



Policies & Procedures  
of the Doctoral Program in  
Social and Engineering Systems

—Revised November 2022—

## Welcome from the Directors

*Dear program participants,*

*Welcome to the Social & Engineering Systems Doctoral Program. Our goal is to build a program with a distinct flavor and you, the students, are a key pillar of our success.*

*The criteria for selecting program participants involve a combination of academic excellence with a genuine interest to address important societal problems. Your having been selected indicates our belief that your profile matches the program objectives and signals our confidence that you will thrive at MIT.*

*On our end, we will do whatever it takes, in terms of advising, guidance, teaching, and support, to make sure this happens. Your advisors, the program administration, and all of MIT's resources are at your disposal.*

*Sincerely yours,*

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Munther Dahleh, IDSS Director

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Fotini Christia, SES Program Head

## II. Table of Contents

III. Terminology & Abbreviations .....	4
1. Mission & Character.....	5
1.1 Massachusetts Institute of Technology.....	5
1.2 Institute for Data, Systems, and Society.....	5
1.3 Doctoral Program in Social and Engineering Systems .....	5
2. Oversight & Administration .....	6
3. Orientation.....	8
3.1 Math Camp.....	8
3.2 Doctoral Seminar.....	8
3.3 Econ Camp.....	8
4. Coursework.....	9
4.01 Core.....	9
4.02 Information, Systems, and Decision Science.....	10
4.03 Social Science .....	10
4.04 Application Domain.....	10
4.05 Substitutions & Waivers.....	10
4.06 MicroMasters in Statistics and Data Science Pathway .....	11
4.07 Independent Study.....	11
4.08 Subject Evaluations .....	11
4.09 Unit Limits .....	11
4.10 Program Plans .....	11
5. Qualifying Exams.....	12
5.1 Written Qualifying Exams.....	12
5.2 Oral Qualifying Exam .....	14
6. Teaching.....	15
7. The Master's Degree in Social and Engineering Systems .....	16
8. Interdisciplinary Doctoral Program in Statistics .....	17
9. Research.....	18
9.1 Thesis Committee and Proposal.....	18
9.2 Research Changes .....	18
9.3 COUHES.....	19
10. Dissertation Defense, Dissertation Submission, & Graduation .....	20
10.1 The Defense .....	20
10.2 Dissertation Submission .....	20
11. Academic Performance & Progress.....	21
11.1 Progress Oversight .....	21
12. Advising.....	22
12.1 Advising Roles .....	22
12.2 Selection.....	24
13. Financial Support .....	26
13.1 Guaranteed Transitional Support.....	26
14. Residency, Leaves, & Withdrawal .....	27
14.1 Residency & Acceptable Leaves .....	27
14.2 Withdrawal from SES .....	27
14.3 Withdrawal from MIT.....	27
14.4 Denial of Registration.....	28
15. Milestones & Progress Expectations.....	29
Appendix A – Previous Versions of Policies & Procedures .....	30
Pre-July 2021.....	30
Key Contacts .....	32

### III. Terminology & Abbreviations

IDSS is an incorrigible participant in MIT's alphabet-soup of abbreviations, initialisms, and acronyms. It is also made-up of members from diverse scientific communities. The following provides some clarification on our usage of certain terms in the present Policies & Procedures (P&P) document.

- “domain”: refers to application domains, such as energy systems, finance, social networks, urban systems, etc.
- IDSS: Institute for Data Systems and Society
- IDSS-DGC: The IDSS Departmental Graduate Committee
- ISO: International Students Office
- MIT: Massachusetts Institute of Technology
- OGE: Office of Graduate Education
- OQE: Oral qualifying exam
- P&P: Policies & Procedures of the Doctoral Program in Social and Engineering Systems (this document)
- SES: Social and Engineering Systems Doctoral Program
- SES-AdComm: The SES Admissions Committee
- SES-GPC: The Graduate Program Committee for SES
- SES-SM: the embedded Social and Engineering Systems Master's Degree
- SM: elsewhere this is usually abbreviated as “MS,” for “Master of Science”
- “social science(s)”: refers to the sciences that deal with interactions of human actors or organizations, including, for example: anthropology, economics, political science, sociology, etc.
- TSC: Transition Support Coordinator
- WQE: Written qualifying exam

## 1. Mission & Character

### 1.1 Massachusetts Institute of Technology

"The mission of MIT is to advance knowledge and educate students in science, technology, and other areas of scholarship that will best serve the nation and the world in the 21st century.

The Institute is committed to generating, disseminating, and preserving knowledge, and to working with others to bring this knowledge to bear on the world's great challenges. MIT is dedicated to providing its students with an education that combines rigorous academic study and the excitement of discovery with the support and intellectual stimulation of a diverse campus community. We seek to develop in each member of the MIT community the ability and passion to work wisely, creatively, and effectively for the betterment of humankind."<sup>1</sup>

### 1.2 Institute for Data, Systems, and Society

"The mission of IDSS is to advance education and research in state-of-the-art, analytical methods in information and decision systems, statistics and data science, and the social sciences, and to apply these methods to address complex societal challenges in a diverse set of areas such as finance, energy systems, urbanization, social networks, and health."<sup>2</sup>

### 1.3 Doctoral Program in Social and Engineering Systems

Student research in SES is characterized by the following traits:

1. **It is driven by problems of societal interest.** The focus of the program is the study of problems that correspond to significant societal challenges, with emphasis on areas such as sociotechnical systems, autonomous systems, energy systems, finance, social networks, and urban systems. This includes analytical research that can be used to inform policy making. An example of work that falls under this program would be studying systemic risk in the banking system and its impact on the overall financial system. In contrast, profit-maximizing portfolio management does not.
2. **It involves quantitative methods.** Societal problems or policy questions can be addressed from many different angles. However, this program focuses on problems that can be addressed through tools of computing and information sciences, including mathematical modeling and analysis, data science and statistics, and other quantitative methods.
3. **It relies on real-world data.** Research is expected to analyze data from the application domain of interest, and thus training in statistics is part of the program.
4. **It engages societal aspects of the problem.** The research is expected to examine the societal aspects of a problem (e.g., regulations, institutions, human behavior, or economic aspects), using theories and tools from the social sciences.

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<sup>1</sup> <https://facts.mit.edu/mission/>

<sup>2</sup> <https://idss.mit.edu/about-us/>

## 2. Oversight & Administration

At MIT, responsibility for graduate students is distributed between MIT and the academic units.

Occupying a central position in graduate education at MIT, the “Office of Graduate Education (OGE) provides a number of services to current and prospective graduate students as well as departments, including student support and development; diversity- and community-building; advice on fellowships and financial wellbeing; oversight of policies and procedures; and support for graduate admissions and the Graduate Student Council.”<sup>3</sup> Services include administering the set of academic petitions with cross-departmental implications as well as those that involve the Registrar, e.g., to make registration changes after the deadline, complete an incomplete class from a previous semester, request special tuition rates, etc.

At the departmental level, several faculty committees administer IDSS’s academic programs within the parameters detailed on the OGE’s website<sup>4</sup>.

The committees related to the SES program include:

- The IDSS Departmental Graduate Committee (IDSS-DGC)
- The Social and Engineering Systems Graduate Program Committee (SES-GPC)
- The Social and Engineering Systems Admissions Committee (SES-AdComm)
- Individual doctoral thesis committees

The **IDSS Departmental Graduate Committee (IDSS-DGC)** oversees and reviews the various IDSS graduate programs, including:

- The Social and Engineering Systems Doctoral Program
- The Technology and Policy Program
- The Interdisciplinary Doctoral Program in Statistics

The IDSS-DGC may choose to review requests for exceptions to usual IDSS student procedures. The IDSS-DGC also oversees and reviews the graduate subjects offered by IDSS.

