1. Introduction

Although the Division of Applied Mathematics does not offer a master’s programme for students from outside of Brown, existing Brown undergraduate and graduate students can earn a ScM in Applied Mathematics in various different ways:

**Four-Year Concurrent Degree Programme:** The Four-Year Concurrent Degree Programme leads to a Baccalaureate and master’s Degree. This programme allows exceptionally capable Brown students to combine their last year or two of undergraduate study with graduate study, resulting in the simultaneous completion of both a Baccalaureate degree and a masters degree.

**Fifth Year Master’s:** Brown undergraduates may be allowed to continue at the University for a master’s degree after completing their bachelor’s degrees.

**Open Graduate Programme:** The open graduate programme allows Brown PhD students to pursue a ScM in a different discipline while they work on their PhD.

*Date: Revised October 1, 2015.*
Master’s Degree En Route to PhD: PhD students in Applied Mathematics automatically receive an ScM in Applied Mathematics once they satisfy the requirements for the ScM degree.

Please note that the Division does not offer a master’s programme for students who do not fall into any of the above categories.

Further information on each possibility is given below. However, the information contained in this document is intended to outline the requirements and procedures that are specific to students wishing to take the ScM in Applied Mathematics. These requirements are understood to hold in addition to the general regulations set by the University. As such this document is non-exhaustive and is intended to be read in conjunction with the more detailed and definitive guidelines presented in the Graduate School Handbook ¹.

2. Requirements

The formal course requirements for obtaining an ScM in Applied Mathematics are:

- A total of 8 courses must be satisfactorily completed;
- At least 6 of these must be Applied Mathematics (APMA) courses.
- At least 6 of the 8 courses must be taken at the 2000 level.
- A maximum of 2 Cs are allowed amongst the 8 courses.

Please note that:

- Research courses such as APMA 2980 and 2990 are not accepted for fulfillment of requirements.
- In rare circumstances, a topics courses may be acceptable provided it is deemed suitable by the Director of Graduate Studies. At the very least, the courses must meet regularly, have regular homework assignments and examinations.
- Courses taken on a satisfactory/no credit basis (S/NC) may not be counted towards fulfillment of the requirements.

3. Financial Support

The Division of Applied Math does not provide financial support for undergraduate students wishing to undertake studies towards a ScM in Applied Math. Undergraduate financial-aid awards do not extend into graduate school.

Post-graduate students entering through the Open Graduate Programme receive funding from the University (see below for details).

¹www.brown.edu/academics/gradschool/graduate-school-handbook-information-both-programs-and-students/#masters
4. **Four-Year Concurrent Degree Programme Leading to Baccalaureate and Master’s Degree**

This programme allows exceptionally capable students to combine their last year or two of undergraduate study with graduate study, resulting in the simultaneous completion of both a Baccalaureate degree and a masters degree. Students apply to the programme during the junior year and no later than the end of their 6th semester. Up to two courses counted towards the undergraduate concentration may be used to fulfill the requirements of the graduate degree.

Applications are made to the Committee on Academic Standing, but before an application is submitted, it must be approved by the Division of Applied Maths and the Graduate Council. The minimum requirements for obtaining approval from the Division of Applied Mathematics include:

- Support from the Director of Graduate Studies. The DGS will be the faculty member in Applied Math who will supervise your graduate program. Please note that the graduate component of the course will be based on results obtained in courses. We do not offer an option to undertake research towards a master’s thesis.
- A strong performance (normally grade A) in `MATH 1010 Analysis: Functions of One Variable` and `MATH 1130/1140 Functions of Several Variables`. Experience shows that students who are unable to meet this requirement find great difficulty tackling the graduate level APMA courses needed to fulfill the ScM requirements.

The Graduate School imposes additional requirements on those wishing to undertake the Concurrent Degree Programme. Further details can be found at the Graduate School website.

5. **Fifth Year Master’s**

The 5th-Year Master’s Degree option allows Brown undergraduates to continue at the University for a master’s degree after completing their bachelor’s degrees.

