field for innovation.

2. Ideally, students would be part of the teams submitting potential projects for innovative learning experiences. We recommend that attention be paid to the development of activities that provide experiential learning opportunities in a virtual world.

**Getting Feedback from Stakeholders**

1. It is recommended that at least one survey is done each year to assess how the teaching/learning efforts are going. The survey should be done separately for faculty members, students, TAs, and staff.

2. It is recommended that a survey be made in the near future (next two months) to try and identify the things that are not working well (negatives) and the things that should be maintained or improved in terms of teaching and learning. There might be a few key things that account for a lot of potential frustration or that hold great potential for positive change.

3. It is recommended that content from student course feedback forms be carefully reviewed to identify best practices for future online course offerings.

4. It is recommended that the taskforce be maintained and that it meets at least once every term to review feedback from stakeholders. It is recommended that each Department create or use system/process to collect and synthesize feedback from the various stakeholders. This information/feedback can then be communicated to the taskforce.
## Task Force Members

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