In addition to oversight and review, the IDSS-DGC administers IDSS-wide fellowships and awards for graduate students as well as the selection of IDSS nominees for external graduate awards and fellowships.

The IDSS-DGC reports IDSS graduate thesis grades to the Registrar, recommends action upon cases of failure to meet scholastic requirements by IDSS graduate students, and approves departmental degree lists for IDSS graduate programs.

The IDSS-DGC reports to the IDSS Director. Appointments to the IDSS-DGC are made by the IDSS Director in consultation with the IDSS-DGC Chair.

The **Social and Engineering Systems Graduate Program Committee (SES-GPC)** administers the SES doctoral program and embedded master’s degree, including: the program of subjects, research, and examinations (other than language examinations) leading to SES graduate degrees; accepting credits toward the SES academic program; applications for graduate study in SES (usually delegated to SES Admissions Committee during the regular admissions cycle); and determination of residency for SES students.

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<sup>3</sup> <https://oge.mit.edu/services-team/about-us/>

<sup>4</sup> <https://oge.mit.edu/gpp/faculty-oversight/>

The SES-GPC (or its Chair, when authorized by the SES-GPC), in consultation with the IDSS Director, makes decisions regarding selection of SES students for SES-specific fellowships and scholarships, and regarding the students' programs of study, within the rules set forth in this document. In addition, it recommends action upon the following to the IDSS-DGC: selection of SES students for IDSS-wide fellowships and scholarships that are administered by the IDSS-DGC, requests for significant exceptions to usual procedures, and cases of failure to meet scholastic requirements by SES students.

The SES-GPC reports the results of SES qualifying examinations, as well as the set of subjects accepted toward the SES degree (paying special attention to waivers and precedent) to the MIT Registrar. The SES-GPC reports to the IDSS Director and the IDSS-DGC. Appointments to the SES-GPC are made by the IDSS Director in consultation with the IDSS-GPC Chair.

**The Social and Engineering Systems Admissions Committee (SES-AdComm)** receives and reviews applications for graduate study in SES during the regular admissions cycle. The SES Admissions Committee reports to the SES-GPC. Appointments to the SES-AdComm are made by the SES-GPC Chair in consultation with the IDSS Director.

**The Doctoral Thesis Committee's** role is discussed in the *Advising* section of this document.

**The IDSS Academic Office** provides support to all of IDSS's academic programs, reporting directly to the IDSS Departmental Graduate Chair. IDSS Academic Office support is secondary in cases where academic programs have their own dedicated staff, e.g., the Technology and Policy Program (TPP).

The IDSS Academic Office maintains and provides access to student records, in coordination with the programs and the MIT Registrar, according to MIT's student records policy<sup>5</sup>.

In addition, the Academic Office provides support, resources, and referrals for students and advisors, generally related to academic needs and student support services at MIT. Some support is available to students throughout the student lifecycle, from prospective students to alumni. Because of its close connection to many student-service offices across MIT, the IDSS Academic Office also helps connect members of the IDSS academic community to other MIT faculty and staff.

Finally, the IDSS Academic Office performs various other administrative tasks common to all academic programs at MIT, including catalog maintenance and review, subject scheduling, subject evaluation, grading, etc.

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<sup>5</sup> <https://registrar.mit.edu/transcripts-records/records-privacy-access>

### 3. Orientation

Accepting the offer of admission is the first step in enrolling at MIT. Other preparations are also necessary to study at MIT. These start with obtaining an MIT electronic identity and progress through various legal requirements (immigration, work eligibility, medical reporting), practical requirements (housing), and academic requirements. The New Graduate Student Activities dashboard will guide students through the majority of these requirements<sup>6</sup>. The remaining requirements will be handled during Orientation Week and the first weeks of the fall semester.

#### 3.1 Math Camp

In the week prior to the start of the fall semester, a quantitative “math camp” is offered. While not mandatory, the math camp is strongly recommended for students returning to academia after an interval away, for students whose previous programs may not provide adequate preparation for some of the SES program classes, as well as for students who may wish to refresh their knowledge. Topics covered in the math camp are tailored to the needs of the incoming class, and are focused on elements of analysis and linear algebra.

#### 3.2 Doctoral Seminar

The doctoral seminar, IDS.900, continues the work of orienting each newly admitted cohort of doctoral students. Its primary function is to introduce students to IDSS research areas, but it also provides an opportunity to establish and strengthen the interconnectedness of each cohort. The doctoral seminar is not a formal program requirement, and is not counted toward SES program requirements, but all first year SES doctoral students are expected to attend. Students who do not wish to participate in the doctoral seminar should discuss this with their academic advisor and the SES Program Head.

#### 3.3 Econ Camp

Similar to Math Camp, Econ Camp is offered to students planning on enrolling in 14.121 & 14.122 the week before classes begin. This most often includes rising second-year students, but first-year students are also encouraged to attend.

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<sup>6</sup> <https://atlas.mit.edu/newgrad/Dashboard.action>



## 4. Coursework

The class requirements for SES follow. Core classes are to be selected from within a set of available options; in all other cases, classes will be subject to approval by the SES-GPC.

Undergraduate classes and some graduate classes whose content is deemed too basic may not be acceptable for inclusion in a student's SES program. The principle here is that coursework should be supporting advanced work at the doctoral level. This determination is made by the student's academic advisor and the SES-GPC, with input from the student's doctoral thesis committee if such a committee has been formed.

### 4.01 Core

*Take 3 of the 4 following classes.* For students who enrolled in the SES Doctoral Program prior to June 2021, substitutions may be possible for 6.436 and 6.251, as described in Appendix A.

#### *Probability*

- 6.7700/15.085 Fundamentals of Probability (formerly 6.436)

#### *Statistics*

- 18.6501 Fundamentals of Statistics OR  
18.655 Mathematical Statistics OR  
IDS.160/9.521/18.656 Mathematical Statistics: a Non-Asymptotic Approach<sup>7</sup> OR  
IDS.131/6.3732 Statistics, Computation and Applications

#### *Microeconomics / Causal Inference*

- 14.121 & 14.122 Microeconomic Theory I & II OR  
14.320 Econometric Data Science OR  
~~14.381 Applied Econometrics~~ OR – (former 12 unit version only)  
14.386 New Econometric Methods OR  
14.388 Inference on Casual and Structural parameters using ML and AI OR  
17.802 Quantitative Research Methods II: Causal Inference

#### *Social Science*

- 21A.809 Designing Empirical Research in the Social Sciences OR  
21A.819 Ethnographic Research Methods OR  
15.838 Research Seminar in Marketing – only Prof. Dean Eckles' version OR  
17.850 Political Science Scope and Methods OR  
SOCIOLOG 2205 Sociological Research Design

#### *Linear Analysis*

- ~~6.251/15.081~~ *Introduction to Mathematical Programming* (for SES '16, '17, & '18s only)

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<sup>7</sup> IDS.160/9.521/18.656 is only appropriate for students with previous background in statistics

#### 4.02 Information, Systems, and Decision Science

5 classes. These are rigorous classes in the areas of probabilistic modeling, statistics, optimization, and systems/control theory. Classes used to satisfy the core can be counted toward this requirement. However, the remaining classes should be at a more advanced level. One class must involve the statistical processing of data. One class must have substantial mathematical content (as determined by the IDSS-GPC). Two classes must belong to a sequence that provides increasing depth on a particular topic.

