Masters Degrees

Master's Degree Programs at Missouri S&T

Missouri S&T offers three programs leading to master of science degrees: the master of science with thesis (a minimum of thirty credit hours; some programs require more), the master of science without thesis (a minimum of thirty credit hours; some programs require more), and the master of science for teachers. In addition, Missouri S&T offers a master of business administration degree (MBA), a master of engineering degree, and a master of arts degree (the M.A. is offered in cooperation with the University of Missouri-St. Louis).

The beginning graduate student should choose an appropriate degree program in consultation with his or her advisor and with the approval of the department chair. Within the first six weeks of the semester in which the student takes his or her fifteenth graduate credit hour, the student must formally plan the remainder of his or her graduate program in consultation with his or her advisor and selected committee members. For students pursuing the M.S. with thesis, the advisor will also serve as the chairperson of the three-person thesis advisory committee. The chairperson and at least half of the other thesis advisory committee members must be members of the graduate faculty.

After consulting with his or her advisor, the student will complete and submit Form 1 (http://grad.mst.edu/currentstudents/forms/), which outlines the student's intended program of study. A minimum of one-half of the course requirements for the degree should be completed after the student submits for approval the typed original Form 1 to the department chair and the dean of graduate studies. Students who fail to comply with the deadline to submit Form 1 will have a registration hold placed on their account by the office of graduate studies. If changes to the approved Form 1 occur at any time, the student must submit Form 1-A to revise his or her approved plan of study.

Time Limits for Earning a Master's Degree

Students may earn a master's degree only if all graduate credit counted toward the degree has been earned within the previous six years. When recommended by the student's advisory committee, however, the committee may validate by examination as many as six credit hours of coursework completed outside this six-year time limit.

Transferring Credits Toward a Master's Degree

A maximum of nine credit hours of coursework for M.S. degrees may be transferred from another university. Such credits must have been registered as graduate courses when they were taken. Students must have earned at least a B grade for all courses to be transferred to a Missouri S&T graduate program, and these transferred courses must be entered as part of the student's program on Form 1 or 1-A. The Missouri S&T equivalent should be stated, and a transcript that includes the course(s) to be transferred should accompany Form 1. Approval of Form 1 or Form 1-A will allow the transferred course(s) to be entered on the student's Missouri S&T transcript, but only after the registrar's office has received the student's official transcript(s) from his or her previous school(s).

Earning a Second Master's Degree

A student who has earned a master's degree at Missouri S&T or elsewhere in one major shall be eligible to earn a second master's degree in another area upon the satisfactory completion of a minimum of 24 additional credit hours of graduate academic work (thesis or non-thesis). At least three credit hours of required coursework must be from the group of lecture courses bearing numbers in the 6000-series. A maximum of three credit hours of 3000-level courses can be accepted in a second M.S. program. Individual programs may further restrict the number of credit hours of 3000-level courses and specific 4000-level courses counting towards their graduate degree programs. 1000-level and 2000-level courses may never be used. The total graduate credit hours earned in courses numbered 5000, 5010, 6000, and/or 6010 must not exceed four hours. In planning dual, or simultaneous, master's degrees, students must clearly define on Form 1 which degree is to be completed first. A change in order will require the submission of Form 1-A. International students must contact the international affairs office before attempting to pursue dual master's degrees.

Master of Science Degree with Thesis

The master of science degree program with thesis requires a minimum of thirty hours of graduate credit over and above any prerequisites, but some programs may require more than thirty hours. Please refer to individual program websites or entries in this catalog for information about particular programs. A minimum of six hours of the required coursework must come from the group of 6000-level lecture courses, no credit hours from 1000/2000-level courses, and a maximum of six credit hours of 3000-level coursework may be applied toward certain master's degree programs, although individual programs may further restrict 3000-level coursework and specific 4000-level courses counting towards their master's degree programs. Please consult your program for specific details. Students are encouraged to take at least six credit hours of coursework outside their major program. In addition, the program of study (Form 1) must include at least six hours of graduate research and a minimum of eighteen hours of 3000-, 4000-, 5000-, and 6000-level lecture courses. The program of study may also include up to nine credit hours of coursework transferred from another university. When a student has co-advisors in different departments, the student's graduate research credit may be shared by all departments involved. Research will normally be conducted on the Missouri S&T campus, but in special cases, all or part of the research may be conducted elsewhere. Off-campus research must be supervised by a member of the Missouri S&T faculty, and must have the prior written approval of the student's graduate advisor, department chair, and the dean of graduate studies (the application to do non-resident research is available at http://grad.mst.edu/currentstudents/forms/). Care must be taken to ensure that an off-campus research endeavor will result in educational experiences equivalent or superior to those that a student might expect to have at Missouri S&T.

