



## Graduate Programs in Mathematics

### Master of Science (48-50 credits)

Course Number	Course Name	Credits
MATH 531	Algebra I	4
MATH 532	Algebra II	4
MATH 533	Algebra III	4
MATH 551	General Topology I	4
MATH 561	Real Analysis I	4
MATH 562	Real Analysis II	4
MATH 573	Topics in Applied Mathematics	4
MATH 581	Complex Analysis I	4
MATH 582	Complex Analysis II	4
MATH 521*	Methods of Teaching Mathematics I	1
MATH 522*	Methods of Teaching Mathematics II	1
MATH 523*	Methods of Teaching Mathematics III	1
MATH 600	Thesis	8
	Additional Math Electives*	1-6

\*MATH 521-523 is required for graduate students holding a graduate service appointment. For those students only 1 credit of additional math electives is required. Others need a minimum of 4 credits of other Math Electives.

### Two-year Schedule

**Assumptions:** This assumes the applicant has completed a Bachelor's degree in Mathematics or a closely related field with coursework that includes at least two quarters of abstract algebra and at least two quarters of real analysis or advanced calculus. Otherwise, one additional year may be required to complete the program (see below).

	Fall	Winter	Spring
<b>First Year Graduate</b>	MATH 531 - 4 cr. MATH 551 - 4 cr. MATH 521 - 1 cr. or Elective - 1-2 cr	MATH 532 - 4 cr. MATH 561 or 581 - 4 cr. MATH 522 - 1 cr. or Elective - 1-2 cr.	MATH 533 - 4 cr. MATH 562 or 582 - 4 cr. MATH 523 - 1 cr. or Elective - 1-2 cr.
<b>Second Year Graduate</b>	MATH 573 - 4 cr. MATH 600 - 2-4 cr. Elective - 1-4 cr	MATH 561 or 581 - 4 cr. MATH 600 - 2-4 cr	MATH 562 or 582 - 4 cr. MATH 600 - 2-4 cr

### Optional Introductory Year

**Assumptions:** This assumes the applicant has completed a Bachelor's degree in Mathematics or a closely related field with coursework that includes at least four quarters of calculus as well as course work in linear algebra and foundations of mathematics (logic and proofs).

	Fall	Winter	Spring
<b>Introductory Year</b>	MATH 431 - 4 cr. MATH 460 - 4 cr.	MATH 432 - 4 cr. MATH 461 - 4 cr.	MATH 430 or 533 - 4 cr. MATH 462 - 4 cr.

## Master of Science/Applied Mathematics Option (52-55 credits\*)

### Required Courses:

Course Number	Course Name	Credits
MATH 531	Algebra I	4
MATH 532	Algebra II	4
MATH 533	Algebra III	4
MATH 551	General Topology I	4
MATH 561	Real Analysis I	4
MATH 562	Real Analysis II	4
MATH 581	Complex Analysis I	4
MATH 582	Complex Analysis II	4
MATH 521*	Methods of Teaching Mathematics I	1
MATH 522*	Methods of Teaching Mathematics II	1
MATH 523*	Methods of Teaching Mathematics III	1
MATH 600	Thesis	8

### Electives:

12 credits of applied courses approved by the Department of Mathematics Curriculum Committee (these courses are not restricted to courses from within the Department).

### Two-year Schedule

**Assumptions:** This assumes the applicant has completed a Bachelor's degree in Mathematics or a closely related field with coursework that includes at least two quarters of abstract algebra and at least two quarters of real analysis or advanced calculus. Otherwise, one additional year may be required to complete the program (see page 1).

	Fall	Winter	Spring
First Year Graduate	MATH 531 - 4 cr. MATH 551 - 4 cr. MATH 521* - 1 cr.	MATH 532 - 4 cr. MATH 561 or 581 - 4 cr. MATH 522* - 1 cr.	MATH 533 - 4 cr. MATH 562 or 582 - 4 cr. MATH 523* - 1 cr.
Second Year Graduate	Applied Electives* - 8 cr	MATH 561 or 581 - 4 cr. MATH 600 - 2 cr Applied Elective* - 4 cr	MATH 562 or 582 - 4 cr. MATH 600 - 6 cr

\*MATH 521-523 is required for graduate students holding a graduate service appointment. For those students this program will require a total of 55 credits.

## Master of Science/Community College Instruction Option (52 credits)

Course Number	Course Name	Credits
EDUC 520	Methods of Educational Research	4
MATH 521	Methods of Teaching Mathematics I	1
MATH 522	Methods of Teaching Mathematics II	1
MATH 523	Methods of Teaching Mathematics III	1
MATH 531	Algebra I	4
MATH 532	Algebra II	4
MATH 533	Algebra III	4
MATH 561	Real Analysis I	4
MATH 562	Real Analysis II	4
MATH 581	Complex Analysis I	4
MATH 582	Complex Analysis II	4
MATH 592	Theory and Research in Mathematics Education	3
MATH 695	Mathematics Education Internship	6
MATH 601	Research Report	8

## Two-year Schedule

**Assumptions:** This assumes the applicant has completed a Bachelor's degree in Mathematics or a closely related field with coursework that includes at least two quarters of abstract algebra and at least two quarters of real analysis or advanced calculus. Otherwise, one additional year may be required to complete the program (see page 1).