#### 4.03 Social Science

4 classes. Students propose a coherent and rigorous program of study in the social sciences that provides the background necessary for the student's research. Classes used to satisfy the core can be counted toward this requirement. However, the remaining classes should be at a more advanced level. Three classes must form a coherent collection that builds depth in a particular social science focus area.

#### 4.04 Application Domain

2 classes. Students take a total of two classes in the application domain of their research. One of these classes may also be counted toward the social science requirement. One class may be replaced by an internship or independent study in which the student satisfactorily performs hands-on work in a particular domain. Students should seek advisor and SES-GPC pre-approval that a particular internship or independent study can be used in this manner.

#### 4.05 Substitutions & Waivers

*Note: Students who enrolled in the SES Doctoral Program prior to June 2021 may choose to follow the old version of this policy documented in Appendix A.*

Except for Statistics and Data Science MicroMasters learners (see P&P 4.06), there is no provision for the transfer of academic credit units from other universities or from previous study at MIT. However, the SES-GPC will occasionally approve the waiver of some of the program's requirements in cases where the knowledge reflected in a requirement has been acquired at the expected level. Students must submit a request over email, endorsed by their advisor.

Additionally:

1. No more than 4 classes can be waived per student.
2. For the core classes, a waiver can be granted for the class associated with a written qualifying exam that a student has passed. In essence, successful completion of the exam will be considered by the program to be equivalent to having taken the corresponding class.
3. Beyond the core, students may waive classes based on the content of previous coursework, i.e., based on classes that cover the knowledge requirements of this program, and which the SES-GPC considers to be at the doctoral level. This coursework may have taken place at MIT or at another institution.
4. All students must take at least 72 units, with a grade of B or better, as a part of their doctoral program, applied exclusively to this doctoral program, while enrolled in the program. Waived subjects cannot be counted towards this unit requirement. Graduate classes whose normal grading is A-F ("letter graded") cannot be counted toward a student's SES program if the student opts for Listener status<sup>8</sup>, "LIS," or the Graduate Pass/D/Fail option<sup>9</sup>.
5. Subject to SES-GPC approval, graduate classes whose native grading is Pass/D/Fail can be counted toward the student's SES program, but not towards the 72-unit requirement.

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<sup>8</sup> <https://registrar.mit.edu/classes-grades-evaluations/grades/grading-policies/listener-status-auditing>

<sup>9</sup> <https://registrar.mit.edu/classes-grades-evaluations/grades/grading-policies/graduate-pdf-option>

6. Courses taken through cross-registration<sup>10</sup> at other institutions can be counted towards the requirements, subject to the same stipulations as MIT courses.

#### 4.06 MicroMasters in Statistics and Data Science Pathway

Learners who have successfully completed the MITx MicroMasters Program in Statistics and Data Science credential (including the capstone exam) and who have been admitted to SES will have satisfied the 6.436J/15.085J Fundamentals of Probability and 18.6501 Mathematical Statistics core requirements after passing an Advanced Standing Exam<sup>11</sup>. Current and admitted SES doctoral students pursuing this option should contact the IDSS Academic Office for additional information.

#### 4.07 Independent Study

- Students may receive credit for independent work completed while enrolled in the program, by signing-up for credits of Independent Study in Data, Systems and Society (IDS.950)<sup>12</sup>.
- Independent study must be supervised by a member of MIT's teaching staff, and be agreed to by the student, advisor, independent study supervisor, and the SES-GPC.

#### 4.08 Subject Evaluations

Subject evaluations provide important feedback to students, instructors, TAs, departments, schools, and MIT administration. Subject evaluations for SES core classes are reviewed by the SES-GPC. Subject evaluations for IDSS graduate classes are reviewed by the IDSS-DGC and the IDSS director, and are used to inform a number of decisions about staffing, promotion, and resource allocation. All IDSS classes, including special subjects, with an enrollment of 2 or more students are evaluated.

IDSS students are encouraged to evaluate every class they take.

#### 4.09 Unit Limits

The number of class units that a student can register for is limited as follows:

- a. Students who serve as full-time Research or Teaching Assistants can generally register for at most 27 units of coursework, with rare exceptions possible after SES-GPC approval.
- b. Students on fellowship can generally register for at most 39 units of coursework, with rare exceptions possible after SES-GPC approval.

#### 4.10 Program Plans

By the end of their first year in the program, students must submit a preliminary plan of study, including a problem domain, an information-systems-and-decision-science focus, and a social science focus, and seek approvals of waivers and exceptions as necessary. These plans can be changed, and students should check and revise (as necessary) their plan of study, at least annually. At some point, a student proposes the complete set of courses that will be used to satisfy the program requirements, which is to be approved by the student's academic advisor and the SES-GPC. This is to be done, at the latest, within a year after a student passes the OQE. However, students are expected to seek and obtain approval of certain components of the program requirements at an earlier time.

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<sup>10</sup> <https://registrar.mit.edu/registration-academics/registration-information/cross-registration>

<sup>11</sup> <https://registrar.mit.edu/classes-grades-evaluations/grades/grading-policies/advanced-standing-exam-grades>

<sup>12</sup> <https://wikis.mit.edu/confluence/download/attachments/117710524/independent%20study.pdf>

## 5. Qualifying Exams

Qualification for the PhD takes place in two stages.

### 5.1 Written Qualifying Exams

*Note: Students who enrolled in the SES Doctoral Program prior to June 2021, may choose to follow the old version of this policy documented in Appendix A.*

In order to pass the Written Qualifying Exams in SES, students must qualify in three of the four following areas: Probability, Statistics, Microeconomics / Causal Inference, and Social Science.

Students pass the WQE by earning two subject grades within the 'pass' threshold and one subject grade within the 'marginal pass' threshold or better. Each of these subjects must be from a different area. **Subjects must be 9+ units** (e.g., 14.121 and 14.122 only count if taken together).

Students will normally qualify within their first three semesters, but may take as long as four semesters in unusual circumstances. Students who have failed to qualify by the end of their fourth semester will be considered to have failed the SES WQEs and must leave the SES doctoral program.

Students may make no more than two attempts to qualify in any particular area and no more than six attempts total. Students must declare by the Drop Date of the corresponding class whether they are making a qualification attempt.

Rather than repeating previous coursework, students are encouraged to consult with their academic advisor and research supervisor (if identified) and consider together whether new classes will better advance their preparation.

Students who have taken a qualification subject (or subjects) below prior to enrolling in SES may count it toward their WQEs according to the policies outlined here (including grade thresholds). However this subject will not count toward the requirement that students must still take "at least 72 units... applied exclusively to this doctoral program, while enrolled in the program" (P&P 4.05.4).

Likewise students who have taken a subject elsewhere may, with the permission of the instructor, sit for a cumulative final exam and qualify by receiving a grade on the final corresponding to the subject grade thresholds in the table below. Students doing this must register as 'Listeners' in the subject. This subject will not count toward the requirement that students must still take "at least 72 units... applied exclusively to this doctoral program, while enrolled in the program" (P&P 4.05.4). If the subject does not normally offer a cumulative final exam, students may not qualify via this method.

