



MEMORANDUM

To: Executive Committee of Faculty Council (November 19, 2024)
Faculty Council (December 18 2024)

From: Professor Alan Chong
Chair, Admissions Committee

Date: November 4, 2024

Re: Pilot of Chemistry Requirement Change for A-level applicants

REPORT CLASSIFICATION

This is a routine or minor policy matter that will be considered by the Executive Committee for approving and forwarding to Faculty Council to receive for information.

BACKGROUND

Students that follow the British-patterned GCE A-level education system will take the IGCSE/GCE/O-level board examination in Year 11 (equivalent to Grade 10 in Ontario), AS-level board examination in Year 12 (i.e. Grade 11), and A-level in Year 13 (i.e. Grade 12). For some of these students, depending on the region and their high schools, they will take IGCSE/GCE/O-level board exam in Year 11, skip AS-level in Year 12, and take A-levels in Year 13.

Our application requirements for British-patterned GCE A-level education system applicants require them to present at least AS-level Chemistry. Every year, we receive a number of quality applicants that did not present at least AS-level Chemistry but meet our competitive requirements otherwise. Departments have chosen to admit them with the condition that they present Ontario Grade 12 Chemistry prior to the start of Fall term to align with our overall admission requirement standards (i.e., applicants from each education system are required to present the highest level of pre-requisites offered in their education system). This past cycle, we offered 20 such applicants. Unfortunately, the yield of these applicants was 0. It came as a no surprise that these candidates decided to decline our offer as they would have received offers from other institutions without the need to complete the Ontario Grade 12 Chemistry requirement.

Taking a more comprehensive environmental scan of admission requirements to other Engineering programs in Canada (e.g., University of Waterloo, Queen's, McMaster University, University of British Columbia, McGill, Western University and University of Calgary), we noted that these universities' minimum Chemistry requirement is GCE O-level Chemistry.

Researching further into overseas institutions in the U.K. (e.g., University of Cambridge, University of Oxford, University College London) and U.S. (e.g., U.C. Berkeley, University of Michigan, Princeton, Columbia University, UCLA, etc.), we noted that U.K. engineering schools do not require Chemistry as an admission pre-requisite, and the U.S. institutions accept GCE O-level Chemistry as a minimum.

Of course, an argument could be made that each engineering school might structure their curriculum differently – thus relying on different high school pre-requisites to serve as foundation. For instance, they may not have an engineering-specific Chemistry course in Year 1 (as we do), and hence, the lower requirement on Chemistry at admissions. In addition, some schools could do a general first year to catch students up to speed on the required level of academic foundation to proceed to upper years.

In view of the above, we reviewed the curriculum offered under IGCSE/GCE/O-level Chemistry and found that coverage to be comprehensive and on par with the content covered in Ontario Grade 12 Chemistry (i.e., there is no significant content missing if an applicant were to be admitted with just O-level Chemistry compared to an Ontario high school admit).

Furthermore, students following the British-patterned A-level education system do not have the same flexibility afforded to Canadian high school students where they could easily pick up a summer class in high school or night school if they realize they are missing a university admission pre-requisite by the time they are in final year of high school. The courses that students take in A-levels are determined at the end of Year 11 (i.e., Grade 10), with no bandwidth to take courses beyond what they have planned for. Unfortunately, most Grade 10 students are not thinking about university admission requirements just yet, or they might assume having math and physics would meet the academic requirements.

We propose to offer admissions to candidates that only have IGCSE/GCE/O-level Chemistry without the condition that they present Ontario Grade 12 Chemistry. **This will be a time limited pilot for up to a maximum of four years.** Candidates admitted with just O-level Chemistry will be tracked on a semi-annual basis, and data will be shared with the Undergraduate Admissions Committee.

For departments that wish to admit candidates with a higher level of Chemistry (i.e. at least AS-level Chemistry), they can certainly choose to do so and refuse/pass on candidates that only present O-level Chemistry.

PROPOSED

Current A-level application requirements:

- Math – A-level
- Physics – A-level
- Chemistry – A-level or AS-level
- A third A-level subject is required if Chemistry is only presented at the AS-level.

The pilot proposal:

- Math – A-level
- Physics – A-level
- Chemistry – A-level, AS-level or O-level
- A third A-level subject is required if Chemistry is only presented at the AS- or O-level.

CONSULTATION PROCESS

The pilot proposal was first brought forward to the Undergraduate Admissions Committee on June 21, 2024. Preliminary discussions were had by the committee members.

We then moved forward with individual departmental consultation that involved the departmental representatives that sat on the Undergraduate Admissions Committee, and/or department chairs during late-August to early October.

The Undergraduate Admissions Committee met on October 25, 2024 to report on Fall 2024 numbers and revisited the above proposed pilot study. Voting members voted unanimously to move forward with such a pilot proposal.

RECOMMENDATION FOR COUNCIL

For information.