McMaster Association of Part-Time Students
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Executive Summary

- Part-time degree students are subject to two pressures: constrained personal schedules and, to a lesser extent, limited course space.
- While part-time students do have some flexibility during the day, they are most commonly available in the evening.
- Increasing both the quantity and variety of courses available in the evening would help part-time students to finish their degree programs more quickly.
- Continuing Education students report fewer problems accessing courses than part-time students, likely because CCE courses are scheduled at more convenient times for students with constrained personal schedules.

Introduction

Students encounter many pressures during their time at university: the workloads provided by their courses, the constant stress of limited finances, and the demands of life off-campus. Part-time students feel these pressures particularly strongly as their part-time status usually reflects their constrained personal schedules.

The McMaster Association of Part-Time Students (MAPS) commissioned this Course Access Report in response to a request from the membership to investigate issues surrounding course supply and demand for part-time degree and continuing education students. The goal of this research project is to reveal the obstacles MAPS members face when trying to access courses, the administrative decision-making processes used to determine course availability, and the reality of course demand by MAPS members. This research supports MAPS’ commitment to data-driven decision making around a broad range of issues of importance to the membership.
Course Demand: A Survey of MAPS Members

Course access problems for students often result from a mismatch between course supply and demand. Is this the case for MAPS members? To answer this, MAPS members were surveyed about their experiences with accessing courses at McMaster. This section reflects their responses.

QUESTION: WHEN ARE PART-TIME STUDENTS MOST AVAILABLE TO TAKE CLASSES?

The biggest course access issue for part-time students is their highly constrained availability to take classes, which is a major difference between them and full-time students. This issue presents us with the first and most important question to answer about course access: when are part-time students available to take classes?

Part-time students report that their availability skews heavily towards traditional after-work hours in the evenings, except on Fridays and Saturdays. There is also a visible increase in student availability near the lunch hour. The proportion of students available in each time slot is displayed in the heat map to the right. Darker shades indicate times with greater student availability.

Besides these time-of-day preferences, students are more able to take courses earlier in the week, with a steady decrease in availability from Monday through Thursday before a larger drop-off on the weekend.

What can we conclude from this?
1. Part-time students are best served by courses scheduled in the evenings.
2. They would also be better served by being on campus as few days as possible during the work week.

The only demographic group with higher availability during the day than at 6 p.m. is students under 23 years old (15% of respondents).
QUESTION: WHICH COURSES AND COURSE AREAS ARE MOST IN DEMAND?

Can course access be improved by prioritizing specific courses more often in the evening and the summer? 461 respondents to the Course Access Survey identified a total of 571 courses that they were interested in taking during the Fall 2014/Winter 2015 session, and 263 more courses that they hoped to find available in the Spring/Summer 2015 session. Of these, over half of the Fall/Winter courses (319/571, 55.9%) and almost four in five of the Spring/Summer courses (209/263, 79.5%) were only asked for by a single student. The most desired course, Anthropology 1AA3, Introduction to Anthropology: Sex, Food and Death, was requested a total of ten times between the two sessions.

This wide spread of preferred course offerings highlights the extreme diversity of courses sought by part-time students, suggesting that improving course access should involve a broader approach than advocating for specific courses.

What about course areas? For the Fall/Winter session, the single most popular department is Anthropology with 42 requests, accounting for more than 7% of all mentioned courses. Considering the wide spread of desired courses across 97 different areas, this is not an insignificant percentage. However, it reinforces that part-time students have diverse course access needs. Below are tables of the top desired course areas for part-time students, showing the number of students requesting the course area.

Any approach to improving course access should be broader than advocating for specific courses.

### Top Picks for Fall and Winter
1. Anthropology, 42
2. History, 29
3. English, 28
4. Psychology, 25
5. Philosophy, 22
6. Commerce, 21

### Top Picks for Summer
1. Anthropology, 22
2. English, 16
3. Social Work, 13
4. Energy Engineering Tech, 12
5. Philosophy, 12
6. Linguistics, 11

### Departments in the Top Ten for both sessions:
- Anthropology
- History
- English
- Psychology
- Philosophy
- Energy Engineering Tech
- Social Work
QUESTION: WHAT DIFFICULTIES DO PART-TIME STUDENTS ENCOUNTER WHEN TRYING TO ACCESS COURSES?