## Core Requirements

## Subject Grade Thresholds

Pass	Marginal Pass	Fail
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## Probability

<b>6.7700/15.805</b> Fundamentals of Probability	A+ to A-	B+	B or lower
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## Core Requirements

## Subject Grade Thresholds

Pass	Marginal Pass	Fail
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## Statistics

<b>18.6501 Fundamentals of Statistics or</b>	A+ to A-	B+	B or lower
<b>18.655 Mathematical Statistics or</b>	A+ to A-	B+	B or lower
<b>IDS.160 Mathematical Statistics: a Non-Asymptotic Approach or</b>	A+ to A-	B+	B or lower
<b>IDS.131 Statistics, Computation and Applications</b>	A+ to A-	B+	B or lower

## Microeconomics / Causal Inference

<b>14.121 &amp; 14.122</b> Microeconomic Theory I & II <i>or</i>	two B+ grades or better	one B and one B+	two B grades, or any grade of B- or lower
<b>14.320 Econometric Data Science or</b>	A+ to A-	B+	B or lower
<b>14.381 Applied Econometrics</b> (12 unit version only) <i>or</i>	A+ to A-	B+	B or lower
<b>14.386 New Econometric Methods or</b>	A+ to A-	B+	B or lower
<b>14.388 Inference on Causal and Structural Parameters Using ML and AI or</b>	A+ to A-	B+	B or lower
<b>17.802 Quantitative Research Methods II: Causal Inference</b>	A+ to A-	B+	B or lower

## Social Science

<b>21A.809 Designing Empirical Research in the Social Sciences or</b>	A+ to A-	B+	B or lower
<b>21A.819 Ethnographic Research Methods or</b>	A+ to A-	B+	B or lower
<b>15.838 Research Seminar in Marketing (only when offered by Prof. Dean Eckles) or</b>	A+ to A-	B+	B or lower
<b>17.850 Political Science Scope and Methods or</b>	A+ to A-	B+	B or lower
<b>SOCIOL 2205 Sociological Research Design</b>	A+ to A-	B+	B or lower

## 5.2 Oral Qualifying Exam

Between the student's fourth and sixth semester in the program, and after the student passes the written qualifying exams, they take the oral qualifying exam (OQE). Students must schedule the OQE by the end of the 6<sup>th</sup> semester. Students should indicate their intention to take the OQE during a certain semester by the end of the 1<sup>st</sup> week of that semester, also indicating the subject of their research presentation.

A written report summarizing the student's research must be submitted to the OQE committee (described later in this section) no later than two weeks before the date of the exam. The report should be concise, no more than 20 double-spaced pages in length, but should clearly describe the main contributions, placing them in the context of previous research in the subject.

The oral presentation should focus on the student's research. The amount and focus of material covered should be roughly equivalent to *one* first-author paper (i.e., do not present two or three topics). The presentation itself should take between 20 and 30 minutes, assuming no interruptions. In addition to presenting their research, the presentation should demonstrate the student's ability to carry out original, doctoral-level research. The student should also demonstrate an understanding of the broader context and adequate mastery of the relevant tools, and possibly discuss approaches and methods for extensions or related problems brought up by the committee.

During the actual exam, interruptions for related questions are expected and the 20-to-30 minute presentation may in practice take up to 60 minutes. Following the presentation is a question and answer period with a broader scope, which may run up to one additional hour. The student may be excused for faculty deliberations in the middle and/or the end of the exam.

The OQE is administered by a 2 or 3 member committee, which is appointed by the SES-GPC or the SES-GPC Chair, also taking into account the student's suggestions. A student's research supervisor and co-supervisor may *not* serve on the exam committee. One of the committee members serves as the committee's chair, and solicits input from the student's research supervisor. Typically this is an IDSS faculty member familiar with SES. The second committee member is usually another member of the MIT faculty. The OQE committee chair submits a report to the SES-GPC, which includes its recommendations. The final decision is made by the SES-GPC. Subsequently, the student and their academic advisor may meet to discuss the outcome of the exam. The oral exam report becomes a part of the student's program record.

Students who fail their first OQE attempt may be allowed to retake the OQE by the end of their 7<sup>th</sup> semester in the program. Depending on the outcome of the first attempt, the SES-GPC may require either a complete retake of the exam or a retake that focuses on specific aspects. No student is allowed more than two attempts.

After successfully completing the OQE, doctoral candidates are expected to be almost entirely immersed in their research, with only occasional coursework.

## 6. Teaching

Students enrolling in the SES Doctoral Program in June 2021 or later are required to serve as Teaching Assistants for a minimum of one term (fall, spring, or summer) for a full-term subject (minimum of 9 units) or equivalent. Teaching assistantships should cover the student's tuition, stipend, and health insurance (SEIP) for the semester they TA, but exceptional cases may be raised with the SES-GPC. The TA requirement must be satisfied while the student is a regularly enrolled student in the doctoral program (prior TA experience will not satisfy the requirement).

Normally students should apply for TA positions following their Written Qualifying Exam, although they have the discretion to postpone until after the Oral Qualifying Exam. Students should complete the TA requirement by the end of their 4th year in the program, and students who have yet to identify an acceptable TA by the end of their 7th regular semester (fall & spring) may receive a TA assignment from the IDSS Academic Office. Students who need help identifying a TA may request a TA assignment from the IDSS Academic Office.

All new TAs are expected to attend TA Days<sup>13</sup> organized by the MIT Teaching + Learning Lab. Students are encouraged to take advantage of other training opportunities offered at MIT through MIT Teaching + Learning Lab and their Kaufman Teaching Certificate Program, as well as through the MIT Office of Graduate Education.

Students must register for 12 units of IDS.960 Teaching in Data, Systems, and Society if they are satisfying the TA requirement during the fall or spring semester. Registering for IDS.960 during the summer term will incur tuition not covered by the MIT Graduate Summer Tuition Subsidy, and so students should consult with the IDSS Academic Office before TAing during the summer term.

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<sup>13</sup> <https://tll.mit.edu/programming/grad-student-programming/ta-days/>

## 7. The Master's Degree in Social and Engineering Systems

Students who are admitted to the PhD program directly after their bachelor's degree are not required to obtain a master's degree. Upon passing the doctoral qualification process, they can proceed directly towards the PhD degree.

However, a student enrolled in the SES doctoral program *may* elect to earn the embedded Master's Degree in Social and Engineering Systems (SES-SM) if they:

1. complete the requirements for the master's degree, including a thesis, and then leave the program. This includes students who fail the doctoral qualification process.
2. satisfy the specified requirements for the master's degree, along the way towards their PhD, including a separate master's thesis. Students should consult with their academic advisors and research supervisors if this is their intention. Note that original contributions presented in the master's thesis cannot be reused as original contributions in the doctoral dissertation (i.e., research contributions cannot be double-counted).

Students who have earned a master's degree that includes a research-based thesis in a closely related field may not be eligible for the SES-SM. The SES-GPC is responsible for making such determinations.

In order to obtain a Master's degree, a student will have to satisfy general MIT requirements<sup>14</sup>, as well as departmental requirements:

1. Complete a satisfactory program-of-study of at least 66 graduate units. Note that teaching, research, or thesis credits cannot be counted towards the 66-unit requirement.
2. Satisfy the 3-course core requirement of the doctoral program.
3. Submit a 24-unit research thesis (IDS.ThG).
4. The thesis must be focused on an area of specialization accepted by the SES-GPC, on the basis of a short thesis proposal, endorsed by the student's thesis supervisor.

