APPLIED MATHEMATICS
UNIVERSITY of WASHINGTON

FAQ for Master of Science (online)

Admissions/Application

How do I apply?

- Fill out an online Graduate School Application. Students should select the online option for program.

What is the application deadline?

- We accept applications for our online MS or GNM program for Autumn, Winter and Spring Quarter. Deadlines are listed on the online AMATH MS website.

Do I need a bachelor's degree in Math or Applied Math to apply to your program?

- Prospective students ideally hold a bachelor's degree in mathematics, applied mathematics, or another branch of science or engineering. Specifically, you should have completed coursework in calculus, differential equations, linear algebra, and numerical analysis or scientific computing. Applicants should have the ability to program in Matlab, C, C++, Python, Fortran, or a similar scientific computing language.

What GPA would I need for admission?

- We look at GPA in individual math and science courses as well as overall GPA. Generally, we expect to see at minimum a 3.2 GPA on a 4.0 scale (or equivalent) in each course and overall. Recently, as our program has become more competitive, most applicants have at least a 3.4 in related coursework.
- For GNM admission, we look for GPA of 3.2 in each course.

Do I need the GRE subject or general test?

- GRE General Test. School code= 4854.

What is the minimum score needed on the GRE?

- We don't use a minimum score to eliminate applications. GRE tests are used as a supplement to the rest of the application.
- We recommend a score above 700 for tests prior to Autumn 2011 and 160 and above on scores after Autumn 2011. (The score ranges up to 170.)

May I have the GRE test requirement waived?

- We are willing to waive the requirement only for applicants with a previous *graduate level degree*. However, it could help your application to submit GRE scores.

How competitive is the program in terms of admissions?

- Since this is a distance-learning program, we don't have a set enrollment limit; so, it is not competitive in that sense. For the autumn 2016 start, 57% of our applicants were offered graduate admission. Some of the applicants that were denied graduate admission were offered graduate non-matriculated (GNM) status with the goal of improving their academic record for reapplication to the degree program later.

Would I be eligible for an F-1 Student Visa if I studied in your MS program online?

- No. However, you can do our MS program from anywhere in the world. If you are an international student, you may study our MS program from your home country.

Are prerequisite courses required?

- Yes, but only if they are *not* already in your academic history. In order to under to have a baseline of

understanding for our graduate level courses, we ask all students to have taken certain undergraduate courses before applying to our program. Students without calculus, differential equations, linear algebra, and numerical analysis or scientific computing may have their application rejected. Furthermore, students with substandard grades in these courses (below 3.2) may have their application rejected.

How do I find courses equivalent to your prerequisite courses?

- Most universities and some community colleges have courses similar to our prerequisites. We have listed our prerequisite topics below. *We do not keep a list of equivalent coursework at other institutes*. Instead, you may use these descriptions to compare to undergraduate courses offered at other accredited institutions OR you may take these courses at UW as a non-matriculated (NM) student if you are local.

  Numerical Analysis
  - Beginning Scientific Computing (AMATH 301) or equivalent coursework
    Introduction to the use of computers to solve problems arising in the physical, biological and engineering sciences. Application of mathematical judgment, programming architecture, and flow control in solving scientific problems. Introduction to MATLAB routines for numerical programming, computation, and visualization.

  Differential Equations
  - Introduction to Differential Equations and Applications (AMATH 351) or equivalent course work
    Introductory survey of ordinary differential equations. Linear and nonlinear equations. Taylor series. Laplace transforms. Emphasis on formulation, solution, and interpretation of results. Examples from physical and biological sciences and engineering.

  Linear Algebra
  - Applied Linear Algebra and Numerical Analysis (AMATH 352) or equivalent course work
    Analysis and application of numerical methods and algorithms to problems in the applied sciences and engineering. Applied linear algebra, including eigenvalue problems. Emphasis on use of conceptual methods in engineering, mathematics, and science.

- We do *not* accept Massive Open Online Courses (MOOC) for prerequisites. Ex: Coursera, edX

Recommended: We recommend a course in either advanced calculus or real analysis

Are the prerequisite courses available online at the University of Washington?

- AMATH 301 will be offered online through UW during summer quarter ONLY. All other prerequisites are offered on-campus only every quarter.

Do the prerequisite courses need to be completed before I submit my application?

- They can be “in progress” with the understanding that they will be finished before the quarter of admission. However, this may delay review and decision on your application.

Can I complete the prerequisites while completing the graduate degree coursework?

- No.

Would I be able to count the prerequisite courses towards my graduate course and credit total requirements OR can I transfer these courses in?

- No. The prerequisite courses are undergraduate level courses and cannot be counted towards any graduate level requirements. They are needed as background to our grad level courses.

Does the AMATH department require me to send in official transcripts?

- NO. You submit *copies* of all transcripts in your online application.
- If you are made an official offer and you choose to accept it, you will be required to send official transcripts (and possibly other documents) to the Graduate School. To find out what materials are needed, log back into the application after an offer has been made and provide official documents as indicated.

Who can I have write my three letters of recommendation?