Master's degree candidates who are writing a thesis are encouraged to make effective use of their three advisory committee members by:

- Submitting a written description of the proposed research to the members of the committee as soon as the topic is decided.
- Obtaining written approval of the committee indicating that the proposed research is of M.S. caliber.
- Submitting periodic progress reports to the committee and discussing these reports with individual committee members or with the committee as a group. (The frequency of reports and method of discussion should be determined by the committee.)
Master’s Thesis

The findings and results of research undertaken by the candidate for a master’s degree must be presented in a written thesis. A manual entitled “Specifications for Thesis and Dissertations” is available at http://grad.mst.edu/currentstudents/thesisdissertationinformation/formatting/. This manual outlines the specific requirements for the thesis. Effective June 1, 2013, the final copy of the thesis must be submitted electronically unless an indefinite hold is being placed on the thesis.

Oral Examination, or Master’s Thesis Defense

When the thesis is completed, the candidate distributes a copy to each member of his or her advisory committee and arranges a time and place for the oral examination, or defense, of the thesis. These oral examinations are normally scheduled when the university is officially in session, and the candidate must be enrolled at the time of the examination. An on-campus candidate for a graduate degree may enroll during the intersession for the final examination only (course 5040) for no hours of credit and pay the examination fee. Each committee member should be allowed to examine the thesis for at least seven working days before the oral defense. The defense may be comprehensive in character, and the candidate should be able to demonstrate an acceptable level of knowledge of a professional area, as defined by his or her degree program.

In order for the candidate to pass the examination, every member of the examining committee must vote affirmatively. If any member votes not to pass the candidate, the dean of graduate studies shall appoint a new examining committee on which the dissenting member may be replaced, and the new committee will administer a second examination. A student who fails a second time will no longer be eligible to receive a graduate degree from that program. However, the student is still eligible to pursue a graduate degree from any other graduate degree program willing to accept him or her.

Immediately following the thesis defense, the chair of the examining committee will report the action of the committee (on Form 2) first to the department chair and then to the dean of graduate studies. Approval of Form 2 signifies that the members of the committee examined the thesis closely for both scientific content and format, and determined that it meets the requirements for a master’s degree and is worthy of acceptance by the graduate faculty of Missouri S&T.

Approval and Filing of the Thesis

At the close of a successful thesis defense, the members of the examining committee will sign the Form 2 to signify that they have read and approved the thesis. If the committee indicates that corrections must be made to the thesis, the student must make such corrections and then seek approval of the revised thesis from the committee members and obtain the necessary signatures. The final approved copy of the thesis is then taken to the office of graduate studies, where it is carefully checked to ensure that the document is properly formatted according to the specifications available online. After the office of graduate studies approves the document, it is submitted electronically (unless there is an indefinite hold) to the electronic thesis/dissertation (ETD) website. Liberal choices are allowed relative to the style manual used in the preparation of the thesis. However, approval of the thesis requires strict adherence to the style manual selected, and must reflect a level of quality suitable for professional publication. Upon departmental request, the student may present one copy of the approved thesis to the department chair and one to the thesis advisor, and may choose to retain one copy for his or her personal records.

Procedures for Earning the Master of Science Degree with Thesis

All master's degree students must have fulfilled all admissions requirements, including English proficiency test scores, if necessary. Students admitted to a master of science degree program and who are writing a thesis must adhere to the following procedures.