Classes used to satisfy the SES-SM requirements can also be used to satisfy the SES doctoral program requirements (this is what is meant by "an embedded master's program").

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<sup>14</sup> <https://oge.mit.edu/gpp/advanced-degrees/masters-degree/master-of-science/>



## 8. Interdisciplinary Doctoral Program in Statistics

“The Interdisciplinary PhD in Statistics (IDPS) is designed for students currently enrolled in a participating MIT doctoral program who wish to develop their understanding of 21st century statistics, using concepts of computation and data analysis as well as elements of classical statistics and probability within their chosen field of study.”<sup>15</sup>

SES doctoral students may choose to be considered for the Interdisciplinary Doctoral Program in Statistics (IDPS) by submitting a selection form between the end of their second semester and their penultimate semester in the program. Selection forms are due on Add Date in the Fall or Spring Term and can be obtained by writing to [idss\\_academic\\_office@mit.edu](mailto:idss_academic_office@mit.edu).

“Selection criteria include an endorsement from the student’s primary program advisor, a 4.5 MIT graduate GPA, and a statement of interest in Statistics and Data Science. Students who have already submitted a thesis proposal may skip the statement, but must instead attach their thesis proposal to their selection form, covering their usage of statistical methods. The participating program subcommittee will make the selection decision with a secondary review from the SDSC Program Committee.”<sup>16</sup>

Current coursework and other requirements are available on the webpage for the Interdisciplinary PhD in Social & Engineering Systems and Statistics.<sup>17</sup> Of note: “Students must complete their primary program’s degree requirements along with the IDPS requirements. Statistics requirements are in-addition to the primary program’s requirements, and must not unreasonably impact performance or progress in a student’s primary degree program.”<sup>18</sup>

Likewise, IDPS is a specification of a student’s existing doctoral program, not a second PhD. Upon graduation SES students who have also completed IDPS will receive their doctoral degree with “and Statistics” added to the thesis field. That is **in SES they will have earned their PhD in “Social and Engineering Systems and Statistics.”** Students should take care to select this thesis field this in their degree application<sup>19</sup> and thereafter consistently refer to their thesis field as such in resumes, CVs, professional websites, etc.. For example:

MIT, PhD Social and Engineering Systems and Statistics	2022
<i>or</i>	
Massachusetts Institute of Technology PhD in Social and Engineering Systems and Statistics	Cambridge, MA May 2022
• Dissertation: <i>Title</i>	
<i>or</i>	
Massachusetts Institute of Technology Institute for Data, Systems, and Society (IDSS) PhD in Social and Engineering Systems and Statistics	Cambridge, MA May 2022
• Dissertation: <i>Title</i>	
• Programs of study: Social and Engineering Systems Doctoral Program (SES) and Interdisciplinary Doctoral Program in Statistics (IDPS)	

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<sup>15</sup> <https://stat.mit.edu/academics/idps/> accessed 2 August 2022

<sup>16</sup> Policies & Procedures of the Interdisciplinary Doctoral Program in Statistics, revised 24 January 2020

<sup>17</sup> <https://stat.mit.edu/academics/idps/idps-social-engineering-systems/>

<sup>18</sup> Policies & Procedures of the Interdisciplinary Doctoral Program in Statistics, revised 24 January 2020

<sup>19</sup> <https://degreeapp.mit.edu/>

## 9. Research

Doctoral-level research must make original contributions of a depth consistent with general expectations for MIT doctoral theses. In addition, student research under this program is expected to possess the traits listed in the *Mission & Character* section of this document. Accordingly, evaluations of a student's research progress should address each of these traits.

In order to provide timely and consistent evaluation of a student's research progress throughout their program, students must register for a minimum of one unit of thesis, IDS.ThG, each fall, spring, and, in most cases, summer semester, with the possible exception of the first semester in the program.

Objective research progress can be difficult to measure, especially because setbacks are often a part of the process. However, research supervisors and students will be expected to develop criteria that define adequate progress for the semester in terms of student effort and input. The overall research progress evaluation is reported as an IDS.ThG grade at the end of each semester, as well as in a short Semester Report. The Semester Report is a part of the student's program record, and focuses on research progress, publications, presentations, and plans.

### 9.1 Thesis Committee and Proposal

After passing the OQE, a student should form a doctoral thesis committee, consisting of a chair and additional members (see the *Advising* section), with the approval of the SES-GPC. In addition, a written thesis proposal must be prepared in consultation with the doctoral thesis committee and submitted to the SES-GPC. All the above must take place within a year of passing the OQE.

The thesis proposal is normally between 10 and 20 pages, and should include the following elements:

- Tentative thesis title
- Thesis Proposal Cover Page (documenting consent by the student and the entire doctoral thesis committee)
- Problem summary
- Significance
- Literature Review
- Approach
- Timeline
- References

### 9.2 Research Changes

It is expected that some students' research interests will change over the course of their programs. This is acceptable as long as:

- Students are able to retain a research supervisor
- Their research remains "in-scope" for IDSS, as determined by the SES-GPC
- The new research direction is appropriately documented (e.g., if a thesis proposal had been submitted, a new one would have to be submitted after a major change of direction)

Students should discuss such changes with their academic advisor.

### 9.3 COUHES

Students and their research supervisors must follow MIT policy regarding the use of human experimental subjects.<sup>20</sup>

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<sup>20</sup> <https://couhes.mit.edu/>

## 10. Dissertation Defense, Dissertation Submission, & Graduation

MIT expects that students will graduate from their doctoral program within at most 14 semesters of graduate school at MIT. Students who were enrolled in a substantially different graduate program at MIT prior to joining SES may be an exception to this rule. In any case, IDSS aims at students' timely completion of the program, preferably within 5 academic years or less.

### 10.1 The Defense

On behalf of the doctoral thesis committee, the committee chair must explicitly authorize the defense, prior to its announcement, by informing the IDSS Academic Office.

The defense must be announced to the IDSS community two weeks in advance and be open to all members of the MIT community, as well as external guests invited by the candidate or the doctoral committee. If the IDSS Academic Office has not received the requisite materials and approvals required to announce the defense 7 days prior to the defense date, the defense will be rescheduled to a later time.

The defense consists of a 40 minute research presentation, a question and answer session, private faculty deliberations, and a short committee or advising meeting to communicate the results of the defense to the candidate.

The chair submits a dissertation defense report to the IDSS Academic Office, which becomes a part of the student's program record.

### 10.2 Dissertation Submission

The final dissertation must be submitted to the IDSS Academic Office, according to the dates specified in the MIT Academic Calendar<sup>21</sup>. The IDSS Academic Office may grant extensions, but only to the extent that these are administratively practicable.

Students are responsible for submitting to the IDSS Academic Office the final electronic version of the dissertation and associated documentation according to MIT Library policies.<sup>22</sup> Submission guidelines have and may continue to change, so students should consult with the IDSS Academic Office about processes in place for the current semester.