- Professors familiar with the student and his/her work (preferred).
- Supervisors and superior officers may write letters.

What should be in a letter of recommendation?

- The best letters provide specific examples of each student’s related academic/research work.

- They would preferably cover information that would make the student a good candidate for a graduate program in Applied Math.
- It is always best for the student to waive the right to see the letter.

What is a Statement of Purpose; how long does it need to be?

- The statement of purpose tells us why you would be a good candidate for admission to our program. It allows the writers to expand on their academic and career goals, and to explain any unclear portions in their transcripts and resume.
- It is normally one page long.

What are the transfer rules for GNM students?

- GNM students can take courses towards the MS program. If admitted to the full degree program, up to 12 qualified credits taken as a GNM student may be applied to the MS.

English is my second language. What do I need to do to demonstrate English proficiency for admission?

- Students can find out more info about this on the Graduate School website under Memorandum #8.

Can an exception be made for me if I do not meet the requirements for English proficiency?

- No. The UW Graduate School sets English proficiency requirements. Online MS applicants must meet the requirements as listed. Work experience or years in the U.S. are not considered.

Financial Info

What are the fees for this program?

- Instructional fee – $975 per credit effective autumn 2017.
- Other fees may be found on the registration website.

Are there any grants/scholarships available?

- No grants or scholarships are available, but students may be eligible for financial aid. For questions regarding Financial Aid, please visit the UW Financial Aid office webpage.

Are there any unusual expenses associated with the program?

- Matlab and Simulink Student Edition software is highly recommended and may be required by some courses. It can be purchased through MathWorks at a student discount of $99 currently.

Can I use my tuition waiver from an assistantship at UW or my employee tuition waiver?

- No. This program is not funded by the state and therefore cannot accept state funded waivers.

Program Specifics

Is the degree earned through the online program identical to the degree earned in the classroom-based program?

- Yes. Graduates earn a Master of Science, which is the exact same degree that classroom-based students earn. The diploma does not indicate that these classes were taken online.

Are transfer credits accepted?

- Students may be able to transfer up to 6-quarter credits (or 4-semester credits) if approved by the Applied Math Department and the Graduate School. Students should petition the dean of the Graduate School through the Graduate School website AFTER admission to the program. Transfer of credit cannot be determined prior to admission. Credits may not have been used toward another degree.

How many credits are required to earn the degree?

- A minimum of 36 credits is required for ALL MS students at UW. However, we require that students take a minimum of 9 graded courses. Therefore, total credit amounts may vary.

What are the degree requirements?

- Core classes: AMATH 501, 502, 503, *and* 581 *or* 584 (each should be numerically graded)
- 9 numerically graded classes (1 elective may be substituted with 4 credits of AMATH 500/600)
- Minimum 36 credits overall

- 24 credits of Amath coursework
- Must have 3.2 overall (2.7 minimum in each class)
- Must maintain registration through the end of the quarter in which the degree is conferred
- Degree request must be filed by the quarter's deadline
- Students are responsible for knowing, understanding, reading and fulfilling all degree requirements

What courses do you offer online?

- AMATH typically offers the following courses online:

Autumn	Winter	Spring
501	502	503
581	582	583
584	585 (even years)	586 (even years)
	515 (odd years)	575 (odd years)

Can I take courses in other programs at UW for electives?

- Yes. Four of your courses may be outside of the courses listed above. Students may take courses in Computational Finance, Mechanical Engineering, Aeronautics and Aerospace and other departments with the approval of the GPA/GPC prior to registration.

How long does the student have to complete the program? Is part-time permitted?

- Students who are full-time complete the program in a year (3 courses per quarter).
- Most students complete the program on a part-time basis within 3 years, but students have up to 6 years total to complete the degree. (GNM and/or on-leave status counts toward the 6-years.)

What is the student to teacher ratio?

- Typically courses have between 35 and 45 classroom students and between 10 and 25 online students. Courses will typically have teaching assistants (TA) in addition to the instructor, and TA positions are increased as registration goes up.

How long has the online program been running?

- The entire distance program began in 1983 as Televised Instruction in Engineering (TIE). It was renamed EDGE in 1999. It has been offered online since 2007. (The classroom-based MS program began in 1998.)

How is this program different from other similar programs?

- This program is one of the nation's few online masters degrees in applied mathematics. In terms of reputation and quality of online education it is arguably the best.
- Students receive the same quality curriculum taught by full-time UW faculty as those who attend classes on UW's Seattle campus.
- Students also have the flexibility of enrolling on a full- or part-time basis, allowing them to complete the required coursework typically in one to three years.

Is there an internship or job placement program?

- No. However, students may access HuskyJobs, which is the UW job and internship search system. The UW Career & Internship Center has helpful resources as well.

Is there a way to transition from the MS to the PhD program?

- Yes. Students need to apply internally by January 15th of the year they wish to start in the PhD program. Students' files will be evaluated with those of the other PhD applicants. As of 2017, two students in the online MS program have entered the PhD program.
- Our PhD program is very competitive with approximately a 5% admission rate. Our admitted applicants have GPAs around 3.8 and above, outstanding letters of recommendation, and research experience.