1. The student will consult with the graduate advisor about course scheduling and registering for classes.
2. The student will select an advisor and committee, and complete Form 1 (typed original) within six weeks of the beginning of the semester in which the student takes his or her fifteenth graduate credit hour. Students who fail to comply with this deadline will have a registration hold placed on their account.
3. The student will complete academic requirements.
4. The student will check with the registrar to make application for graduation within four weeks of the beginning of the student’s final semester, or within two weeks of the beginning of the summer session. The student must apply for graduation though their Joe'SS account.
5. The student will arrange a date, time, and place for the oral examination, or thesis defense, and forward this information to the office of graduate studies electronically. The student must be enrolled at the time of oral examination.
6. The student will distribute copies of the thesis to all members of the examining committee at least seven working days before the oral examination.
7. The chair of the examining committee will report the action of the committee to the office of graduate studies by submitting a typed original Form 2, accompanied by a hard copy of the committee approved thesis for format check.
8. Once the format check is complete the office of graduate studies will direct the student to submit the final copy of the thesis electronically to the ETD website, provided the student has fulfilled all academic requirements and has paid all enrollment or examination fees.
9. Upon departmental request, the student may present one copy of the approved thesis to the department chair and one to the thesis advisor, and may retain one copy for his or her personal records.
10. The Board of Curators will, upon the recommendation of the graduate faculty, grant the student the master of science degree when all degree requirements are met and all enrollment or examination fees have been paid.

Master of Science Degree without Thesis

The master’s degree program without thesis requires a minimum of thirty hours of graduate credit over and above any prerequisites, but some departments may require more than thirty hours. Please refer to individual department websites or entries in the areas of study sections of this catalog for information about particular programs. A minimum of nine credit hours of the required coursework must come from the group of 6000-level lecture courses, no credit hours from 1000/2000-level courses, and a maximum of six credit hours of 3000-level coursework may be applied toward certain master's degree programs, although individual programs may further restrict 3000-level coursework and specific 4000-level courses counting towards their master's degree program. Please consult your department for specific details. Students are encouraged to take at least six credit hours of coursework outside
their major department. Students are limited to a maximum of four credit hours in courses numbered 5000, 5010, 6000, and/or 6010 on their program of study. Non-thesis students are not allowed to include graduate research on a program of study.

Master’s Comprehensive Examination
Most master’s degree programs at Missouri S&T do not require students to take a comprehensive written examination. Please consult your department’s website or areas of study sections of this catalog to determine if the comprehensive examination is required for master’s degree candidates.

For those students whose department requires it, the master’s degree candidate must successfully complete a final written comprehensive examination that is administered by an examining committee. The members of this committee are chosen by the candidate, in consultation with his or her advisor and department chair. The department chair then submits for approval the names of four faculty members and that of the major advisor to the dean of graduate studies, using Form 1-B. The committee must consist of at least five members, including at least one person from outside the candidate’s major department. The chair and at least one half of the members of this committee should belong to the graduate faculty.

The comprehensive written examination will be given only once each semester or summer session and not earlier than six weeks before the last Friday of the semester or three weeks before the end of the summer session. The candidate will receive a passing grade if all, or all but one, of the members’ votes to pass. A student who fails the examination must take it again at the next regularly scheduled examination time. A student who fails the examination a second time will no longer be eligible to receive a graduate degree from that program. However, the student is still eligible to pursue a graduate degree from any other graduate degree program willing to accept him or her.

Procedures for Earning the Master of Science Degree without Thesis
All master’s degree students must have fulfilled all admissions requirements, including English proficiency test scores, if necessary. Students admitted to a master of science degree program who are not writing a thesis and who are not required to pass a comprehensive examination must adhere to the following procedures.

