

Final Assessment Report
Submitted by SUPR-G to SCAPA

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| Program: | Mathematics | |
| Degrees Offered: | MSc and PhD | |
| Approved Fields: | <ul style="list-style-type: none"> • Algebra/Number Theory • Analysis • Geometry/Topology | |
| External Consultants: | Dr. Katherine Hare University of Waterloo | Dr. Evgeny Poletsky Syracuse University |
| Internal Reviewers: | Dr. Andrew Watson Schulich School of Medicine and Dentistry | Mr. Ramon Diab PhD Student, FIMS |
| Date of Site Visit: | October 17 th -18 th 2016 | |
| Evaluation: | <i>Good Quality</i> | |
| Approved by: | <i>SUPR-G on January 23, 2017</i> <i>SCAPA on February 8, 2017</i> | |

Executive Summary

There are currently 15 regular faculty members in the Mathematics department, with a strong new hire to join in January. Other than the new hire, all began in 2008 or earlier and are tenured associate or full professors. All regular faculty members are active in research. They publish at a consistent rate in good journals, supervise graduate students and all have NSERC grants. On average, faculty members published 8.43 papers in the last five years. This number is very good. -Some members have won significant honours, such as holding a Canada Research Chair. Most are involved in teaching at both the graduate and undergraduate level.

All faculty members are involved in the supervision of graduate students and graduate instruction except one person who is close to retirement and justifiably does not take new PhD students. Faculty members averaged 3 PhD and 3.6 MSc students for the last five years.

Significant Strengths of Program:

- Dedicated faculty that are uniformly active researchers with Tri-council funding
- Diverse and excellent complement of MSc and especially PhD students from around the globe
- Dedicated and experienced graduate program chair
- New but enthusiastic staff that are eager to maintain high organizational and service standards put in place by longer term serving but recently retired staff
- Admissions are very competitive
- Most students complete their studies in allowable funding periods and post-degree job rates are quite good
- Original research is the standard with high refereed publication rates for PhD students
- New faculty member joining the dept/program in January 2017; a second recruitment underway for summer 2017

Suggestions for improvement & Enhancement:

- Students are upset regarding the funding model that requires them to pay their tuition costs over and above their WGRS allocation at the beginning of each term. This practice puts them in a deficit that does not recover until well into a given term of study. If possible, it would be

helpful to explore opportunities to offer a funding package that does not create a deficit for students at the beginning of each term.

- Department is at its capacity for graduate student enrolment in terms of both faculty numbers and research funding; further growth in program numbers is unlikely.
- Students would like to have more opportunities for honing teaching skills; currently only 2 PhD students each year are selected to fill some teaching slots; TA's are available for most students.
- It would be helpful for teaching opportunities to be provided in 3rd year before 4th year job searches begin for PhD students.
- Reviewers suggested the University change its policy requiring 5 students per course before instructor receives credit for course.
- Some concern expressed by students regarding the consistency of the difficulty of the comprehensive exam. The graduate committee should oversee common standards for comprehensive exam structure and evaluation.

| Recommendations required for Program sustainability: | Responsibility | Resources | Timeline |
|--|------------------------------------|----------------------------|-------------|
| Ensure that the program fields are supported by the faculty composition and expertise | Department and Dean | Possibly budgetary | Ongoing |
| Optimize PhD student teaching opportunities | Dept. Chair, Grad chair. UWOFA etc | Negotiation, funding | 1 year |
| Investigate alteration of the Faculty of Science requirement of 5 students per course | Dean, Dept. Chair | Possibly budgetary | 1 year |
| PhD students should take no more than one third of their courses as cross listed undergraduate courses | Graduate Chair/Program committee | none | Right away |
| PhD students should complete comprehensive exam at earliest possible time – set a deadline | Graduate Chair/Program Committee | none | In progress |
| Harmonize department with School of Statistical and Mathematical Sciences | Several Departments and the Dean | Physical, Financial, Human | In progress |

The response by the program and Dean to the external reviewer's report certainly indicated that the review recommendations were welcomed and all would be acted upon as resources allow. It is clear the program is highly regarded within the Faculty of Science, and that there is the will to ensure that maintenance of the strength of the program, its subject and its curricular strength are priorities for the Faculty.