

**DEPARTMENT OF MECHANICAL ENGINEERING  
UNDERGRADUATE THESIS PROPOSAL**

Student Name: \_\_\_\_\_ Date: \_\_\_\_\_

Email: \_\_\_\_\_

Tentative Thesis Title: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Supervisor Name: \_\_\_\_\_

(Must either be a member of the MIT faculty or have an appointment such as lecturer, research associate, or visiting faculty, or Senior or Principal Research Scientist or Engineer in the Mechanical Engineering Department.)

Supervisor's Department (if non-M.E.): \_\_\_\_\_

Title: \_\_\_\_\_

Supervisor's Office: \_\_\_\_\_ Phone: \_\_\_\_\_ Email: \_\_\_\_\_

**This thesis proposal covers work during the following terms (please check and fill in units):**

- |                                  |   |   |
|----------------------------------|---|---|
| <input type="checkbox"/> Fall    | number of units: _____  | <i>Your total number of<br/>units may not exceed <u>15</u>.</i> |
| <input type="checkbox"/> IAP     | number of units: _____ (maximum 6)  |   |
| <input type="checkbox"/> Spring  | number of units: _____  |   |
| <input type="checkbox"/> Summer* | number of units: _____ *Note: summer registration incurs an extra tuition charge. |   |

**Supervisor's Agreement:**

I have assisted in the definition of this thesis topic proposal, and believe it to be an appropriate topic for the number of credits listed above. I hereby agree to supervise the progress of the thesis, and to evaluate the work once the thesis is completed. I understand that the thesis document submitted to the Department of Mechanical Engineering will be submitted to the MIT Libraries. (Holds are available through the DUE or TLO.)

Faculty Thesis Supervisor

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Submit the completed form to the M.E. Undergraduate Office, Room 1-110.

***PLEASE ATTACH A BRIEF PARAGRAPH***

## THESIS REGISTRATION

The SB in Mechanical Engineering requires a thesis with a minimum of 6 units of credit. The objective of this requirement is to give students an opportunity to learn about a topic in depth through independent study under the guidance of an advisor who is knowledgeable in the field.

The nature of the work may be the review of an engineering topic of interest to the student, an original research project, or a design project. In any case, the work must involve additional learning of a substantive nature. The work must be documented by a thesis document graded by the advisor. With the approval of the advisor, up to 15 units of credit are permitted.

### **Finding a thesis supervisor**

Students have the responsibility to find their own thesis supervisor, and it is best that this be done by the beginning of the senior year. Many students develop theses from UROP projects that they have had during the junior year or summer between junior and senior years. In that case, the UROP supervisor becomes the thesis supervisor. In other cases, students will contact faculty members whose research is of interest to them, and a thesis project can be developed by discussion between the student and the faculty member. In still other cases, students may have their own clear idea of the subject of their thesis, and the task will be to find a faculty member who is interested in working with the student on that topic.

### **Resources:**

- Thesis topics are sent to the me-ugresearch email list: <http://mailman.mit.edu/mailman/listinfo/me-ugresearch> and posted to the METU website: <https://metu.mit.edu>
- Contact a faculty member whose research you're interested in. The Faculty Cloud is a useful tool for finding a faculty member doing research in your area of interest: <http://meche.mit.edu/people/cloud/>

### ***The thesis advisor of record must be an MIT faculty member or select members of the research staff***

(graduate students and postdocs are ineligible to act as thesis advisors). *MIT faculty members from outside the MechE Department may supervise a thesis as long as the thesis covers an engineering topic.* Students who are looking for an appropriate thesis advisor should consult the Undergraduate Office (Room 1-110, x3-2305).

Theses may be done off campus, but students are cautioned that off-campus supervisors usually are not familiar with the thesis requirements which may put the student at risk when seeking approval of the Department. Also, work done at an industrial firm may be considered proprietary by the firm which would prevent the student from submitting the thesis to the Department. In such cases, a representative of the firm must sign a release letter, a sample text of which is available at the MechE Undergraduate Office.

### **Thesis registration and grading**

Students may elect to start and/or finish the work in the Fall Term, the Spring Term, or IAP, and they may choose to extend the work over several terms. In the latter case, a progress report is required for each term of registration. If the work in progress is judged satisfactory by the advisor, a grade of "J" will be awarded. Unsatisfactory progress will be awarded the grade "U". ***Students must be registered for subject 2.ThU for the term in which the thesis is submitted.***

**In addition to registering for thesis**, students must complete the thesis proposal form and attach a brief paragraph summarizing the work planned. The form must be signed by the thesis advisor and returned to the MechE Undergraduate Office (Room 1-110). In the event of a change of advisor or project, the proposal must be updated in the Undergraduate Office as soon as possible. Students who submit the completed forms on or before Registration Day may register for 2.ThU on the Registration Form for the number of units agreed upon with the thesis advisor. Students who complete the thesis proposal after Registration Day, but before the Add Date, must

add 2.ThU by submitting to the Registrar a completed Add/Drop Form signed by both the thesis supervisor and the student's faculty advisor. To add thesis after the Add Date the Undergraduate Administrator (Ms. Brandy Baker) must also sign the Add/Drop Form. **Drop date is the absolute deadline for adding or dropping 2.ThU. Students may not register for the thesis after the drop date.**

At mid-term, the thesis advisor will be asked for an assessment of the student's progress on the thesis. Thus, it is important for the student to maintain contact with the advisor so that an accurate assessment can be made. If the thesis advisor judges progress to be unsatisfactory, a grade of "U" will be submitted and the number of units for 2.ThU registration will be reduced to 1. The grade of "U" will remain on the transcript and the Course 2 degree requirements cannot be completed until another thesis is started and completed with a passing grade. Students who are making satisfactory progress but fail to complete the thesis by the Thesis Due Date will receive the grade "J" indicating that at least one additional unit of registration for 2.ThU will be required to complete the Course 2 degree. Upon satisfactory completion of the thesis, the thesis advisor will assign a grade which will apply to all units of 2.ThU registration from previous terms, up to an absolute limit of 15. For thesis credit during IAP, students should register during the first week of IAP.