1. The student will consult with the graduate advisor about course scheduling, and register for classes.
2. The student will select an advisor, and complete Form 1 (typed original) within six weeks of the beginning of the semester in which the student takes his or her fifteenth graduate credit hour. Students who fail to comply with this deadline will have a registration hold placed on their account.
3. The student will complete academic requirements.
4. The student will check with the registrar to make application for graduation within four weeks of the beginning of the student’s final semester, or within two weeks of the beginning of the summer session. The student must apply for graduation through their Joe’SsS account.
5. The Board of Curators will, upon the recommendation of the graduate faculty, grant the student the master of science degree when all degree requirements are met and all enrollment or examination fees have been paid.

Procedures for Earning the Master of Science Degree, Coursework Only
All master’s degree students must have fulfilled all admissions requirements, including English proficiency test scores, if necessary. Students admitted to a master of science degree program who are not writing a thesis and who are not required to pass a comprehensive examination must adhere to the following procedures.

1. The student will consult with the graduate advisor about course scheduling, and register for classes.
2. The student will select an advisor and complete Form 1 (typed original) within six weeks of the beginning of the semester in which the student takes his or her fifteenth graduate credit hour. Students who fail to comply with this deadline will have a registration hold placed on their account.
3. The student will complete academic requirements.
4. The student will check with the registrar to make application for graduation within four weeks of the beginning of the student’s final semester, or within two weeks of the beginning of the summer session. The student must apply for graduation through their Joe’SsS account.
5. The Board of Curators will, upon the recommendation of the graduate faculty, grant the student the master of science degree when all degree requirements are met and all enrollment or examination fees have been paid.

Master of Science Degree for Teachers
The master of science for teachers degree program is primarily designed for high school teachers in the sciences and mathematics who want to further their education and earn an advanced degree. The master of science for teachers degree is offered through the departments of chemistry, mathematics, and physics. More information about these specific degree programs is available on the departmental websites and in the areas of study sections of this catalog.

Admission to the Master of Science for Teachers Program
Because of possible variation in the preparation and academic background of prospective master of science for teachers students, the program of each admitted student will be planned and supervised by an advisory committee approved by the dean of graduate studies. To be admitted into this program, the prospective student must have:

• A degree from an accredited college.
• A teaching certificate for mathematics, biology, earth science, physics, or unified sciences.
• Previous training totaling a minimum of 36 credit hours in mathematics and sciences, including at least 24 credit hours in any
of the following areas: biology, chemistry, geology, mathematics, or physics. The department chair may modify or waive these requirements, if necessary, on a case-by-case basis.

- A complete application package, including an application form, official undergraduate and graduate transcripts, official graduate record examination (GRE) score (if required), and an application fee.

General Requirements for the Master of Science for Teachers Program

Students admitted to the master of science for teachers program must complete at least thirty credit hours of courses numbered 3000 or higher in sciences and mathematics. These must include at least one course of three hours or more numbered 6000 or above, exclusive of courses numbered 5000, 5010, 6000, 6010, and/or any graduate research credit. A maximum of nine credit hours may be transferred from other colleges or universities. The entire program must be outlined on Form 1 and submitted to the dean of graduate studies for approval. The cumulative GPA for all courses on the student’s Form 1 must be 3.0 or higher.

Upon or near completion of the student’s coursework, the student must satisfactorily pass comprehensive oral and written final examinations (if required by their department). A committee, appointed by the dean of graduate studies, will administer and evaluate both examinations for each candidate.

Specific requirements for individual majors enrolled in the master of science for teachers program are described on each department’s website and in the areas of study sections of this catalog.

Master of Engineering Degree

The master of engineering (M.E.) degree program is designed for full-time students who are able to complete the degree requirements on campus within a single year, as well as for students who have jobs in industry and who thus choose to access this program through distance education. This degree program is practice oriented, and students are expected to complete a significant project in the course of their studies. Currently, the departments of geotechnics, manufacturing engineering, and mining engineering offer the master of engineering degree. Students interested in pursuing the Master of Engineering degree should consult with an academic advisor and seek approval of the program director in the department of their choice.

