

QUANTITATIVE ECONOMICS, MS

The MSQE program is a terminal graduate degree that prepares students for high-level professional careers involving the analysis of economic data. This master's program is well suited for students who want to prepare for a career where advanced economics training is required or beneficial but the PhD is not required. The MSQE program emphasizes econometric training more than similar programs at other universities. Today's job market requires strong quantitative skills along with a command of economic theory. Wisconsin's tradition of supporting economic theory with quantitative methods is well suited to these requirements.

ADMISSIONS

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Please consult the table below for key information about this degree program's admissions requirements. The program may have more detailed admissions requirements, which can be found below the table or on the program's website.

Graduate admissions is a two-step process between academic programs and the Graduate School. **Applicants must meet the minimum requirements (<https://grad.wisc.edu/apply/requirements/>) of the Graduate School as well as the program(s).** Once you have researched the graduate program(s) you are interested in, apply online (<https://grad.wisc.edu/apply/>).

| Requirements | Detail |
|------------------------------------|---|
| Fall Deadline | March 1 |
| Spring Deadline | This program does not admit in the spring |
| Summer Deadline | This program does not admit in the summer |
| GRE (Graduate Record Examinations) | Not required but may be considered if available |
| English Proficiency Test | Refer to the Graduate School: Minimum Requirements for Admission policy: https://policy.wisc.edu/library/UW-1241 (https://policy.wisc.edu/library/UW-1241/). |
| Other Test (s) (e.g., GMAT, MCAT) | n/a |
| Letters of Recommendation Required | 2 |

ADMISSIONS CRITERIA

Admissions criteria for the MS in Quantitative Economics include:

1. A bachelor's degree from a regionally accredited US institution or a comparable degree from an international institution is required. International applicants must have a degree comparable to a regionally accredited US bachelor's degree.
2. Completed at least one semester of multivariate calculus, elementary probability and regression analysis.
3. A minimum undergraduate grade-point average (GPA) of 3.00 on the equivalent of the last 60 semester hours (approximately two

years of work) or a master's degree with a minimum cumulative GPA of 3.00 is required. Applicants from an international institution must demonstrate strong academic achievement comparable to a 3.00 for an undergraduate or master's degree.

4. Reasons for graduate study/statement of purpose; not to exceed two pages
5. Curriculum vitae or resume.
6. Unofficial transcripts from all previous post-secondary studies are required. International academic records must be submitted in the original language and accompanied by an English translation. If an applicant is recommended for admission, the Graduate School will ask applicants to request official transcripts sent to the Graduate School from the undergraduate institution.

FUNDING

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GRADUATE SCHOOL RESOURCES

[The Bursar's Office provides information about tuition and fees associated with being a graduate student.](#) [Resources to help you afford graduate study might include assistantships, fellowships, traineeships, and financial aid.](#) [Further funding information is available from the Graduate School.](#)

Be sure to check with your program for individual policies and restrictions related to funding.

PROGRAM INFORMATION

Students enrolled in the Master of Science in Quantitative Economics are allowed to accept teaching assistantships, project assistantships, and research assistantships, but will not receive tuition remission.

REQUIREMENTS

MINIMUM GRADUATE SCHOOL REQUIREMENTS

Review the Graduate School minimum degree requirements (<https://guide.wisc.edu/graduate/#requirements>) and policies (<https://guide.wisc.edu/graduate/#policies>), in addition to the program requirements listed below.

MAJOR REQUIREMENTS

MODE OF INSTRUCTION

| Face to Face | Evening/ Weekend | Online | Hybrid | Accelerated |
|--------------|---------------------|--------|--------|-------------|
| Yes | No | No | No | No |

Mode of Instruction Definitions

Accelerated: Accelerated programs are offered at a fast pace that condenses the time to completion. Students typically take enough credits aimed at completing the program in a year or two.

Evening/Weekend: Courses meet on the UW-Madison campus only in evenings and/or on weekends to accommodate typical business schedules. Students have the advantages of face-to-face courses with the flexibility to keep work and other life commitments.

Face-to-Face: Courses typically meet during weekdays on the UW-Madison Campus.

Hybrid: These programs combine face-to-face and online learning formats. Contact the program for more specific information.

Online: These programs are offered 100% online. Some programs may require an on-campus orientation or residency experience, but the courses will be facilitated in an online format.

