Frequently Asked Questions

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On-campus M.S. Program FAQs

What does your program have to offer me?
Our students graduate with the knowledge, the experience, and the ability to be leaders in a society that exhibits increasing demands for competence in communication, computation, and quantitative analysis. Applied mathematics encompasses some of the most diverse and interdisciplinary research in the physical, engineering, and biological sciences, which is what is needed in order to address the problems that we face today and in our future. We offer a broad curriculum of graduate courses in applied mathematics to provide students with the tools they need to succeed.

What will I be able to do with my MS degree in AMATH?
Many of our students go on to careers in industry at places such as Boeing, Microsoft, or biotechnology companies. Furthermore, some students use their MS degree to become instructors at community colleges or universities. Also, some students choose to apply to PhD programs with UW AMATH or at other prestigious universities.

What background should an applicant have?
Applicants should hold a bachelor’s degree in mathematics, applied mathematics or another branch of science or engineering. You should also have completed coursework in calculus, differential equations, linear algebra, and numerical analysis or scientific computing. You should have the ability to program in Matlab, C, C++, Python, Fortran, or a similar scientific computing language.

How do I apply to the MS program?
You can fill out the application online at the graduate school webpage. The application will tell you what you need to submit, and you can save it before you submit it.

What items do I need to apply to the MS on-campus program?
This information can now be found on the admissions page. To apply, you will need to submit:

- All post-secondary transcripts
- GRE General Test scores
- 3 Letters of Recommendation
- CV or Resume
- Statement of Purpose
- Assistantship and Fellowship Application

What are the deadlines for applications?
January 16th for international applicants; January 16th for domestic applicants.

When are applications reviewed?
The admissions committee will begin reviewing applications as early as December 1st, but everyone who applies by the deadline receives full consideration.

Can I only apply for fall quarter?
For our on-campus MS, we only offer autumn admissions. Our online MS program offers admission for autumn, winter and spring quarters.

Do I need to take the GRE general exam?
Yes; applicants are required to submit verbal, analytical and quantitative scores from the general Graduate Record Examination (GRE). HOWEVER, if you have earned a graduate degree from an accredited institution in the United States, you may be exempt from the GRE requirement.

How do I submit my official GRE general scores?
Request that scores be sent to the UW Office of Graduate Admissions from Educational Testing Services (ETS) either during or after you take the test, using code 4854 (University of Washington).

What is the minimum score you consider in the GRE?
We have no minimum. We consider your application as a whole.

What grade point average do you look for in potential MS students?
We would like to see students able to keep above a 3.2 out of 4.0 scale. We especially look at grades in upper level mathematics courses, such as our prerequisite courses.

Will I be offered a teaching or research assistantship? Are there fellowships available?
We do not guarantee funding for our MS students; however, if we have available assistantships we will consider our MS students. Since a position is not guaranteed, we recommend you budget accordingly. You are also welcome to apply for student positions through the UW Hires website.

How do I pay for graduate school?
The UW Graduate School provides a helpful guide which introduces several types of financial assistance available to graduate students.

How much can I expect to pay?
Tuition rates do change frequently. You can find information regarding tuition at the Office of Planning and Budgeting website. This lists costs for residents (of Washington) and non-residents. We are a Graduate Tier 1 program. For information on estimating costs, please visit the financial aid cost estimate page. International students can find cost estimates on the graduate school website.

I speak excellent English, even though it is not my native language. Do I need to take an English proficiency test?
Yes, as this is a graduate school requirement. Details regarding the English Proficiency rules are located in the graduate school's Memorandum #8.

What is the minimum score on the [TOEFL, IELT, other English proficiency exam] needed for admissions?
You can find required scores on the graduate school's Memorandum #8.

What do I do if I am still finishing my undergraduate degree when I apply?
Many students apply while finishing up their undergraduate degree. Please make it clear what coursework is still in process within your statement of purpose.

How many students do you accept in the MS program?
In fall 2016, we accepted 25 new students. We generally see over 100 applicants.

Are prerequisite courses required?
Yes. They are the foundation for our coursework. The three prerequisite courses for the degree:

- Beginning Scientific Computing (AMATH 301) or equivalent course work
- Introduction to Differential Equations and Applications (AMATH 351) or equivalent course work
- Applied Linear Algebra and Numerical Analysis (AMATH 352) or equivalent course work

Please read our course catalog for course descriptions.

Do the prerequisite courses need to be completed before I begin my graduate degree coursework?
Yes, and you may email gpa (at) amath.washington.edu with specific questions.

What GPA am I expected to maintain?
In order to be a candidate for the MS degree, you must maintain an overall GPA of 3.2 out of 4.0. Individual courses that are graded 2.7 and lower must be retaken.

How many courses should I take each quarter?
Full-time at the graduate level is 10 credits. Students who finish their MS in one year typically take 3 classes (12-15 credits) per quarter.

What courses do I need to take?
Students are required to take all three of AMATH 567 (Applied Analysis), AMATH 568 (Ordinary Differential Equations) and AMATH 569 (Partial Differential Equations). Substitution of any of these courses with AMATH 501, AMATH 502 and AMATH 503, respectively, is permitted. Either AMATH 581 (Scientific Computation) or AMATH 584 (Numerical Analysis 1) is also required. Students need to take a total of 24 credits in AMATH courses. Further degree requirements are found on the MS program page.

