The Preston M. Green Department of Electrical & Systems Engineering

Master's Student Handbook

2024-2025

Washington University in St. Louis

James McKelvey School of Engineering

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Welcome to Electrical & Systems Engineering

Greetings! You, our Master's students, are critical to our success as a department. We look forward to helping facilitate your progress through our program. You are welcome to contact us at any time if you have concerns or questions.

Sincerely,

Dr. Bruno Sinopoli, Department Chair
Dr. James Feher, Director of Master's Studies
Dr. Chuan Wang, Graduate Committee Chair
Dr. Jinsong Zhang, Master's Program Coordinator
Madi Hester, Graduate Program Coordinator

1. Graduate Student Services Welcomes you to Washington University

Graduate Student Services offers support to all Engineering graduate and professional students from admission through graduation. We connect students with resources at WashU to help them achieve their academic goals, address personal concerns, and ensure they get the most out of their experience. We also support faculty and staff with administrative processes and policies related to graduate admissions, financial aid and graduate programs. Please feel free to stop by Lopata, 203, or contact us at 314-935-5830 or eng-gradstudserv@wustl.edu if you need help, or have questions.

All Master's students are matriculated into the McKelvey School of Engineering **[A]**. Registration takes place each semester on dates announced by the University. Detailed instructions for registration plus necessary materials are mailed directly to all Graduate students enrolled during the previous semester.

All graduate students pursuing a degree in the department must register each semester until all degree requirements are completed. Students register in courses until they have earned the total number of credits required for their degree.

1.1 Full -Time Status

A graduate student is viewed as having active full-time status if enrolled in nine (9) or more units or an active part-time status if enrolled in fewer than nine (9) units. Their adviser must authorize graduate students prior to registration. International Master's students on F1 and J1 visas are required to take a minimum of nine units per semester except in their final semester. ESE 590 Electrical & Systems Engineering Graduate Seminar must be taken by full-time graduate students each semester.

1.2 Part -Time Status

A part-time student is any Master's student taking less than the full-time course load of nine (9) credit hours. International Master's students must maintain full-time status with the exception of their last semester prior to

graduation. International students may only attend on a part-time basis if the course(s) they are taking are all that are required for them to complete their degree. In order to maintain a student visa on less than a full course load, the student must submit a Reduced Course Load Authorization request in MyOISS **[B]** with the Office of International Student and Scholars **[C]** (OISS). Students must obtain the approval of their adviser, who confirms that the student will meet the graduation requirement with the specified course load. A copy of the form must be provided to the Graduate Program Coordinator, Green Hall, Room 1101.

1.3 Degrees Offered

The department offers several master's degrees and four certificates. The master's degrees are

- Master of Science in Electrical Engineering (MSEE)
- Master of Science in Systems Science and Mathematics (MSSM)
- Master of Science in Engineering Data Analytics and Statistics (MSDAS)
- Master of Science in Computer Engineering *

The certificates offered in the department are:

- Certificate in Imaging Science and Engineering
- Certificate in Quantum Engineering
- Certificate in Controls
- Certificate in Financial Engineering

1.4 Number of Terms Allowed

All requirements for the master's degree must be completed within six (6) years from the time the student is admitted to graduate standing. Once admitted as a graduate student, students must maintain enrollment in all full semesters (fall and spring) until the completion of their degree.

Students may request a temporary leave from enrollment by notifying the Graduate Program Coordinator and submitting the Master's Request for a Leave of Absence **[1]**. On a leave of absence, students in good standing are assured re-enrollment within the next year. Before returning, the student is to notify the McKelvey School of Engineering and submit a reinstatement form at least six weeks prior to the beginning of the appropriate term. A copy of this request of leave should also be sent to the student's adviser.

However, this option is not available for International students due to visa considerations. International students will work with the Graduate Program Director to ensure that their leave is appropriately approved by the department.

1.5 For International Students

The following are the number of semesters an international student has to complete their master's degree within the Electrical & Systems Engineering Department.

Two-Year Programs (Four Full Semesters)

- Master of Science in Systems Science and Mathematics
- Master of Science in Electrical Engineering
- Master of Science in Engineering Data Analytics and Statistics
- Master of Computer Engineering *

1.6 Grade Options for Classes

Students who want to "drop" a course and insure that it does not show up on their transcript must drop by the deadline date, which falls during the second week of the semester. Students who want to "withdraw" from a course must withdraw by the deadline date, which falls during the twelfth week of the semester. Exact drop dates can be found on the McKelvey Academic Calendar **[D]**. The course will be recorded on the transcript, but with a grade of "W", which does not affect GPA. The Pass/Fall and audit options do not fulfill any graduation requirements. The audit option may not be allowed by some departments, and instructor approval is required for the audit option.