Students must apply for admission to the Fifth Year Master’s programme before they complete their undergraduate studies. Admission must be approved by the Director of Graduate Studies and by the Graduate School. While a student must be enrolled as an active undergraduate student at the time of application, admission to the graduate programme can be deferred for up to two years with the approval of the DGS.

The minimum requirements for consideration for entry to the Fifth Year Master’s programme in Applied Mathematics are:

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2[www.brown.edu/academics/gradschool/undergraduate/concurrent-bachelorsmasters-degrees](http://www.brown.edu/academics/gradschool/undergraduate/concurrent-bachelorsmasters-degrees)
• Permission from the Director of Graduate Studies. The DGS will be the faculty member in Applied Math who will supervise your graduate program.

• A strong performance (normally grade A) in MATH 1010 Analysis: Functions of One Variable and MATH 1130/1140 Functions of Several Variables. Experience shows that students who are unable to meet this requirement find great difficulty tackling the graduate level APMA courses needed to fulfill the ScM requirements.

Further information regarding the Fifth Year Master's programme can be found at the Graduate School website 3.

6. Open Graduate Programme

The University’s Graduate School offers a small group of PhD students from any discipline the opportunity to pursue a masters degree in a secondary field.

There is no constraint on the primary field, which may be either close to or quite far removed from Applied Mathematics. However, studying Applied Mathematics should be cognate to the candidate’s primary research topic. Admission to this programme is by application only, using forms provided by the Graduate School.

It is a University regulation that a student applying to take the master’s component in Applied Math must be supported by the Director of Graduate Studies in Applied Math. In particular, this requires that the applicant has undergraduate credentials that support an expectation of success in the Applied Math programme. Accordingly, the minimum requirements needed by the Division of Applied Mathematics include:

• A strong performance (normally grade A) in MATH 1010 Analysis: Functions of One Variable and MATH 1130/1140 Functions of Several Variables. Experience shows that students who are unable to meet this requirement find great difficulty tackling the graduate level APMA courses needed to fulfill the ScM requirements.

Further information on the programme can be found at the Graduate School website 4.

7. I AM INTERESTED. HOW SHOULD I PROCEED FROM HERE?

Prospective students must

• complete an interview form (found in the Appendix);
• contact the Director of Graduate Studies via email attaching the completed form, a transcript and your proposed course plan. An

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3http://www.brown.edu/academics/gradschool/academics-research/5th-year-masters-degree
4http://www.brown.edu/academics/gradschool/opengraduateeducation/opengraduate-education-information-prospective-applicants
appointment will be set up to meet with the DGS to discuss the application.

All being well, following the meeting, you would then formally apply to our master’s programme through the Graduate Schools online application portal.
Appendix A. ScM in Applied Math Pre-Interview Form

Name
Email
Concentration
Graduation Year

Performance in pre-requisites courses:

<table>
<thead>
<tr>
<th>Year/Sem</th>
<th>Grade</th>
<th>Code</th>
<th>Instructor</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>MATH1010</td>
<td></td>
<td>Analysis: Functions of One Variable</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MATH1130/1140</td>
<td></td>
<td>Functions of Several Variables</td>
</tr>
</tbody>
</table>

Two professors who have agreed to provide recommendation letters:

<table>
<thead>
<tr>
<th></th>
<th>Name</th>
<th>Email</th>
<th>Department</th>
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<tr>
<td>2.</td>
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</tbody>
</table>

Courses which you propose to take/offer for the ScM Applied Math

<table>
<thead>
<tr>
<th>Year/Sem</th>
<th>Grade</th>
<th>Code</th>
<th>Instructor</th>
<th>Title</th>
</tr>
</thead>
</table>

☐ I wish to apply to take the above courses towards ScM in Applied Math.
☐ The above courses meet the requirements for ScM in Applied Math.
☐ I have attached a complete unofficial transcript.
☐ I have attached the following additional documents (if required by DGS)

Signature: Date:

Send completed form Prof. Mark Ainsworth, Director of Graduate Studies at the address below. A meeting will then be arranged to discuss your application.

Division of Applied Mathematics, Brown University, Providence RI 02912
E-mail address: Mark_Ainsworth@brown.edu