CURRICULAR REQUIREMENTS

| Requirements | Detail |
|---|---|
| Minimum Credit Requirement | 30 credits |
| Minimum Residence Credit Requirement | 16 credits |
| Minimum Graduate Coursework Requirement | 15 credits must be graduate-level coursework. Refer to the Graduate School's Minimum Graduate Coursework (50%) Requirement policy: https://policy.wisc.edu/library/UW-1244 (https://policy.wisc.edu/library/UW-1244/). |
| Overall Graduate GPA Requirement | 3.00 GPA required. Refer to the Graduate School: Grade Point Average (GPA) Requirement policy: https://policy.wisc.edu/library/UW-1203 (https://policy.wisc.edu/library/UW-1203/). |
| Other Grade Requirements | None |
| Assessments and Examinations | None |
| Language Requirements | No language requirements |

REQUIRED COURSES

| Code | Title | Credits |
|--|--|---------|
| Core | | |
| ECON 770 | Data Analytics for Economists | 3 |
| ECON 704 | Econometrics I | 3 |
| ECON 707 | Causal Estimation in Economics | 3 |
| ECON 725 | Machine Learning for Economists | 3 |
| ECON 726 | Applications of Machine Learning in Economics | 3 |
| ECON 771 | Advances in Artificial Intelligence for Economists | 3 |
| ECON 701 | Microeconomics I | 3 |
| Electives | | |
| Students must complete 9 credits from the following courses. | | 9 |
| ECON 718 | Topics in Applied Econometrics | |
| ECON 521 | Game Theory and Economic Analysis | |
| ECON/ FINANCE 503 | Markets with Frictions | |
| ECON/R M I 530 | Insuring Life's Risks: Health, Aging, and Policy | |
| ECON/A A E/ F&W ECOL 531 | Natural Resource Economics | |

| | |
|------------------------------------|--|
| ECON/ POP HLTH/ PUB AFFR 548 | The Economics of Health Care |
| ECON 621 | Markets and Models |
| ECON 661 | Issues in International Macroeconomics |
| ECON 664 | Issues in International Trade |
| ECON/A A E/ ENVIR ST/ URB R PL 671 | Energy Economics |
| ECON 695 | Topics in Economic Data Analysis |
| ECON/ PHILOS 524 | Philosophy and Economics |

Total Credits **30**

Other Policy

Students in this program may not take courses outside the prescribed curriculum without faculty advisor and program director approval. Students in this program cannot enroll concurrently in other undergraduate or graduate degree programs.

POLICIES

GRADUATE SCHOOL POLICIES

The Graduate School's Academic Policies and Procedures (<https://grad.wisc.edu/acadpolicy/>) serve as the official document of record for Graduate School academic and administrative policies and procedures and are updated continuously. Note some policies redirect to entries in the official UW-Madison Policy Library (<https://policy.wisc.edu/>). Programs may set more stringent policies than the Graduate School. Policies set by the academic degree program can be found below.

MAJOR-SPECIFIC POLICIES

PRIOR COURSEWORK

Graduate Credits Earned at Other Institutions

Graduate coursework from other institutions will be evaluated on a case-by-case basis by the faculty graduate committee in the Department of Economics. With graduate committee approval, students are allowed to transfer no more than 9 credits of graduate coursework from other institutions. Coursework earned ten years or more prior to admission to the master's program is not allowed to satisfy requirements.

Undergraduate Credits Earned at Other Institutions or UW-Madison

Refer to the Graduate School: Transfer Credits for Prior Coursework (<https://policy.wisc.edu/library/UW-1216/>) policy.

Credits Earned as a Professional Student at UW-Madison (Law, Medicine, Pharmacy, and Veterinary careers)

Refer to the Graduate School: Transfer Credits for Prior Coursework (<https://policy.wisc.edu/library/UW-1216/>) policy.

Credits Earned as a University Special Student at UW-Madison

With program approval, students are allowed to transfer no more than 12 credits of coursework numbered 300 or above taken as a UW-Madison University Special student. However, these credits are not allowed to count toward the 50% graduate coursework minimum unless numbered 700 or

above or are taken to meet the requirements of a capstone certificate and has the “Grad 50%” attribute. Coursework earned ten or more years prior to admission to a master’s degree is not allowed to satisfy requirements.

PROBATION

Refer to the Graduate School: Probation (<https://policy.wisc.edu/library/UW-1217/>) policy.

ADVISOR/COMMITTEE

Refer to the Graduate School: Advisor (<https://policy.wisc.edu/library/UW-1232/>) policy.

CREDITS PER TERM ALLOWED

12 credits

TIME LIMITS

Refer to the Graduate School: Time Limits (<https://policy.wisc.edu/library/UW-1221/>) policy.

GRIEVANCES AND APPEALS

These resources may be helpful in addressing your concerns:

- Bias or Hate Reporting (<https://doso.students.wisc.edu/bias-or-hate-reporting/>)
- Graduate Assistantship Policies and Procedures (<https://hr.wisc.edu/policies/gapp/#grievance-procedure>)
- Hostile and Intimidating Behavior Policies and Procedures (<https://hr.wisc.edu/hib/>)
 - Office of the Provost for Faculty and Staff Affairs (<https://facstaff.provost.wisc.edu/>)
- Employee Assistance (<http://www.eao.wisc.edu/>) (for personal counseling and workplace consultation around communication and conflict involving graduate assistants and other employees, post-doctoral students, faculty and staff)
- Employee Disability Resource Office (<https://employeedisabilities.wisc.edu/>) (for qualified employees or applicants with disabilities to have equal employment opportunities)
- Graduate School (<https://grad.wisc.edu/>) (for informal advice at any level of review and for official appeals of program/departmental or school/college grievance decisions)
- Office of Compliance (<https://compliance.wisc.edu/>) (for class harassment and discrimination, including sexual harassment and sexual violence)
- Office Student Assistance and Support (OSAS) (<https://osas.wisc.edu/>) (for all students to seek grievance assistance and support)
- Office of Student Conduct and Community Standards (<https://conduct.students.wisc.edu/>) (for conflicts involving students)
- Ombuds Office for Faculty and Staff (<http://www.ombuds.wisc.edu/>) (for employed graduate students and post-docs, as well as faculty and staff)
- Title IX (<https://compliance.wisc.edu/titleix/>) (for concerns about discrimination)

L&S POLICY FOR GRADUATE STUDENT ACADEMIC APPEALS

Graduate students have the right to appeal an academic decision related to an L&S graduate program if the student believes that the decision is inconsistent with published policy.

Academic decisions that may be appealed include:

- Dismissal from the graduate program
- Failure to pass a qualifying or preliminary examination
- Failure to achieve satisfactory academic progress
- Academic disciplinary action related to failure to meet professional conduct standards

Issues such as the following cannot be appealed using this process:

- A faculty member declining to serve as a graduate student’s advisor.
- Decisions regarding the student’s disciplinary knowledge, evaluation of the quality of work, or similar judgements. These are the domain of the department faculty.
- Course grades. These can be appealed instead using the L&S Policy for Grade Appeal (<https://kb.wisc.edu/lis/22258/>).
- Incidents of bias or hate, hostile and intimidating behavior (<https://hr.wisc.edu/hib/>), or discrimination (Title IX (<https://compliance.wisc.edu/titleix/>), Office of Compliance (<https://compliance.wisc.edu/eo-complaint/formal-investigations/>)). Direct these to the linked campus offices appropriate for the incident(s).

Appeal Process for Graduate Students

A graduate student wishing to appeal an academic decision must follow the process in the order listed below. Note time limits within each step.

1. The student should first seek informal resolution, if possible, by discussing the concern with their academic advisor, the department’s Director of Graduate Studies, and/or the department chair.
2. If the program has an appeal policy listed in their graduate program handbook, the student should follow the policy as written, including adhering to any indicated deadlines. In the absence of a specific departmental process, the chair or designee will be the reviewer and decision maker, and the student should submit a written appeal to the chair within 15 business days of the academic decision. The chair or designee will notify the student in writing of their decision.
3. If the departmental process upholds the original decision, the graduate student may next initiate an appeal to L&S. To do so, the student must submit a written appeal to the L&S Assistant Dean for Graduate Student Academic Affairs within 15 business days of notification of the department’s decision.
 - a. To the fullest extent possible, the written appeal should include, in a single document: a clear and concise statement of the academic decision being appealed, any relevant background on what led to the decision, the specific policies involved, the relief sought, any relevant documentation related to the departmental appeal, and the names and titles of any individuals contributing to or involved in the decision.
 - b. The Assistant Dean will work with the Academic Associate Dean of the appropriate division to consider the appeal. They may seek additional information and/or meetings related to the case.
 - c. The Assistant Dean and Academic Associate Dean will provide a written decision within 20 business days.
4. If L&S upholds the original decision, the graduate student may appeal to the Graduate School. More information can be found on their website: Grievances and Appeals (<https://grad.wisc.edu/documents/grievances-and-appeals/>) (see: Graduate School Appeal Process).

OTHER

n/a

PROFESSIONAL DEVELOPMENT

PROFESSIONAL DEVELOPMENT GRADUATE SCHOOL RESOURCES

Take advantage of the Graduate School's professional development resources (<https://grad.wisc.edu/pd/>) to build skills, thrive academically, and launch your career.

PROGRAM RESOURCES

Master of Science in Quantitative Economics students have special access to career advising and resources through the Economics Career Development Office (ECDO). The ECDO hosts career workshops, coordinates the Student Leadership Committee, and invites employers to speak to students on campus. We encourage all economics master's students to schedule an appointment with one of our dedicated career advisors. During your appointment, we can assist with:

- Deciding if a career outside of academia is right for you
- Resume and cover letter review
- Job and internship search strategies
- Interview preparation and mock interviews
- How to network and develop an effective LinkedIn

To schedule an appointment with one of our professional career advisors, please see this website (<https://econ.wisc.edu/careers/advising/>).

LEARNING OUTCOMES

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1. Demonstrate understanding of core principles of microeconomic theory.
2. Obtain a deep understanding of methods to perform causal analysis; evaluate the appropriateness of the methods given the economic question and available data; interpret the limitations in inference when an ideal approach is available.
3. Clean and analyze economics data sets using modern statistical software and frontier econometric approaches.
4. Communicate results of analysis of economics data in precise yet clear manner.