Could I do your PhD program remotely and/or part-time?

- No. Our PhD requires a) additional coursework only available on campus, b) additional study for qualifying and general exams, and c) intense, supervised work with an advisor.
- We ask our PhD students to make a sacrifice to do this work. HOWEVER, they are guaranteed 5 full years of funding while doing said work.

Can I transfer to the on-campus MS program easily?

- As of Autumn 2010, we no longer allow students to easily transfer to the on-campus program. We have very limited space in our on-campus MS program.
- Students wishing to be in our on-campus program are invited to apply internally prior to January 15th of each year. Students are then compared to outside applicants. We can then potentially admit them to the on-campus program for the following autumn.

Is there a possibility of getting involved in research?

- Students may enroll in at least 4 credits worth of AMATH 600 independent study credits (spread over 2 quarters) as a substitute for 1 graded course requirement (elective). These credits could be used to start a research project with a faculty member. Students must contact faculty directly with a proposal should they want to do this.

Is there a thesis option?

- Not for students in the online program, since it is too difficult for advisors and students to work as closely as needed for something as intensive as a thesis.
- It should be mentioned that the thesis option is not popular with on-campus students, as it doubles the time required for the MS degree.

If I work full-time, how many classes could I feasibly take?

- Of course, this depends on the flexibility of your job and your living situation. Most students with full-time jobs find that one course per quarter is quite challenging. Sometimes, students with full-time work are able to manage 2 courses per quarter. We suggest you start with one course, and add more if you feel you can.

Is course enrollment required each quarter?

- Enrollment is required each quarter, with the exception of summers. Summers are not required, as we do not offer graduate level coursework. In standard quarters (autumn, winter, spring) you must enroll in at least one course or officially go on-leave through the Graduate School.

Online-learning Format & Logistics

Can the program be completed completely at a distance/do students ever need to be on campus?

- Students who live in the local Puget Sound Area can sometimes choose to take their final exam on campus or set up an official proctor. (See below.)
- Students who do not live in the local Puget Sound Area are not required to come to campus; the coursework can be completed entirely at a distance.
- Optional: online students are invited to attend the graduation celebration held on campus each June.

How do I access lectures?

- On-campus courses take place in a studio classroom where they are recorded and delivered to online students through their MyUW account. Options:
  - Live streaming video of the lecture on the Web
  - On-demand viewing (high bandwidth, low bandwidth and FTP download) usually within two hours after end of class
  - Most instructors also provide online lecture notes.

Where can I find class syllabi prior to a quarter?

- See the departmental website page Current Offerings. Remember, not all classes listed here are offered online!

How do I register?

- When newly enrolled students are eligible to register online, they will be contacted via email by Professional & Continuing Education (PCE) with instructions for registration. Continuing students are emailed a registration reminder each quarter that includes a link to register online.

How do online students interact with instructors?

- Email/phone/Skype/Gotomeeting
- Discussion boards
- In person if local

Can I participate during the live lecture?

- No.

How are exams and homework handled?

- Refer to Student Guide on Examinations
- Each course has a website that will have handouts, homework assignments, etc. After registration, but shortly before the start of each quarter, this course website is made available from each student's MyUW registration page.
- Assignments are submitted by uploading assignments into the course page electronically; each course syllabus will specify the preferred method.
- Exams can be proctored at work site or testing center.
- Exams must be taken on the same day they are administered in class; any exceptions due to work schedules, etc. must be approved by the instructor on a case-by-case basis.
- Online students may take their exams on campus with instructor permission.

Is it possible to attend lectures on campus occasionally or take a course completely on campus?

- As long as there is room in the class, you may attend lectures on campus, even if you are enrolled in the online section.
- Similarly, students are allowed to enroll for courses that are not offered online, if their schedule allows and they are local. The registration is still done through PCE Registration Services and you still pay the same course fees.

As an online student, am I eligible to: receive a Husky Card, access the library, use the IMA Gym, or set up an email account?

- If you are local, you can obtain a Husky Card in person. You may also join the IMA.
- See UW Libraries.
- All students are eligible to create a UW email account (yourNetID@uw.edu). Course and departmental information will be sent to your UW email address. Please see the Student Guide for details.

Program Outcomes

Will this degree qualify me to teach?

- This degree qualifies people to teach at most community colleges or junior colleges, but we cannot vouch for any specific institution. A few institutions might require a math education or a pure math degree. Education coursework is not part of this program. The safest thing for applicants who have an institution in mind is to check with them. Given the reputation of the program, this is usually not an issue.

What jobs can you go into after finishing this program?

- There is an extremely wide range: some students go on to PhDs; others work at research labs. Most go on to work in industry. Typically, we have people who have gone into banking, pharmaceutical industries, insurance, engineering firms, biotech companies, software, tech companies, etc. It is a very marketable degree, offering a wide range of possibilities.
- A great resource for exploring career options is available at SIAM: Thinking of a Career in Applied Math?
- Checkout LinkedIn to see where our grads are working!