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<sup>21</sup> <http://web.mit.edu/registrar/calendar/index.html>

<sup>22</sup> <http://libraries.mit.edu/archives/thesis-specs/>

## 11. Academic Performance & Progress

The following are expected of students in the SES doctoral program:

- Cumulative graduate GPA in the SES doctoral program should be no lower than a 4.5 on MIT's 5.0 scale, by the end of the student's first academic year. That is, loosely speaking, students should not earn more B grades than A grades.
- Semester GPA while enrolled in SES should be no lower than a 4.0.
- C, D, F, O "[Unexcused] Absence", and U "Unsatisfactory Progress" grades are unacceptable. Furthermore, they cannot be counted for credit in a student's SES program.
- Students should inform the IDSS Academic Office and their advisor any semester they expect to earn an Incomplete "I" or Excused Absence "OX" grade, as soon as possible, and no later than the grading deadline for the term. In some circumstances, including unexplained cases, I and O grades may be interpreted as evidence of unacceptable performance. In addition, students must resolve these grades by the deadlines specified in MIT policy<sup>23</sup>.
- Cross registration, according to MIT policy<sup>24</sup>, is acceptable, and in some cases encouraged.

### 11.1 Progress Oversight

Student progress is monitored in part through the Semester Reports. The Semester Report is prepared by the student at the end of each semester, and is submitted after it is discussed with the student's Research Supervisor. The Academic Office may solicit additional input may from the Academic Advisor and the Research Supervisor.

At the end of each academic year, the SES-GPC reviews each student's progress, based on the Semester Report, Advisor/Supervisor input, grades, coursework progress, and any other available input, and provides feedback to the student, as necessary.

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<sup>23</sup> <https://registrar.mit.edu/classes-grades-evaluations/grades/grading-policies/incomplete-work> and <https://oge.mit.edu/gpp/admissions-and-registration/academic-performance/excused-absences/>

<sup>24</sup> <https://registrar.mit.edu/registration-academics/registration-information/cross-registration>

## 12. Advising

Clear communication on all sides is essential to ensuring the productivity and stability of student-advisor relationships.

### 12.1 Advising Roles

#### 12.1.1 Academic advisor

Students must have an academic advisor at all times. An initial academic advisor assignment is made shortly after a student accepts admission to the program. The academic advisor serves as the student's primary advisor during their initial semester(s), assisting and approving student subject selection, and guiding the student in identifying potential research matches and committee chairs. Throughout the course of a student's academic career in the program, the academic advisor monitors student progress and milestones. The academic advisor also acts as a resource for students navigating committee, research, and funding relationships, and raises advising, course selection, etc., issues with the SES-GPC, as appropriate. The academic advisor does *not* fund, serve on the student's committee, or directly supervise research.

#### 12.1.2 Doctoral Thesis Committee Chair – “chair”

The chair must be a member of the IDSS Faculty (refer to *Table 1* for more specifics), reporting to IDSS for the timely and orderly progression of the student through the program. The chair coordinates and manages the functions of the doctoral thesis committee and is the primary contact for grading, reporting, and other progress updates. The chair either fulfills or explicitly hands-off the following functions to the research supervisor:

- Intellectual supervision
- Thesis-related RA supervision [as applicable]

#### 12.1.3 Research Supervisor – “supervisor”

Often but not always combined with the chair role, the supervisor is a member of the doctoral thesis committee who provides intellectual supervision and sometimes thesis-related RA supervision. MIT faculty and persons with academic appointments at MIT in relevant academic units may be eligible to fill the supervisor role (refer to *Table 1*). When a committee has a research supervisor distinct from the committee chair, chairs are responsible for coordinating with the supervisor on progress grades and reports. The research supervisor does *not* serve on the student's Oral Qualifying Exam committee.

##### 12.1.3.1 “co-supervisor”

Committees should normally include a co-supervisor, an eligible faculty member with an expertise complementary to that of the supervisor. Typically this implies supervision by faculty from different schools. MIT faculty and persons with academic appointments at MIT in relevant academic units may be eligible to fill the co-supervisor role (refer to *Table 1*). Exceptions to the co-supervision policy may be granted by petitioning the SES-GPC. The research co-supervisor does *not* serve on the student's Oral Qualifying Exam committee.

#### 12.1.4 Doctoral Thesis Committee Member – “committee”

Subject to IDSS policy about committee composition, discussed later in this section, doctoral thesis committees should be composed of the experts who can best guide and support the original research the student is undertaking. Given the intellectual footprint of IDSS, it is expected that each doctoral thesis committee will have advising expertise in both the social sciences and engineering, as well as in the application domain.

### 12.1.5 Students and Candidates

Students are the agents driving the research. Prior to passing both portions of the qualifying exams, they are referred to as “doctoral students.” After passing the qualifying exams they may use the title “doctoral candidate.” Students may request committee meetings, ask for reviews and advice, and reassess the utility of any advising relationship at will.

A student is expected to identify and work with a supervisor. A student’s inability to identify and/or retain a research supervisor may be considered evidence of insufficient progress.

### 12.1.6 RA / TA Supervisor

In some cases students may obtain funding via a graduate appointment that does not originate within the student’s committee. In these cases, RA/TA supervisors may perform an additional advisory/supervisory role, and even grade a student’s performance in these roles (teaching: IDS.960, research: IDS.970). However, these relationships, when they fall outside the doctoral thesis committee, are for the most part not addressed in this document. Students should discuss any RA/TA supervision questions and issues that arise, like balancing work-for-pay and dissertation research, with their academic advisor, with the IDSS Academic Office, and/or with the OGE. Current or planned RA supervisors do *not* serve on the student’s Oral Qualifying Exam committee.

*Table 1: Eligibility for IDSS Advising Roles*

The following table provides the general eligibility rules for the various advising roles. Exceptions can be granted on occasion by the SES-GPC, as long as they are consistent with general MIT rules, e.g., for cases of research staff with thesis supervision privileges, or for external thesis committee members outside academia.

Title	IDSS (core & affiliated)	MIT (non-IDSS)	External (non-MIT)
Assistant Professor & Associate Professor Without Tenure	academic advisor chair (co-)supervisor committee	(co-)supervisor committee	committee
Associate Professor with Tenure & Professor	academic advisor chair (co-)supervisor committee	(co-)supervisor committee	committee
Professor Emeritus & Professor Without Tenure (Retired)	academic advisor chair (co-)supervisor committee	(co-)supervisor committee	committee
Adjunct Professor, Professor of the Practice	committee	committee	committee
Adjunct Associate Professor, Associate Professor of the Practice	committee	committee	committee
Visiting Professor, Visiting Assistant Professor, Visiting Associate Professor	committee	committee	N/A
Affiliated Faculty	committee	committee	N/A

## 12.2 Selection

### 12.2.1 Consent

**An advising relationship only exists with the consent of both the student and the advisor.** Therefore, forming an advising relationship is a mutual selection process. Formal advising relationships must also be sanctioned by the SES-GPC.

### 12.2.2 Composition of doctoral thesis committees

As stated previously, doctoral thesis committees should be composed of the experts who can best guide and support the original research the student is undertaking.

Given the intellectual footprint of IDSS, it is expected that each doctoral thesis committee will have advising expertise in both the social sciences and engineering, normally with the participation of faculty from different Schools.

Other policies on committee composition follow (see also *Table 1*):

- Committees must have between 3 and 5 members, including the chair and supervisor.
- Each committee must have a chair who is a member of the IDSS Faculty.
- In addition to the chair, another member of the committee must be an MIT faculty member. Thus, a minimum of 2 MIT faculty members will serve on each student's doctoral thesis committee.
- A third member of the committee must also hold a research-based doctoral-level degree in a relevant field. Therefore, a minimum of 3 committee members will hold research-based doctoral degrees (or equivalent).

### 12.2.3 Special advising policies for advisors with changes in eligibility

The following applies to faculty departures from IDSS and/or from MIT, junior faculty members who do not receive tenure, etc.

