18-MONTH FOLLOW-UP REPORT
Cyclical Program Review

FACULTY: **Faculty of Science**
PROGRAM: **MSc and PhD in Modelling and Computational Science**
DATE: **January 15, 2026**
PREPARED BY: **Dr. Ken Wilson**

Under Ontario Tech University's Institutional Quality Assurance Process (IQAP) and the Ontario Quality Assurance Framework (QAF), all programs are subject to a comprehensive review at least/at minimum every eight years to ensure that they continue to meet provincial quality assurance requirements and to support their ongoing rigour and coherence. Program reviews involve several stages, including:

1. A comprehensive and analytical self-study brief developed by members of the program under review.
2. A site visit by academic experts who are external to and arm's length from the program. The visit involves discussions with senior academic administrators, faculty, staff, and students.
3. Submission of an external reviewers' report including recommendations on ways the program may be improved based on a review of the program's self-study brief, discussions during the site visit and supporting material.
4. Internal responses to the external review and recommendations prepared separately by the Program and Dean.
5. Development of an Implementation Plan prepared by the Dean including resource requirements and a timeline for acting on and monitoring the implementation of the recommendations.

All programs that undergo a review must provide a report eighteen months after the completion of the review to gather information on the progress that has been made implementing the agreed upon plans for improvement.

In 2021-2023, a review was scheduled for the Master of Science (MSc) and Doctor of Philosophy (PhD) in Modelling and Computational Science with a site visit on April 17-18, 2024**.** The program has submitted to the Provost's Office a report outlining the progress they have made relative to the implementation plan resulting from the review. A summary of this progress is provided on the following pages.

Implementation Plan Action Item(s)		Timeline	Status*	Comments from Dean on progress of implementation
1.	RECOMMENDATION: Increase graduate student funding (paying attention to international students), so that funding levels are in line with other research-intensive universities in southern Ontario and take into account the cost of living in the GTA area. ACTION: Monitor progress of graduate funding initiative within the new external fundraising campaign.	Annual reviews are made of graduate student funding	Continuous	We do the best we can regarding financial support for graduate students in the MCSC program. Note, that the MCSC faculty have agreed to increase the GRA for their students over the University-mandated minimum to ensure each funding package totals at least $20K. Faculty support students via graduate research assistantships from their NSERC Discovery Grants and other funding sources. However, the amounts provided to PIs have not increased in line with inflation. Faculty members do look for other funding opportunities, but these can be limited in both scope, amount, and duration. The TA support provided has increased due to the collective bargaining process with PSAC but not enough to make a meaningful difference in the total support package. SGPS is currently reviewing internal scholarship programs and we expect the new system to offer more flexibility,

				allowing us to optimize the usage of internal funding. Monitoring will continue.
2.	RECOMMENDATION: Hire a tenure-track statistician/biostatistician. ACTION: Pursue potential for a CRC hire in bioinformatics (a collaborative approach)	No anticipated target date	On hold	The CRC proposal for a bioinformatics hire was not successful but remains on our "wish list." A TTT statistician/biostatistician for the mathematics unit is not on our proposed list of faculty hires, we are working on an appointment in Forensic Sciences that may have some Biostatistics overlap.
3.	RECOMMENDATION: Develop preparatory courses or resources to address disparities in programming and foundational mathematics skills among incoming students, ensuring all students have a strong foundation for success. ACTION: Subcommittee of Steering Committee to draft a course proposal	Fall 2027	Continuous	One of the most challenging aspects of the program to many incoming students is the rigor of the scientific programming. We have developed a module for incoming students to study early in their tenure. Similarly, we are working on a module on statistics. Whether such modules can be grown into for-credit courses depends on the number of incoming students in need of foundational courses in upcoming years.
4.	RECOMMENDATION: Increase the breadth of courses in the books (all of which need not be offered on a regular basis), some of these would be available and offered when there is sufficient demand. Course breadth can also be achieved	Winter 2026	Complete	Because the MCSC program has a relatively low enrolment (10 students as of Jan 2026), we took an alternate approach to this recommendation. Rather than add several classes to our course list and offering them on an irregular schedule, we have several Topics Courses on the books (for example:

	through joint offerings with other academic institutions in the area (e.g. Trent U). ACTION: Review potential topics for courses and assess how to include in course rotation			Topics in Mathematical Modelling and Topics in Scientific Computing) that are used to offer topics ranging from Matrix Algebra to Digital Medicine. To broaden the scope of what we offer, we exchange lists of offered courses with Trent and highlight the Fields Institute offerings to the attention of our students.
5.	RECOMMENDATION: The Program should also consider offering courses through the Fields "Academy". This would enable faculty to reach a broader student audience and could potentially attract future graduate students to Ontario Tech and this Program (NB Fields also offers compensation of roughly $10K to the Institution for such courses). ACTION: Review potential for working with Fields institute to assess course options available there	Winter 2026	Complete	We are compiling a list of courses that could be offered through the Fields Academy. However, as noted in 6. these courses will be "Topics" courses. They will be interdisciplinary in nature, covering perspectives such as Digital Medicine and Modelling Sustainability. Another option, requiring support from affiliated FBIT faculty is Optimization and Logistics.
6.	RECOMMENDATION: Implement a robust system for ongoing program evaluation and monitoring, collecting feedback from stakeholders and tracking student outcomes to inform programmatic	Winter 2026	Complete	The Dean of Science Office is working with the Registrar's office and Advancement to more regularly collect feedback from graduating students and alumni. More robust feedback will help us better tailor our courses and training in areas that support student success post-graduation. The

	changes and ensure responsiveness to evolving needs. ACTION: Discuss with Institutional Research Office if graduation rates and student performance data can be generated automatically and routinely made available to GPDs			challenge we face in this process is the small number of graduates. The survey data that comes back is not reliable due to sample size, and cannot be broken down to the program level so that feedback stays anonymous Similarly, the Graduate Program Assistant is developing a spreadsheet to better track student progress through their programs. It will be used to send reminders on courses, advisory meetings, and other milestones, such as candidacy exams and defenses. The goal here is to get a better lens on how our students are progressing through their program, and how well their program of study is serving their needs post-graduation. Feedback will be used to inform future program modifications We also note that, although our grad courses are not evaluated in the same way as our undergraduate courses, most instructors run their own survey towards the end of their course, usually through the GPD, to obtain feedback. This also serves as a warning system to identify potential improvements in courses or struggling students early.

*Process Status Legend:

***Complete**: Accomplished action item; no further steps required.*
***Continuous**: Initial action item complete but requires ongoing monitoring and/or enhancement.*
***In Progress:** Progress on the action item has been initiated but is not complete at this time. Outline all steps taken in the comment's column.*
***On Hold**: Unable to complete due to other dependent factor(s).*
***Cancelled**: Item no longer relevant or resources unavailable.*

Additional comments:
N/A

This 18-month follow-up report will be sent to the Resource Committee for review. The Committee may recommend further monitoring of outstanding items on a case-by-case basis. A summary of this report will be prepared and approved by the appropriate standing committee of Academic Council (USC/GSC), reported to Academic Council, and posted on the Ontario Tech corporate website.

Next Scheduled Program Review: 2029-2031