2. Course Information

Master's programs require a minimum of 30 credit hours of study consistent with the residency and other applicable requirements of Washington University and the McKelvey School of Engineering. The master's degrees may be pursued with a course only or thesis option. All requirements for master's degrees must be completed within six (6) years from the time the student is admitted to graduate standing.

2.1 Transfer Graduate Credit from Another Institution

A maximum of six (6) units of graduate credit obtained at institutions other than Washington University may be applied toward the master's degree. Approved transfer credit must be taken for graduate credit. No courses carrying grades lower than a "B" can be accepted for transfer credit and those courses may only be used as elective credit for the degree.

Students must provide the following information for requests to transfer credit and complete the Master's Transfer Credit Request Form **[2]**:

- Official transcript with verification that the courses in question were not used for the completion of a bachelor's degree. Please send to McKelveyRegistrar@wustl.edu
- Catalog Description
- Syllabus
- Text
- Matching course at Washington University

All documents must be given to the Graduate Program Coordinator, Green Hall, Room 1101. The student's adviser and department chair need to approve the suggested courses. Students will be notified once the process is complete.

2.2 Graduate Independent Study (ESE 500) and Master Student Research (ESE 599)

Students who wish to take an independent study course or research in ESE are required to complete the Independent Study Request **[3]** or complete the Master's Thesis Request **[4]**, which includes their adviser's approval. Completed forms must be returned to the Graduate Program Coordinator, Green Hall, Room 1101. Students will be notified once they have been registered for the course. Only three (3) hours of independent study can be applied as elective credit.

2.3 Research Rotation for Master's Students (ESE 5001)

This course allows students to acclimate to a research lab with the intention of determining of this is a fit with their academic interests. The course may be used for elective credit for the masters degrees. It is considered to be a graduate-level independent study course. It should be noted that students are only allowed a total of 3 units of graduate-level independent study for meeting degree requirements.

3. Standard Policies

3.1 Requirements for the Degree

Requirements for the degree may be found in the Washington University Bulletin **[E]**. For information on the electives, please reference the Graduate pages of Electrical & Systems Engineering webpage **[F]**.

3.2 Seminars (ESE 590)

Each year the department sponsors or participates in a series of seminars by visiting lecturers and WashU faculty and students. All full-time graduate students are required to enroll in ESE 590- Graduate Seminar, which is a course carrying zero (0) units. A "Satisfactory" grade is required for each semester for all full-time students and is earned by regular attendance at these events. An unsatisfactory grade will be given to students failing to meet the requirements for the course. BS/MS and DD students are expected to enroll in ESE 590 in their last year of study.

- Masters students must attend at least 3 seminars per semester, except for first year Master's students who must attend 4.
- Part-time students are exempt except during their year of residency. Any student under continuing status is also exempt.

3.3 Multiple Master's Degrees

To earn more than one master's degree from the McKelvey School of Engineering, the student's final program of course work for each additional master's degree must include a minimum of an additional 15 units of preapproved courses not included as part of the final program of course work for any other master's degree awarded by McKelvey Engineering.

3.4 Bachelor's/Master's (BS/MS) and Dual Degree (DD) Programs in Engineering

Students who enter Washington University as undergraduates in day-school programs have the opportunity to earn a master's degree in the McKelvey School of Engineering. Those students may use up to six (6) hours of relevant coursework from their undergraduate studies toward meeting the requirements for their master's degree. A minimum of thirty (30) units of engineering coursework at the 200-level or higher within McKelvey is required to gain residency for BS/MS students **[G]**. Dual Degree students **[H]** adding a masters's degree must also have a minimum of eighty-four (84) total WashU residency units.

3.5 Doctoral Students Adding a Master's Program

A doctoral students will almost certainly meet the requirements for a master's degree in ESE as they progress through the milestones for their doctoral program. ESE would like to encourage all doctoral students to also obtain master's degree once they have met those requirements. However, students wishing to add a master's program must first have the Master's program added to their plan of study by the ESE department.

The student will send a request to add the program to the Director of ESE Master's Studies. The research advisor for the student will then be informed of the request to open this program so that they may discuss this with the student if that has not already happened. After the student and research advisor have had a chance to determine how this fits into the overall academic plan for the students, the Director of Master's Studies will have the registrar add the program to the student's plan of study. Students must still file an intent to graduate on Webstac for that program once they have met the requirements. Doctoral students should note that transferring courses into a master's program is done on a course-by-course basis, and should consult the master's handbook for that procedure.

3.6 International Students Extending Visa with OISS

Visa extensions can depend on various variables and can change if government policy changes. If students extend their program, or add an additional degree, they are extending their I-9.

Students who wish to extend their visas should contact their OISS adviser and fill out the Add a Second or Joint Degree Form **[5]**.

3.7 Master's Course Option Only

This option is intended for those employed in local industry who wish to pursue a graduate degree on a part-time basis, or for full-time students who do not seek careers in research.