#### Chairs and (co-)supervisors

- Advisors in this category may generally continue serving as chairs and supervisors for **doctoral candidates** with whom there is an established advising relationship. In this case, previous MIT and IDSS status will continue to be counted toward committee composition requirements.
  - Note: Depending on the student's progress and situation, it may be advisable for an additional member of the IDSS Faculty to serve on this committee. It is recommended that committees so impacted consult with the SES-GPC Chair and the IDSS Director.
- Advisors in this category may generally *temporarily* continue chairing and supervising **doctoral students** who are advanced in their preparation for the oral qualifying exams. This determination will usually be left to the mutual discretion of students and committees, but the SES-GPC Chair and IDSS Director are available to advise. Once a student completes the qualifying process, the committee must be reconfigured as necessary to comply with IDSS policy. Students whose preparation for the oral qualifying exams is not advanced should reconfigure their advising as soon as possible.

#### Committee members

- Committee members in this category may generally continue serving on a committee. However, depending on the committee composition, an additional MIT faculty member may need to be added. Doctoral students will be expected to reconfigure their committees as necessary. Senior doctoral candidates should consult with their chair/supervisor and the SES-GPC Chair.



### **Academic Advisors**

- An academic advisor works best as a participating faculty member within IDSS and MIT. Therefore students and candidates alike must identify a new academic advisor as soon as possible. Note that retired faculty, emeritus and PWOT, *are* still eligible to serve as advisors if they wish to continue doing so.

#### *12.2.4 Reporting*

Students are responsible for ensuring their current advisors are recorded with the Academic Office at all times. This includes academic advisors, supervisors, and committee members.

Students and advisors are responsible for informing each other when a change of advising takes place.

#### *12.2.5 Changes*

Apart from evolving research interests and funding considerations, there are many legitimate reasons to consider changing an advising relationship, especially early on in the student's program, such as personality incompatibilities or mismatched work styles. Absent established patterns or clear evidence of dysfunction, IDSS views advising changes as a normal part of some students' and advisors' careers. All parties are expected to communicate necessary changes to each other in a timely, respectful, and sensitive manner.

Academic advisors can play an important role in helping students navigate these transitions in a deliberative and constructive fashion that considers all relevant factors, including availability of suitable research matches and funding. Other resources are IDSS's Academic Office and GradSupport within the OGE.

An additional resource is IDSS Transitional Support Coordinator (TSC). Students considering a change in supervision, whether due to a change in interest or an unhealthy advising relationship, are encouraged to speak with the IDSS TSC. TSCs 'are advocates for the student, helping them navigate the transitional support structure.'<sup>25</sup> For more information about transitional support, see P&P 12.1.

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<sup>25</sup> <https://oge.mit.edu/student-finances/financial-assistance-and-grants/guaranteed-transitional-support/>

## 13. Financial Support

SES students are typically supported through Research Assistantships, Teaching Assistantships, and Fellowships. The IDSS administration will be proactive in securing financial support for all students, especially for a student's first year. In the long run, however, students are ultimately responsible for identifying opportunities for financial support, aligned with their line of research and thesis supervision arrangements.

### 13.1 Guaranteed Transitional Support

Students considering a change in supervision, whether due to a change in interest or an unhealthy advising relationship, are encouraged to speak with IDSS's Transition Support Coordinator (TSC). TSCs 'are advocates for the student, helping them navigate the transitional support structure.'<sup>26</sup>

Under Phase I of MIT's Transitional Support Program, MIT has committed to 'Guarantee [supervisor]-independent transitional funding for one full semester for PhD and SM/PhD students in unhealthy situations (e.g., the student is experiencing bias, discrimination, harassment, other violations of MIT policies, or other aggressive behavior from their advisor or colleagues in the unit they are wishing to transfer from).'<sup>27</sup>

Students wishing to learn more about the program, are encouraged to read about the program on the MIT Office of Graduate Education's website<sup>28</sup> and contact IDSS's TSC. Among other places, contact information for the TSC appears on the final-page/back-cover of the P&P under 'Key Contacts.'

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<sup>26</sup> <https://oge.mit.edu/student-finances/financial-assistance-and-grants/guaranteed-transitional-support/>

<sup>27</sup> <https://oge.mit.edu/student-finances/financial-assistance-and-grants/guaranteed-transitional-support/>

<sup>28</sup> <https://oge.mit.edu/student-finances/financial-assistance-and-grants/guaranteed-transitional-support/>

## 14. Residency, Leaves, & Withdrawal

### 14.1 Residency & Acceptable Leaves

SES is a full-time, residential program. Students are normally expected to complete their programs without significant interruption. During MIT's fall and spring semesters students must be full-time residential students. The only exceptions are when students are covered by one of the following acceptable statuses.

- Medical Withdrawal<sup>29</sup>
- Childbirth Accommodation<sup>30</sup>
- Leave for US National Service<sup>31</sup>
- Nonresident Doctoral Thesis Research Status<sup>32</sup>
  - Nonresident petitions must be approved by the SES-GPC.
- Thesis Research in Absentia<sup>33</sup>
  - Thesis research in absentia must be approved by the SES-GPC.
- Personal Leave<sup>34</sup>
  - Personal leaves of greater than 14 days during the fall and spring terms must be approved by the SES-GPC.

Leaves not covered by the above categories are discouraged and require IDSS-DGC Chair approval.

### 14.2 Withdrawal from SES

Students who switch their registration to another program at MIT will be considered to have withdrawn from SES. Students who wish to return after being withdrawn from SES must reapply via the regular admissions cycle.

### 14.3 Withdrawal from MIT

Students who depart MIT, not on an approved leave, or who fail to enroll by Add Date during the fall and spring semesters will be considered to have withdrawn from MIT. Withdrawal may also be arranged in consultation with the SES-GPC.

Students who wish to return after being withdrawn from MIT must apply for readmission:

- Students who have been absent for one year or less may reapply by submitting a Readmission Form<sup>35</sup>.
- Students who have been absent for a period between one and two years must submit a Readmission Form<sup>25</sup> and pay an application fee. In addition, the following is required:
  - for doctoral and masters students: an updated Statement of Objectives
  - for doctoral candidates: an updated Thesis Proposal
- Students who have been absent for more than two years must reapply via the regular admission cycle and may be required to submit new standardized exam scores. Their request for readmission must also be approved by the Office of Graduate Education.

**Readmission is not automatic.** Students who plan on withdrawing are urged to do so in consultation with the SES-GPC and their academic advisor, as well as with their research supervisor (as applicable). The SES-

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<sup>29</sup> <https://oge.mit.edu/gpp/admissions-and-registration/registration-changes/medical-leave-and-return-policy/>

<sup>30</sup> <https://oge.mit.edu/gpp/admissions-and-registration/registration-changes/childbirth-accommodation-and-parental-leave/>

<sup>31</sup> <https://oge.mit.edu/gpp/admissions-and-registration/registration-changes/leave-for-u-s-national-service/>

<sup>32</sup> <https://oge.mit.edu/gpp/advanced-degrees/thesis/nonresident-doctoral-thesis-research-status/>

<sup>33</sup> <https://oge.mit.edu/gpp/advanced-degrees/thesis/thesis-research-in-absentia/>

<sup>34</sup> <https://oge.mit.edu/gpp/admissions-and-registration/registration-changes/personal-leave/>

<sup>35</sup> <https://oge.mit.edu/gpp/admissions-and-registration/registration-changes/withdrawal-readmission/>

GPC may, at its discretion, agree upon conditions for readmission for withdrawals planned in consultation with the SES-GPC for a period of two years or less. Such agreements must happen around the time of departure. For withdrawals greater than two years, or when conditions of readmission were not agreed upon in advance, then the SES-GPC or SES-AdComm will consider all factors at its disposal.