General Requirements for the Master of Engineering Degree

The master of engineering degree program with project requires a minimum of thirty hours of graduate credit over and above any prerequisites. A minimum of six credit hours of the required coursework must come from the group of 6000-level lecture courses in the major field of study (not required for mining engineering). A maximum of six hours of 3000-level coursework can be applied toward the M.E. Degree (individual programs may further restrict 3000-level courses and specific 4000-level courses counting toward their graduate degree programs). A minimum of one three-hour practice-oriented project is required for all M.E. candidates, through taking at least three credit hours of any of the graduate courses 5000, 5080, 6000, or 6080. The findings and results of the practice-oriented project must be presented in a written report, and some programs may require the candidate to make an oral presentation as well. Care will be taken to provide distance education students with an industrial project that promises education experiences equivalent or superior to those that students working on the campus of Missouri S&T might expect to have. Specific requirements for individual master of engineering degree programs are described on each department’s website and in the areas of study sections of this catalog.

Procedures for Earning the Master of Engineering Degree

All students in a master of engineering degree program must have fulfilled all admissions requirements, including English proficiency test scores, if necessary. Students admitted to a master of engineering degree program must adhere to the following procedures:

1. The student will consult with the graduate advisor about course scheduling, and register for classes.
2. The student will select an advisor, and complete Form 1 (typed original) within six weeks of the beginning of the semester in which the student takes his or her fifteenth graduate credit hour. Students who fail to comply with this deadline will have a registration hold placed on their account.
3. The student will complete academic requirements.
4. The student will check with the registrar to make application for graduation within four weeks of the beginning of the student’s final semester, or within two weeks of the beginning of the summer session. The student must apply for graduation through their Joe’Ss account.
5. The student will submit the practice-oriented project report to the graduate advisor. (Some programs may also require the student to make an oral presentation based on the report.)
6. The advisor will advise the program director of the results of the report. The program director will complete Form 3 and submit it to the dean of graduate studies. The Board of Curators will, upon the recommendation of the graduate faculty, grant the student the master of engineering degree when all graduation requirements are met and all enrollment or examination fees have been paid.

Master of Business Administration (MBA) Degree

The business and information technology department offers a unique master of business administration (MBA) degree. The MBA degree integrates core business knowledge and the latest information technology, management, leadership, and entrepreneurship knowledge. In addition to developing influential presentation skills and advanced problem solving competencies, the MBA education develops advanced strategic thinking skills that are required of the leaders of today and tomorrow.

The MBA requires 36 hours of coursework and students can complete the degree program in as little as 18 months of full-time study or three years in our part-time MBA track. Students take 21 hours of core course work and choose 15 hours of electives.

The MBA program is unique in that graduate certificates are offered that may be completed within the MBA program requirements. The part-time executive MBA is offered on-campus or entirely through distance education.

General Requirements for the MBA Program

The master of business administration program requires a minimum of 36 credit hours of graduate coursework for successful program completion.
Within the 36 credit hours of graduate coursework, students must complete 21 credit hours of core classes and 15 credit hours of electives. These elective credits allow candidates to pursue a graduate certificate in entrepreneurship and technological innovation, electronic and social commerce, business intelligence, enterprise resource planning, human-computer interaction, management and leadership, mobile business and technology, digital media, project management (information systems), digital supply chain management, project management (engineering management), or psychology of leadership. Additionally, MBA candidates may choose to develop an area of focus to meet individual career goals.

Procedures for Earning the MBA
All master of business administration students must have fulfilled all admissions requirements established by the MBA Admissions Committee. Students admitted to the MBA program must adhere to the normal procedures for master’s degree candidates established by the university dealing with advising, submission of Form I, and submission of applications for graduation.

Master of Arts Degree in Economics and English
The departments of economics and English at Missouri S&T have entered into a cooperative agreement with the corresponding departments at the University of Missouri-St. Louis to offer the master of arts in economics and English. This agreement permits students to take up to twelve hours of graduate credit on the Missouri S&T campus. However, students may take only nine credit hours at the 5000-level. Students interested in enrolling in a master of arts program are required to fulfill all admissions requirements, including English proficiency test scores, if necessary. Specific requirements for individual majors enrolled in the master of arts degree are described on each department’s website and in the areas of study sections of this catalog.