Students must have a cumulative grade point average of at least 3.0 out of a possible 4.0 over all courses applied toward the degree. Under the course option, students may not take ESE 599 Master's Research, and with faculty permission, may take up to three (3) units total of ESE 500 Independent Study or ESE 5001 Master's Research Rotation.

3.8 Master's Thesis

A candidate for the degree master of science (thesis option) must prepare their thesis according to the Master's Thesis Format Guidelines **[I]** found on the McKelvey Engineering website. Those completing the thesis option require the following steps:

- Students are required to take six (6) units of ESE 599 Master's Research.
- Students who complete a thesis may use ESE 5001 Master's Research Rotation for three units of elective credit.
- The student and their research adviser will form a three-person committee to read the thesis and judge its acceptability.
- Students must submit a Master's Thesis Committee Form **[6]** no later than the first two weeks of the semester they plan to graduate.
- Thesis committees must have at least one ESE tenure/tenure track faculty with at least two ESE faculty members. Any ESE faculty member (tenure, tenure-track or teaching faculty) may serve as the chair of the thesis committee. A non-WashU faculty member can be included as the fourth member of the committee.
- The student will notify the Graduate Program Coordinator of the date of the thesis examination and provide an abstract of the thesis TWO WEEKS prior to the exam. In order to complete all requirements on time, it is strongly recommended that students plan to defend their thesis no later than two weeks prior to the "Thesis and dissertation deadline" found on the McKelvey academic calendar **[D]**.
- The student will also make sure to provide the committee and the graduate coordinator the final draft of the thesis two week prior to their defense date, failure to do so will result in a cancellation of the defense.
- The candidate has the option to deliver a draft copy of the thesis to the Graduate Student Services Office for format approval.
- Once the defense has been completed and the committee has approved the final version of the thesis, the student and thesis committee should complete Master's Thesis or Project Final Defense Approval **[7]** form.
- The student must submit the thesis electronically to Washington University Open Scholarship **[J]**.
- The student can order bound copies of their thesis through Thesis-On-Demand **[K]**.

The final examination for the master of science candidates under the thesis option consists of an oral examination

conducted by the thesis committee and any additional faculty members that the department or program chairman may wish to designate. At this examination, the candidate will present and defend the thesis. A typical examination consists of up to a 45 minute presentation by the candidate of the thesis topic that is open to the public. This is followed up by up to 45 minutes of discussion and questions with the thesis committee.

Timeline	Steps	Form(s)
First Semester of 599: Class Registration	Submit 599 form with research advisor	599 Form
Last Semester of 599: Class Registration	Submit 599 form with research advisor	599 Form
Last Semester: Second Week	Form Thesis Committee	Committee Form
Last Semester: Tenth (10) Week	Schedule Defense with Committee	Work with Graduate Program Coordinator
Two Weeks Before Defense	Send thesis draft to committee and Program Coordinator	
After Defense	Submit Thesis Defense Approval Form and Thesis to Open Scholarship	• Approval Form • Open Scholarship

Notes:

Do not sign up for more than 3 units of 599.

Some students may take more than 2 semesters to complete the thesis.

3.9 Intent to Graduate

Students are required to file an "Intent to Graduate" online via WebSTAC. The deadlines for filing can be found on the McKelvey Academic Calendar **[D]**. Students should declare their intent to graduate **prior** to the semester they wish to graduate. Example: Student should file in fall for spring graduation. Once the student files the form, the department is notified to consider them as a candidate for their degree. The student's adviser will evaluate the student's record to determine if the student has met the degree requirement. If the student fails to complete degree requirements during the semester for which they filed, the student must re-file the "Intent to Graduate".