Students should also consult the OGE withdrawal and readmission policy. In particular, the OGE specifies: *“Degrees are not backdated; therefore, a student’s total program must meet the requirements and standards existing at the time the degree is granted. Requests for reactivation of graduate degree programs, including previously acquired academic credits, will be evaluated in terms of the length of the interruption.”*

36

When readmission is granted, the following should be understood:

- The relevance of completed coursework will depreciate over time. As an outside boundary, MIT expects that classes will be counted toward a degree within a period of ten years. The SES-GPC may determine that, in some cases, changes in the field will require new coursework sooner than that.
- Degrees are not back-dated, so readmitted students may be required to take additional classes to satisfy the program requirements in effect on the date of readmission.
- If terms of readmission were not agreed upon in advance, students should not assume that a ‘place is being held.’ It is unlikely students will be able to resume their former research project or even necessarily continue working with their former supervisor. It is reasonable to expect that students will need to identify a new topic and a new supervisor, which in turn can imply the necessity for additional coursework.

#### 14.4 Denial of Registration

Students who have been denied registration are not eligible for readmission. Consult the *Milestones & Expectations (P&P 14)* section of this document for more information about denials of registration.

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<sup>36</sup> <https://oge.mit.edu/gpp/admissions-and-registration/registration-changes/withdrawal-readmission/>

## 15. Milestones & Progress Expectations

The SES-GPC relies on the following criteria to track student progress. Students will be warned and counseled if their progress or performance is insufficient. In the case of a documented and prolonged (at least two semesters) pattern of insufficient progress or performance, a student may be denied further registration. “Denial of registration” is MIT terminology for a permanent academic expulsion from MIT. These decisions are made in coordination with the IDSS-DGC, MIT’s Graduate Academic Performance Group, and the Office of Graduate Education.

The following is a list of expected actions and milestones, which also serves as a summary of various rules described elsewhere in the document.

- a. Every semester
  - Students must register for a minimum of one unit of thesis, IDS.ThG, each fall, spring, and, in most cases, summer semester, with the possible exception of the first semester in the program. Thesis progress grades should be satisfactory (“J” grade) throughout the duration of the student’s program.
  - At the end of the term, the student’s academic advisor, committee chair, and/or supervisor will evaluate their progress.
  - Students and their academic advisors should be meeting at least once each semester (Fall, Spring, and usually Summer).
  - Students must document their progress at the Academic Office’s prompting, once per semester (Fall & Spring) via a Semester Report.
- b. Year one
  - By the end of their first year in the program, students must submit a preliminary plan of study as described in the *Coursework* section of this document.
- c. Year two - WQE
  - Students must take the WQE, as described in the *Qualifying Exams* section of this document.
- d. Year two or three - OQE
  - Students must take the OQE, as described in the *Qualifying Exams* section of this document.
- e. Year two to four – Teaching
  - Students must serve as a Teaching Assistant for a minimum of one term, as described in the *Teaching* section of this document.
- f. Thesis Committee and Proposal
  - A thesis committee must be formed and a thesis proposal submitted within a year from the time that a student passes the OQE.
- g. Defense
  - MIT expects students to graduate from their doctoral program within at most 14 semesters of graduate school at MIT.

## Appendix A – Previous Versions of Policies & Procedures

Previous versions of policies and procedures that have been substantially revised but remain relevant to current SES students are recorded here.

### Pre-July 2021

Students who enrolled in the SES Doctoral Program prior to June 2021 may choose to satisfy policies in place at the time of their enrollment. They are also welcome to opt into new policies, but may not do so inconsistently. E.g., A student who is using the new WQE process may not apply the old substitutions and waivers policy for the same subject.

#### 4.05 Substitutions & Waivers (Pre-July 2021)

*In very special cases, students may make one (but not both) of the following substitutions, when justified on the basis of the student's prior preparation and/or the subject of their research. These substitutions are approved on a case-by-case basis by the SES-GPC, with input from the student's academic advisor.*

- 6.431A & 6.431B in place of 6.436J/15.085J
- 6.255J/15.093J/IDS.200J in place of 6.251J/15.081J

*There is no provision for the transfer of academic credit units from other universities or from previous study at MIT. However, the SES-GPC will occasionally approve the waiver of some of the program's requirements in cases where the knowledge reflected in a requirement has been acquired at the expected level. Students must submit a petition endorsed by their advisor.*

*Additionally:*

1. *No more than 4 classes can be waived per student.*
2. *For the core classes, a waiver can be granted for the class associated with a written qualifying exam that a student has passed. In essence, successful completion of the exam will be considered by the program to be equivalent to having taken the corresponding class.*
3. *Beyond the core, students may waive classes based on the content of previous coursework, i.e., based on classes that cover the knowledge requirements of this program, and which the SES-GPC considers to be at the doctoral level. This coursework may have taken place at MIT or at another institution.*
4. *All students must take at least 72 units, with a grade of B or better, as a part of their doctoral program, applied exclusively to this doctoral program, while enrolled in the program. Waived subjects cannot be counted towards this unit requirement. Graduate classes whose normal grading is A-F ("letter graded") cannot be counted toward a student's SES program if the student opts for Listener status, "LIS," or the Graduate Pass/D/Fail option<sup>37</sup>.*
5. *Subject to SES-GPC approval, graduate classes whose native grading is Pass/D/Fail can be counted toward the student's SES program, but not towards the 72-unit requirement.*
6. *Courses taken through cross-registration<sup>38</sup> at other institutions can be counted towards the requirements, subject to the same stipulations as MIT courses.*

#### 5.1 Written Qualifying Exams (Pre-July 2021)

*A student takes the written qualifying exams (WQE) in January of their second year (the end of their third semester in the program). The student is examined on three of the core classes, and passes the written*

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<sup>37</sup> <http://web.mit.edu/registrar/reg/grades/policies.html>

<sup>38</sup> <http://web.mit.edu/registrar/reg/xreg/>

*qualifying exams by passing each of these three core exams. Students may retake core area exams in May of their second year (the end of their fourth semester in the program), for a total of two attempts.*

*Students must specify which written qualifying exams (3 of 4) they are taking by the Drop Date prior to their exam (approximately mid-November or mid-April).*

*The format of an exam (length, open or closed book, take-home or not) will be announced by September for a January exam and by February for a May exam. Independent of the format, collaboration is not permitted. Written exam results will be communicated to the student and their academic advisor and become a part of the student's program record.*

*In some cases, a separate written exam will not be administered, and a student will be determined to have passed the exam, or not, on the basis of their performance in the corresponding course. Students will be informed by the beginning of an academic year which classes this rule will apply to. Students must state their intention to be thus evaluated by the Drop Date of the corresponding class.*

*The decision as to which level of performance constitutes passing performance is made by the SES-GPC on the basis of the raw results, together with input from the faculty who have been involved in the design and grading of the exam.*

*After successfully completing the written qualifying exams, students will generally continue taking classes; however, the students' primary focus should now be on research. Preoccupation with coursework, to the extent that it distracts from research progress, can be problematic.*

## Key Contacts

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