YORK UNIVERSITY

Final Assessment Report – Executive Summary

Mathematics, Undergraduate (BA, iBA)

Glendon College / Collège universitaire Glendon

Cyclical Program Review – 2013 to 2021

This Final Assessment Report (FAR) provides a synthesis of the cyclical review of the programs listed below.

Program(s) Reviewed:

Mathematics, BA, iBA

Reviewers appointed by the Vice-Provost Academic:

W. John Braun, Professor and Head, Department of Computer Science, Mathematics, Physics and Statistics, University of British Columbia-Okanagan, British Columbia

Bei Hu, Professor and Director of MS Program, Department of Applied and Computational Mathematics and Statistics, University of Notre Dame, Indiana, USA

Philip Kelly, Professor of Geography, Associate Dean for Research, Graduate and Global Affairs, Faculty of Environmental & Urban Change, York University

Cyclical Program Review Key Milestones:

Cyclical Program Review Launch: September 16, 2020
Self-study submitted to Vice-Provost Academic: August 13, 2021
Date of the Site Visit: March 7-9, 2022
Review Report received: May 20, 2022
Program Response received: July 21, 2022
Dean's Response received: October 21, 2022

Implementation Plan and FAR received by Joint Sub-Committee on Quality Assurance, May 2023.

Submitted by Lyndon Martin, Vice-Provost Academic, York University

This review was conducted under the York University Quality Assurance Protocol, August 2020.

SITE VISIT: March 7-9, 2022

A virtual site visit for the Glendon Mathematics programs took place in conjunction with the review of the Faculty of Science's undergraduate and graduate programs in Mathematics and Statistics. Meetings for the Glendon program took place with the following individuals and groups:

- Vice Provost Academic Lyndon Martin
- Principal Marco Fiola
- Associate Principal Academic Audrey Pyee
- Chair of Mathematics Department Mario Roy
- Administrative Assistant Aurore Coco
- Full-time faculty
- Part-time instructors
- Students

OUTCOME:

The Joint Sub-Committee on Quality Assurance received the Program and Decanal responses to the recommendations and has approved an implementation plan.

A report on the progress of the initiatives undertaken in response to recommendations in general and as specified in the implementation plan will be provided in the Follow-up Report which will be due 18 months after the review of this report by the York University Joint Sub-Committee on Quality Assurance (in February 2025).

The next Cyclical Program Review will begin in the Fall of 2028 with a site visit expected in the Fall of 2029 or Winter of 2030.

PROGRAM DESCRIPTION & STRENGTHS:

The Mathematics Department at Glendon College, York's bilingual faculty, offers an undergraduate degree program (BA and iBA) and provides service teaching to a number of other programs at the university. Many courses are taught in each of the official languages (English and French). First and second year courses are similar to those offered in other mathematics programs in Canada, and upper year courses cover traditional pure mathematics core subjects.

The reviewers note, "The program is bilingual, unique in southern Ontario" and that it has strengths in equity, diversity and inclusion that should be preserved. They also note that students enjoy the small classes and that professors are described as approachable and helpful. The Department is also committed to offering experiential education options to students which includes participation in the "Outreach" program where students contribute to the preparation of high school enrichment mathematics curriculum.

However, they also indicate that the program faces daunting challenges, explaining that it has been chronically under-staffed and suffers from a lack of variety in its course offerings. They indicate that the Department struggles to provide enough courses for the students to complete programs on time, and that course enrolments are overall quite small, even at the first-year level. The Department also highlights a concern that entering students have weak basic mathematics skills, a not uncommon problem in other math departments. This gap in ability creates an additional burden for instructors as supplemental learning services are not available.

The reviewers note that the promotion of the program may be creating a mismatch between the program's content and student expectations, ultimately leading to retention issues. These in turn raise questions about the long-term sustainability of the program. The reviewers suggest that it be modified to include statistics courses, which would improve employment outcomes for students. They also recommend a restructuring of the curriculum to include more computer science and less pure mathematics and suggest that these changes may make the program more relevant to the student population it serves. Overall, they offer the following 5 specific recommendations for the program.

IMPLEMENTATION PLAN

The chart below lays out the implementation plan approved by the Joint Sub-Committee at its meeting in May 2023.

	Recommendation	Action	Responsible for Follow-up	Timeline
1.	That simultaneous translation of introductory calculus courses be explored.	A pilot for simultaneous translation should be explored and evaluated, including in terms of expense.	Chair, Mathematics Department; Director, Master of Conference Interpreting	To be completed by the end of Fall 2023.
2.	That the exchange of online courses to be offered with the Faculty of Science be explored.	The exchange of online courses between the Faculties of Science and Glendon should be explored.	Chairs, Glendon and Faculty of Science; Principal, Glendon; Dean, Faculty of Science	Discussions to be completed by end of Summer/Fall 2023.
3.	That the program reduce the pure mathematics requirement in its core.	The Department should add a statistics course to the core and the deliver existing core with a more applied perspective.	Chair, Mathematics Department	Revamped core courses to be offered in 2023-2024 and ongoing. Statistics core course to be incorporated into program requirements by 2024-2025.
4.	That a course in regression and in sampling and experimental design be developed.	The Department should explore the idea of teaching and cross-listing an existing Economics course which includes regression analysis. Students interested in other topics should consider courses offered by the Faculty of Science.	Chair, Mathematics Department; Chair, Economics Department; Associate Principal Academic	Complete consultations by end of Summer/Fall 2023, with plan to offer the revised course in 2024-2025.

5.	That Mathematics incorporate the "R" course and at least one statistics course into the core of its math programs. The R course should be available to math majors as part of the core curriculum.	The Department should develop a statistics course for its core requirements.	Chair, Mathematics Department; Associate Principal, Academic; Lead, Core Curriculum	Course ready for offering in 2024-2025.