When surveyed, 69% of part-time degree students reported having problems when trying to enrol in their preferred classes. These students encountered two main types of course access difficulties. The first type concerned **time constraints**, with students indicating that their desired courses were either not available at all (60% of those students who experienced course access difficulties), or not offered at times when the student was available (57%). The second type was related to limited **course space**, with 41% of students encountering problems due to limited course space. Other concerns, such as the inability to find child care or course timetable conflicts, were much more rarely encountered.

Students offered some suggestions as to how McMaster could better accommodate their needs as part-time students. The most common suggestion was to increase the availability of courses in the evening. Special attention was drawn to the possibility of offering more program required courses in the evening. These suggestions are consistent with the data that show limited part-time student availability during the day.

Other students reported that courses with fewer lectures per week—that is, meeting in one three-hour block rather than three one-hour blocks—are also more accessible for part-time students, largely due to the reduction in total commute time. A similar suggestion was offered by a student who indicated that the irregular course schedule made it difficult to minimize time on campus by finding similarly scheduled courses.

**Several part-time students reported that classes regularly fill up before they can enrol due to full-time students having “exclusive SOLAR registration days”**.

**Student Feedback**

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**“I looked for other courses offered T-R-F in the morning and there seemed to be very few if any. At other institutions, courses are either scheduled for M-W-F or T-R. This makes it much easier to select courses in adjoining time slots.” –Greek 2A03 student**
One primary factor affecting whether a part-time student will have difficulty registering in a course is the faculty in which the course resides. Of those students attempting to register in courses from the Faculty of Social Sciences, 80% experienced barriers to registration in some form. At the other extreme, Engineering provides the fewest obstacles for part-time students with only slightly more than 40% of registration attempts encountering difficulties. The DeGroote School of Business and the Arts & Science program are not included here, because the absolute number of part-time students trying to access courses in these areas was too small.

Aspects with little effect on course access

Two factors that do not have a significant impact on course access for part-time students are the level of a course, and its number of units. Level I courses do seem to provide a slightly lower barrier than upper year courses, but as the plot at the right shows, the percentage of people encountering difficulties is virtually the same across all levels. A slightly higher percentage of three-unit courses resulted in difficulties, but as with course level the difference is not particularly meaningful: 69.5% of three-unit courses led to difficulties, compared to 62.3% of six-unit courses.

Some MAPS members have few course access issues

The McMaster Centre for Continuing Education (CCE) programs seem to be very well suited to the needs of their students, with respect to course access and availability. Over 85% of CCE students surveyed reported that they had encountered no problems related to course access. Among those who did report issues, no single overarching theme or pattern arose.

“I love McMaster”, one CCE student said, when given the opportunity to air any grievances.
Course Supply: A Study of McMaster’s offerings

While MAPS members were responding to the course access survey, representatives from McMaster’s administrative community were providing equally valuable answers to questions about the procedures that lead to the University’s course offerings. Combined with an analysis of university timetable data, these responses paint a picture of the current state of course availability.

**QUESTION: WHEN ARE COURSES OFFERED?**

McMaster’s schedules of courses for the six most recent academic sessions—Spring/Summer 2012 to Fall 2014/Winter 2015—have been combined to paint a picture of a typical timetable for course offerings. In this analysis only lecture sections are considered.

Some courses are offered starting as early as 7 a.m., others end as late as 10:30 p.m., and a few are even available on Saturdays and Sundays. The time slots shown in the course supply heat map are selected for direct comparability to the demand heat map on Page 2.

*There are over three times as many courses with lectures offered before 6 p.m. as at 6 p.m. or later.*

Less than 1% of all undergraduate courses are offered on weekends, and almost 90% of those are from the B.Tech. program.

Distribution of lecture times for undergraduate courses at McMaster from Fall 2012 to Winter 2015
Correspondence with department and program representatives revealed that decision-making processes university-wide are quite uniform. The only significant variation to be found is between academic programs and professional ones. The professional program administrators have comparatively few decisions to make, as their courses and the sequence in which they must be offered are determined by accrediting organizations. This means the course offerings are essentially identical every year.

For academic program administrators, the process is more complex. Final decisions are always made by the Office of the Dean, upon recommendations from department personnel. Decisions are generally made by the Department Chair or Program Manager, usually in conjunction with other individuals or bodies within the department such as undergraduate affairs chairs, curriculum committees, administrative staff, program executive boards and academic advisors.