	Fall	Winter	Spring
First Year Graduate	EDUC 520 – 4 cr. MATH 531 - 4 cr. MATH 521 – 1 cr.	MATH 532 - 4 cr. MATH 561 or 581 – 4 cr. MATH 522 – 1 cr.	MATH 533 – 4 cr MATH 562 or 582 – 4 cr. MATH 523 – 1 cr.
Second Year Graduate	MATH 592 – 3 cr. MATH 695 – 6 cr.	MATH 561 or 581 – 4 cr. MATH 601 – 4 cr.	MATH 562 or 582 – 4 cr. MATH 601 – 4 cr

## Master of Science/Secondary School Instruction Option (51-55 credits)

### Required Courses:

Course Number	Course Name	Credits
EDUC 520	Methods of Educational Research	4
MATH 521	Methods of Teaching Mathematics I	1
MATH 522	Methods of Teaching Mathematics II	1
MATH 523	Methods of Teaching Mathematics III	1
MATH 531	Algebra I	4
MATH 533	Algebra III	4
MATH 561	Real Analysis I	4
MATH 581	Complex Analysis I	4
MATH 592	Theory and Research in Mathematics Education	3
MATH 695	Mathematics Education Internship	6
MATH 601	Research Report	8

### Math Electives (three of the following):

Course Number	Course Name	Credits
MATH 433	Introduction to Modern Algebra III	4
MATH 470	Foundations of Geometry	4
MATH 485	Theoretical Probability and Mathematical Statistics	4
MATH 486	Topics in Advanced Statistics (or approved upper divisions statistics course)	3
MATH 492	Problem Solving Seminar	5
MATH 493	Methods of Teaching Secondary Mathematics	6
MATH 532	Algebra II	4
MATH 551	General Topology I	4

## Two-year Schedule

**Assumptions:** This assumes the applicant has completed a Bachelor's degree in Mathematics Education/Secondary or a closely related field with coursework that includes at least two quarters of abstract algebra and at least two quarters of real analysis or advanced calculus. This program does not lead to a Secondary certification, which must be obtained prior to or concurrently with this program. Otherwise, one additional year may be required to complete the program (see page 1).

	Fall	Winter	Spring
First Year Graduate	MATH 531 - 4 cr. MATH 521 – 1 cr. EDUC 520 – 4 cr.	MATH 561 or 581 – 4 cr. MATH 522 – 1 cr. Elective – 3-6 cr.	MATH 533 – 4 cr MATH 523 – 1 cr. Elective – 3-6 cr.
Second Year Graduate	MATH 592 – 3 cr. MATH 695 – 6 cr.	MATH 561 or 581 – 4 cr. MATH 601 – 4 cr.	MATH 601 – 4 cr Elective – 3-6 cr.

## Thesis:

A Master's thesis in mathematics should make an original and constructive contribution to its field, at least in exposition if not in new mathematics. To this end, a thesis should demonstrate:

- a mastery of a substantial body of mathematics,
- the ability to search the mathematics literature, and
- a talent for presenting mathematics clearly in correct English

Ideally, a Master's thesis may establish a new result, but new results are not required. Instead, a thesis may present mathematics from other research works, in an exposition accessible to mathematicians who do not specialize in the topic of the thesis. The final version of the thesis may follow either a local format or a format required for submission to a professional mathematics journal.

## Final Comprehensive Examination

A two-hour examination in the form of a thesis defense conducted by the chair of the candidate's graduate committee is required. The candidate will present his or her thesis or research report for the first hour. The remaining time is to be left for questions from the committee on the thesis as well as material selected from the candidate's course work.

## Graduate Instructorships

A limited number of graduate instructorships with tuition waivers are available for WA residents as well as non-resident/foreign students. These positions usually require teaching two courses in mathematics at undergraduate level. Applicants must qualify for graduate school and selected candidates are expected to enroll in 2 – 3 Mathematics Graduate courses. Salary for those positions during the Academic Year 2009 -'10:

First Year Graduate Instructor: \$14,346 per academic year (\$4,782 per quarter); plus tuition waiver.

Second Year Graduate Instructor: \$15,282 per academic year (\$5,094 per quarter); plus tuition waiver.

Graduate Assistant\*\*: \$2,721 per quarter; plus tuition waiver.

\*\* Undergraduate students with exceptional preparation in Mathematics may apply for a graduate assistantship when they are within 15 credits of completing all undergraduate degree requirements. Graduate assistants teach either one course or work in the Department's tutor lab. Graduate assistantships are typically held for one quarter while establishing eligibility for a full graduate instructorship.

For more information please contact:

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