4. Faculty and Staff

Bruno Sinopoli

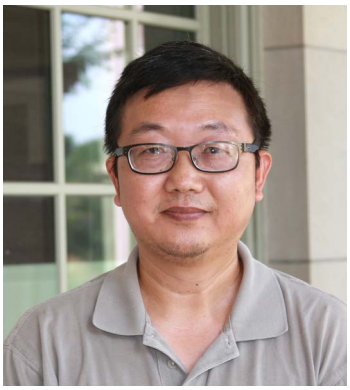
Department Chair

bsinopoli@wustl.edu

Chuan Wang

Director of Graduate Studies

chuanwang@wustl.edu



Jinsong Zhang

Primary Advisor for Master of Science in Data Analytics and Statistics

Primary Advisor for Master of Systems Science and Mathematics

Jinsong.zhang@wustl.edu

Jim Feher

Director of Master's Studies

Primary Advisor for Master of Science Electrical Engineering

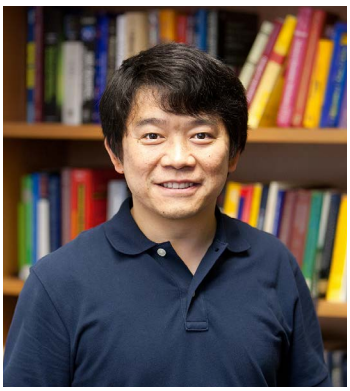
Controls Certificate Director

jdfeher@wustl.edu

Vladimir Kurenok

Financial Engineering Certificate Director

kurenokv@ese.wustl.edu



Jung-Tsung Shen

Quantum Engineering Certificate Director

jushen@wustl.edu

Madi Hester

Graduate Coordinator

m.hester@wustl.edu

Angel Algarin

Department Administrator

aalgarin@wustl.edu

5. Graduate Student Services Staff

Cathy Freesmeier

Associate Dean

Graduate Student Services

Cathy_freesmeier@wustl.edu

Holly Stanwich

Director of Graduate Student Affairs

hstanwich@wustl.edu

Johanna Sengheiser

Graduate Financial Aid Analyst & Accountant

jseingheiser@wust.edu

6. Appendix I. Forms

Forms are required to begin most processes and can be found here: https://engineering.wustl.edu/offices-services/student-services/graduate-student-services/forms.html

[1] Master's Request for Leave of Absence

https://powerforms.docusign.net/6b5bb82a-df96-4c4d-b7c1-_f196d9e21243?env=na3&acct=600054d6-8634-4a0d-9bc7-6aa8c5c97d49&accountId=600054d6-8634-4a0d-9bc7-6aa8c5c97d49

[2] Master's Transfer Credit Request

https://powerforms.docusign.net/42c43820-bb9e-4641-a9b0-8a244a9b9d66?env=na3&acct=600054d6-8634-4a0d-9bc7-6aa8c5c97d49&accountId=600054d6-8634-4a0d-9bc7-6aa8c5c97d49

[3] Master's Independent Study Request

https://powerforms.docusign.net/2f1907be-8320-4f0f-a044-830c01bcb605?env=na3&acct=600054d6-8634-4a0d-9bc7-6aa8c5c97d49&accountId=600054d6-8634-4a0d-9bc7-6aa8c5c97d49

[4] Master's Thesis Request

https://powerforms.docusign.net/7ab534c2-42c3-440e-827f-b9162770d1db?env=na3&acct=600054d6-8634-4a0d-9bc7-6aa8c5c97d49&accountId=600054d6-8634-4a0d-9bc7-6aa8c5c97d49

[5] OISS Adding a Second or Joint Degree Request

https://students.wustl.edu/wp-content/uploads/2018/10/I20_Ext_App-2nd-Joint-Degree.pdf

[6] Master's Thesis Committee Form

https://wustl.box.com/s/5c3mqypwdjp8v14urjducoq4lughzcer

[7] Master's Thesis Final Defense Approval

https://powerforms.docusign.net/dea1ea69-ccfc-4637-ac3c-c72045df58dd?env=na3&acct=600054d6-8634-4a0d-9bc7-6aa8c5c97d49&accountId=600054d6-8634-4a0d-9bc7-6aa8c5c97d49

7. Appendix II. Websites

[A] McKelvey School of Engineering

https://engineering.wustl.edu/Pages/home.aspx

[B] MyOISS Portal

https://myoiss.wustl.edu/_portal/?_gl=1*1cdy1m7*_ga*MTc2MzY1MDE4Ny4xNzExMTM5NTMw*_ga_QFEX1HEKPB*MTcxODk4OTMxNy4yLjEuMTcxODk5NTAwNS4wLjAuMA..

[C] Office of International Students and Scholars

https://students.wustl.edu/international-students-scholars/

[D] McKelvey Academic Calendar

https://engineering.wustl.edu/academics/academic-calendar.html

[E] Washington University Bulletin

http://bulletin.wustl.edu/

[F] Electrical & Systems Engineering Graduate Webpage

https://ese.wustl.edu/graduate/degreeprograms/Pages/default.aspx

[G] McKelvey Bachelor/Master's Program

https://engineering.wustl.edu/academics/graduate-admissions/bachelors-masters.html

[H] McKelvey Dual Degree Program

https://engineering.wustl.edu/academics/dual-degree-program/index.html

[I] Master's Thesis Format Guidelines

https://engineering.wustl.edu/current-students/student-services/Pages/forms.aspx

[J] Washington University Open Scholarship

https://openscholarship.wustl.edu/

[K] Thesis-On-Demand

https://wustl.thesisondemand.com/

8. Appendix III.

* The Master of Science in Computer Engineering is jointly governed with the Department of Computer Science and Engineering.

Washington University in St. Louis

James McKelvey School of Engineering

ese.wustl.edu

ese@wustl.edu

@WashUESE

@WashUESE

WashU Electrical & Systems Engineering

#WashUEngineers

#WashUESE