Factors affecting course offerings

Each academic unit representative was asked to describe the factors that are considered when deciding which courses to offer throughout the academic year. Several recurring factors that affect whether a course is offered arose:

- Availability of qualified faculty and/or Teaching Assistant support
- Availability of appropriately sized rooms and/or adequate lab space
- Sufficient demand, indicated by historical enrolment levels or student surveys
- Current program enrolment, Level II intake, and current student success rate
- Balance between course levels and, if applicable, fields

Several academic units stated that specifically with regard to offering courses in the Spring and Summer terms, the primary challenges are availability of faculty, and attracting sufficient demand to make a course section financially viable. Some smaller programs reported that for these reasons, they did not offer courses over the summer at all.

Factors affecting course sizes

Most departments reported that student demand was the primary driver behind the size of a given class. Additional factors, including pedagogical considerations and requirements imposed by the faculty, occasionally play a role. One department reported that faculty members determine the sizes of their own courses, though in most cases it is the Department Chair’s responsibility. In all cases, ultimate approval comes from the Office of the Dean.

“...of course, instructor availability is the first key issue.”

–Department Chair from the Faculty of Humanities

The Deans are ultimately responsible for the courses offered within their faculties.
**QUESTION:** WHICH PROGRAMS BEST MEET THE SCHEDULING NEEDS OF PART-TIME STUDENTS?

Two primary factors regarding course scheduling determine how convenient the course is for part-time students. The first is whether a course is offered in the evening, starting at 6 p.m. or later. The second is whether the lecture occurs in a single three-hour block. Based on these criteria, which departments do the best job making courses convenient for part-time students? Analysis of the timetable data reveals the answer.

**Evening Classes**

This chart grades the faculties and other academic areas according to the percentage of their courses that they have offered at or after 6 p.m. at least once in the three most recent academic years, from Spring 2012 to Winter 2015. The results range from a high of 45% for the DeGroote School of Business down to a low of 12% for the Faculty of Science.

There is even more variation between individual programs than between faculties. For example, 90% of courses from Civil Engineering Infrastructure Technology and from Computing & Information Technology are available after 6 p.m. On the flip side, several course areas have been completely unavailable after 6 p.m.

<table>
<thead>
<tr>
<th>Course area</th>
<th>Percentage of courses offered in the evening at least once over the last three years</th>
</tr>
</thead>
<tbody>
<tr>
<td>DeGroote School of Business</td>
<td>44.9% (44/98)</td>
</tr>
<tr>
<td>Social Sciences</td>
<td>38.2% (227/594)</td>
</tr>
<tr>
<td>Engineering</td>
<td>27.0% (127/471)</td>
</tr>
<tr>
<td>Humanities</td>
<td>23.3% (171/733)</td>
</tr>
<tr>
<td>Arts &amp; Science</td>
<td>20.0% (6/30)</td>
</tr>
<tr>
<td>Origins Institute</td>
<td>16.7% (2/12)</td>
</tr>
<tr>
<td>Health Sciences</td>
<td>16.1% (34/211)</td>
</tr>
<tr>
<td>Science</td>
<td>12.1% (65/539)</td>
</tr>
<tr>
<td>Biotechnology</td>
<td>0%</td>
</tr>
<tr>
<td>Chemical Biology</td>
<td>0%</td>
</tr>
<tr>
<td>Computer Engineering</td>
<td>0%</td>
</tr>
<tr>
<td>Engineering Physics</td>
<td>0%</td>
</tr>
<tr>
<td>Medical Physics</td>
<td>0%</td>
</tr>
<tr>
<td>Medical Radiation Sciences</td>
<td>0%</td>
</tr>
<tr>
<td>Nursing</td>
<td>0%</td>
</tr>
<tr>
<td>Physics</td>
<td>0%</td>
</tr>
<tr>
<td>Process Automation Technology</td>
<td>0%</td>
</tr>
<tr>
<td>Software Engineering</td>
<td>0%</td>
</tr>
</tbody>
</table>

The possibility of weekend lectures was raised by many students, although McMaster currently offers very few undergraduate classes on Saturday or Sunday. A notable exception is the B.Tech. program, which advertises “flexible evening and weekend classes”, and has provided 87% of all weekend undergraduate classes since Spring 2012.
**Lectures in a single block**

This chart ranks academic areas according to the percentage of their courses that they have offered in a single three-hour lecture block at least once in the three most recent academic years, from Spring 2012 to Winter 2015. At the faculty level, the best performer is the DeGroote School of Business at 80%, while the Faculty of Science only offered 23% of their courses in a single three-hour block.

At the program level, five different program areas offered all their courses in a single block, while Computer Engineering has no history of single-block courses. Four other course areas offered fewer than 10% of their courses in this format.