***During the semester in which the student expects to graduate***, it is the responsibility of the student to maintain contact with the thesis advisor. In the event that thesis progress is reported as unsatisfactory, the student's name will be removed from the Degree List. Students are reminded that graduation also can be delayed by late submission of an acceptable thesis or by submission of a thesis that fails to conform to the current Thesis Specifications. Theses may not be submitted after 5:00 PM on the Thesis Due Date.

Consult the MIT Academic Calendar for Add Date, Drop Date, and Thesis Due Dates for the semester in question: <http://web.mit.edu/registrar/calendar/>.

### **Deadlines**

You may spread your thesis over several terms - the minimum number of total units is 6, the maximum is 15.

**Thesis proposal: Due by Add Date for the term you are registering for thesis (Fall or IAP strongly encouraged for Spring thesis)**

- Thesis Registration Instructions and Proposal Form: <http://web.mit.edu/me-ugoffice/thesis.pdf>
- Fillable Thesis Proposal Form (no instructions): [http://web.mit.edu/me-ugoffice/thesis\\_form.pdf](http://web.mit.edu/me-ugoffice/thesis_form.pdf)

### **Patents and Thesis Holds**

Please note – the Undergraduate Office **cannot** hold your thesis from submission to the libraries.

If you share ownership of the patent with MIT, then complete a Technology Licensing Office (TLO) disclosure form. For more information: <http://web.mit.edu/tlo/www/community/students.html>

If you requesting that MIT waive the right to your patent (the form for this is also on the link above), you can request a thesis hold from the Dean of Undergraduate Education. A request for a thesis hold must be made jointly by the student and advisor, using the DUE Thesis Hold Request Form, which you can download from the DUE website. For more information: [http://due.mit.edu/faqs/frequently-asked-questions#Thesis\\_Hold](http://due.mit.edu/faqs/frequently-asked-questions#Thesis_Hold)

## THESIS SUBMISSION

***Be sure to submit a draft version of your thesis to your thesis supervisor well before the thesis due date. Your thesis supervisor may have edits for you to incorporate into your final thesis.***

**One copy** of the final thesis must be submitted to the Undergraduate Office in **1-110**.

1. Be sure that the thesis meets the library's published thesis specifications, published online at:  
<http://libraries.mit.edu/archives/thesis-specs/>
2. Pay special attention to the title page and abstract page – examples are provided online.

**Title page** (required, please look at the example for formatting)

- Layout: <http://libraries.mit.edu/archives/thesis-specs/images/titlepgex.pdf>
- Sample title pages (from June 2012 – scroll down): <http://meche.mit.edu/academic/undergraduate/sbthesis/>
- The date on the Title Page **MUST BE** one of the following (this reflects the date of your degree, not the date of your thesis submission):  
**September, YEAR or February, YEAR or June, YEAR (example: June, 2014)**
- The Signature block should contain the following:

***The Signature block should contain the following:***

Signature of Author:

Department of Mechanical Engineering

[Date of thesis submission]

Certified by:

[Your thesis advisor's name]

[Thesis advisor's title]

Thesis Supervisor

Accepted by:

Annette (Peko) Hosoi

Associate Professor of Mechanical Engineering

Undergraduate Officer

**Abstract page** (required, please look at the example for formatting)

Layout: <http://libraries.mit.edu/archives/thesis-specs/images/abstractex.pdf>

Sample abstract: <http://libraries.mit.edu/archives/thesis-specs/images/abstract.pdf>

***The date on the Abstract Page reflects your thesis submission date.***

2. Print one copy of the thesis on archival bond paper. You can print to the Athena printer “Thesis” in 11-004, or request printing on thesis quality paper at Copytech. Covers and clips are available at the Mech E Undergraduate Office – covers are also available at the Library Archives in 14N-118.
3. Sign the title page, and get your thesis advisor’s signature, and bring it to 1-110. The Undergraduate Office will get Professor Annette (Peko) Hosoi signature.

### **Latex templates**

- The thesis specs website says: If you are writing your thesis on Athena, follow the formatting and typeface instructions under the LATEX or FRAME olc stock answer topics by typing the command "olc\_answers" on any Athena workstation.
- You might also find a template here: <http://web.mit.edu/thesis/>
- Here is one posted by a student (scroll down to Useful Things): <http://stuff.mit.edu/people/foley/home.html>

### **General Thesis Writing Information**

For formatting guidelines, please see the Thesis Specifications: <http://libraries.mit.edu/archives/thesis-specs/>  
This website has information relating to required pages (title and abstract), as well as suggestions for fonts and formatting figures/graphics.

**Note: One copy** of the thesis must be submitted to the Undergraduate Office in **1-110**. (The thesis specs state that 2 copies must be submitted, but that only applies to a graduate student thesis).

The usual structure of a thesis is:

- Title Page
- Abstract Page
- Acknowledgements (optional)
- Table of Contents (optional)
- Introduction
- Content, in chapters for a long thesis
- Conclusion
- Bibliography/References
- Appendices (optional)

The content of the thesis is to be determined by the student and faculty supervisor. Your thesis will be letter graded.