Do students take courses in other fields? What fields do they take courses in?
Yes. Students take graduate level courses in pure mathematics, statistics, computer science, oceanography, engineering (many different fields), biochemistry, biology and many other fields.

Is there a way to transition from the MS to the PhD program?
There is: students have to notify the graduate program coordinator by January 16th of the year they wish to start in the PhD program. Students' files will be evaluated with those of the external PhD applicants. Over the past 5 years, 11 students in the campus MS program have entered the PhD program. These students were admitted and are currently working towards a PhD in applied mathematics.

How does one satisfy the independent study requirement?
Students should contact faculty members whose research they are interested in, and come to a mutual understanding on how the independent study requirement can be satisfied. Students could read book chapters surpassing course material, or research papers, or could work on some original research.

What are the journal clubs?
Journal clubs vary according to each topic and club. Some journal clubs are organized by faculty. Generally, it is a way
for students to further explore a topic of interest (such as fluid dynamics, numerical analysis, or mathematical biology) by reading journal articles and/or presenting findings to your group. Please contact the faculty or student in charge of each club to find out further details.

Ph.D. Program FAQs

What funding can you offer me?

Financial support for Doctoral studies is limited to five years after admission to the Ph.D. program in the Department of Applied Mathematics. Support for an additional period may be granted upon approval of a petition, endorsed by the student’s thesis supervisor, to the Graduate Program Coordinator.

What research opportunities does your program offer?

Our faculty research page can give you an idea of what opportunities are available, as will our current PhD students’ pages. We offer many different opportunities within the AMATH department, and with our adjuncts in other departments.

How many students do you accept in the PhD program?

Out of the 300 applications we normally review, we make an average of 15 offers per year. We usually have an average incoming class of 8 students.

What are the deadlines for applications?

January 16th for international applicants; January 16th for domestic applicants.

When are applications reviewed?

The admissions committee will begin reviewing applications as early as December 1st, but everyone who applies by the deadline receives full consideration for admission and support.

I am interested in a multidisciplinary degree. Can I do my research with a faculty member from another department?

Certainly; however, we do suggest that you discuss your plans with AMATH faculty.

How do I apply for funding?

When you fill out your application, you will fill out the Fellowship and Assistantship application so that we determine eligibility for different forms of support. Some students enter our department with external fellowships; most students continue to apply for fellowships during their program.

How long is this degree?

On average, students take 5 years to finish their PhD in AMATH.

What GPA am I expected to maintain?

We expect students to maintain a 3.4/4.0 during their program.

How long do I take classes?

Generally, students take courses for the first two years of their program.

What classes do I need to take?

- Two of the following three sequences are required to be taken within the first year in the PhD program:
  - AMATH 561, 562, 563;
  - AMATH 567, 568, 569;
  - AMATH 581 or 584, and 585, 586;
  - AMATH 600 (Reading during the first five quarters, including the first summer) (2×2 credits, each with a different faculty member).
  - At least 9 courses from the amath curriculum.

Students have to take a minimum of 13 numerically graded courses. At most two of these can be at the 400 level or be cross listed with courses at the 400 level. The entire course of study of a student and all exceptions to this list must be approved by the Graduate Program Coordinator and the student’s advisor or faculty mentors.

(For students who entered the doctoral program prior to autumn 2017, please see here for degree requirements.)

Do I need to learn a second language?

No. Other PhD programs have required this, but we do not.

How do I find an advisor?

Upon arrival, incoming students will be assigned two faculty mentors. Until a student settles on a thesis advisor, the faculty mentors aid the student in selecting courses, and they each guide the student through a 2-credit independent reading course on material related to the student’s research interest. The faculty mentors are not necessarily faculty in the Department of Applied Mathematics.

Who should be on my supervisory committee/reading committee?

The full Supervisory Committee should have a minimum of three regular members plus the Graduate School Representative, and will consist of at least two faculty members from Applied Mathematics, one of whom is to be the Chairperson of the Committee. The Dissertation Reading Committee, consisting of three members, is usually formed...
from the Supervisory Committee. Two members of the Dissertation Reading Committee must be from the Applied Mathematics faculty.

When do I take the qualifying exams?
Information on the qualifying exams can be found [here](https://amath.washington.edu/frequently-asked-questions).

When do I take my general exam?
Information on the general exam can be found [here](https://amath.washington.edu/frequently-asked-questions).

When can I defend my thesis (take my final exam)?
Information on the final exam can be found [here](https://amath.washington.edu/frequently-asked-questions).

How can I find out about more fellowship opportunities?
We make it a priority to inform students of fellowship opportunities via email or word of mouth. We also encourage students to find opportunities with their advisor or through funding sources such as the National Science Foundation or the Department of Energy. The graduate school keeps a list of possible fellowships and their deadlines. Many fellowships have deadlines in either November or January/March.

How do I publish my thesis?
Information on publication requirements can be found on the [Graduate School webpage](https://amath.washington.edu/frequently-asked-questions).