### Courses with at least 80% block availability:
- Science, 23.0% (124/539)
- Engineering, 37.2% (175/471)
- Origins Institute, 41.7% (5/12)
- Humanities, 49.1% (360/733)
- Social Sciences, 52.7% (313/594)
- Arts & Science, 60.0% (18/30)
- Health Sciences, 78.2% (165/211)
- DeGroote School of Business, 79.6% (78/98)

### Courses with less than 10% block availability:
- Statistics – 10%
- German – 8%
- Software Engineering – 6%
- Mathematics – 2%
- Computer Engineering – 0%

### The most convenient course areas

Offering lectures in the evening and lectures in a single block solves two different scheduling problems for part-time students. Part-time students would be best served by departments offering a wide selection of courses meeting either criteria. Seven course areas, shown to the right, do an outstanding job of providing convenient course timings, offering over 50% of their courses in the evening and over 80% in a single block.

- Civil Engineering Infrastructure Technology
- Energy Engineering Technologies
- Computing and Information Technology
- Manufacturing Technology
- Social Work
- Sociology
**Part-time students vs McMaster’s Schedule**

**Contrasting course demand and supply**

The survey responses indicate that part-time undergraduate students have a strong collective preference for courses to be offered in the evening, particularly after work at 6 p.m. Analysis of the timetable data has provided information about course supply. How well do the actual course offerings match up with the preferences of part-time students? Comparing these two data sources can tell us if McMaster’s course supply matches the needs of part-time students.

**QUESTION: HOW DOES COURSE SUPPLY COMPARE TO PART-TIME STUDENT DEMAND?**

How well does course demand match up with course supply? So far this report has addressed issues around the availability of courses provided by McMaster and the needs and preferences of its part-time student body separately. Drawing the demand and supply curves together, we can more clearly see where the provision of courses by the University mismatches the demand for courses from part-time students.

Here we can see three areas where course availability and part-time student availability mismatch.

1) Increasing course offerings in the evening would be the best way to allow part-time students to take more courses throughout the year and thereby finish their degrees more quickly. There are two complementary methods to effectively increase evening offerings. First, increase the raw number of evening courses. Second, improve the variety of courses offered in the evening.

2) To accommodate the needs of part-time students, offer courses that act as pre-requisites for upper-level courses in the evening on a regular basis or, if not possible, in three-hour blocks, once a week.

3) Additionally, offer key upper-level courses at appropriate times for part-time students on a regular basis.
RECOMMENDATIONS

More evening classes

Part-time students are most commonly available in the evening. Increasing both the number and variety of evening courses will greatly benefit them. Program requirements should be offered in the evening as frequently as possible. A rotating list of electives should also be available, with each course offered in the evening once every few years.

Aligned course schedules

Part-time students can often reserve a fixed time each day from their schedule, to complete courses for their degrees. Creating more courses with similar schedules would be more accommodating of part-time students. For instance, two courses each on Monday-Wednesday-Friday mornings fit together better than if one of the courses is instead offered on Monday-Tuesday-Thursday.

Course administrators have constraints too

Availability of faculty is one of the major considerations in determining course offerings. The availability of rooms and teaching assistants, historical enrolment demand and in some cases pedagogical considerations also come into play. These factors must be taken into account as well when considering evening and once-a-week lectures.

More once-a-week lectures

If courses must be offered in the day, reducing the number of meetings per week—preferably to a single three-hour lecture—and ensuring that tutorials and lab sections can be taken at a time close to the lectures will improve course access for part-time students.

CCE gets it right

CCE students report high levels of satisfaction with their course selection and availability. This is because the CCE specifically caters to students with constrained schedules. Courses are offered online, in the evenings and on weekends. This reinforces the idea that course access for part-time degree students can be improved by similar methods, namely increasing course offerings at more accessible times.
A NOTE FROM CENTRALITY DATA SCIENCE

The McMaster Association of Part-Time Students (MAPS) commissioned Centrality Data Science to report on the issues that members were facing regarding course access and enrolment.

In order to assess these issues, Centrality adopted a multi-methods approach. First, we invited MAPS’ 3,163 current members to participate in an online survey asking students about their issues related to course access. The survey received 461 complete responses (and an additional 103 partial responses), for an overall participation rate of 14.6%. Second, we contacted representatives from each of the 51 academic units responsible for administering courses, and received 34 responses from a broad range of faculties and programs. This allowed us to determine how course availability was decided at the institutional level. Finally, we scraped and parsed McMaster’s electronic timetable data for the past three years in order to measure course supply.

— Centrality Data Science, 2014