

# Specifications for Thesis Preparation

Massachusetts Institute of Technology



Revised: October 2017  
Valid: 2015-2016;  
2016-2017, 2017-2018

**CHECKLIST****Before printing**

- Is the author's full name on the title page and the abstract? (p. 11)
- Are the correct names and titles of the thesis supervisor(s) and program head(s) on the title page? (p. 11)
- Does the title on the title and abstract pages agree with the title given to the registrar? (pp.10-11)
- Is the publication date correct on the title page? The month should always be September, February, or June. (p. 11)
- Does the title page carry the appropriate copyright notice and, in cases where the student owns copyright, the appropriate copyright permission statement? (p. 6-7, 11)
- Is the supervisor's name on the abstract page? (p. 12)
- Is the date submitted to the department correct on the abstract page? (p. 12)
- Is the page-numbering sequence complete and correct? (p. 9)
- If you are printing double-sided (which is highly recommended), are page numbers placed either in the center or on the outside edge of every page? (p. 14)
- Have you obtained permission to use previously published material? (p. 8)
- If you included acknowledgements and/or a biography, have you checked them for information you do not want exposed to internet search engines like Google? (p. 13)
- Are you printing the thesis, including the title page, on the correct paper? (p. 14)
- Are you printing the correct number of copies? (p. 5)

**Before submitting to your department**

- Are all necessary signatures on the title page of each copy? (p. 11)
- Are the signatures for copy 1 original, not photocopied? (p. 11)
- Has each copy been correctly collated? Are any pages missing or out of order? (p. 9)
- For doctoral theses only, has the form for UMI/ProQuest been completed, and has it been stapled to an extra copy of the title page and abstract? (p. 5)
- Are you submitting the correct number of copies? (p. 5)

Prepared by the MIT Libraries, as prescribed by the Committee on Graduate Programs and the Committee on Undergraduate Programs

Email: [mit-theses@mit.edu](mailto:mit-theses@mit.edu)

Telephone: 617-253-5690

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## GENERAL INFORMATION

### INTRODUCTION

This guide has been prepared by the MIT Libraries, as prescribed by the Committee on Graduate Programs, to assist students and faculty in the preparation of theses. The Institute is committed to the preservation of each student's thesis because it is both a requirement for the MIT degree and a record of original research that contains information of lasting value.

The requirements in this guide apply to all theses and have been specified both to facilitate the care and dissemination of the thesis and to assure the preservation of the archival paper copy. Individual departments may dictate more stringent requirements. Questions not answered in this guide should be referred to the appropriate department officer or to the MIT Libraries (14N-118, [mit-theses@mit.edu](mailto:mit-theses@mit.edu), 617-253-5136).

### WHAT HAPPENS TO THE THESIS?

The academic department is required to deliver the proper number of copies of the thesis to the Institute Archives and Special Collections within one month after the last day of the term in which the thesis was submitted (Faculty Regulation 2.72). One copy is kept as part of the permanent archival collection, and the other is reserved for future disposition.

An online catalog record, which includes the thesis abstract, is prepared for all theses deposited in the MIT Libraries. This information appears in Barton, our online catalog, which is accessible to researchers at other institutions through the Internet, as well as in the OCLC database WorldCat, an online international bibliographic system available to libraries and individuals worldwide. PhD and ScD theses are also listed (with abstract) in *ProQuest Dissertations & Theses* database (*PQDT*) and *Dissertation Abstracts International* (*DAI*).

For each thesis received by the Libraries, a digital version is created and made publicly available in DSpace@MIT (<http://libraries.mit.edu/mit-theses>). Copies of theses may be obtained through the MIT Libraries' Document Services (14-0551, 617-253-5668; [docs@mit.edu](mailto:docs@mit.edu); <http://libraries.mit.edu/docs/>). Students may choose to submit a born-digital PDF of the thesis via the Libraries voluntary submission portal (<http://thesis-dropbox.mit.edu/vireo/start>). However, the electronic version is not considered to be the official copy.

### SUBMISSION DATE

Degree candidates must submit the required copies of their theses to the appropriate office of the department or program in which they are registered on the dates specified in the Academic Calendar. The Academic Calendar may be found in the *MIT Bulletin* and at <http://web.mit.edu/registrar/calendar/>. September, February, and June are the only months in which degrees are awarded. Additional copies of the thesis may be required by the department.

## WHAT IS SUBMITTED?

All theses should be turned in to the appropriate departmental office; the office will deliver the theses to the Institute Archives within a month after the last day of term. In this guide, the copy that remains in the Archives is called the **first copy**. Additional copies required for the divisional libraries (see following section) are referred to as the **second** and (possibly) **third copies**. The department may ask for copies in addition to those required for the Libraries. The student may, of course, keep personal copies.

### Bachelor's Degree Theses

Not all departments send bachelor's theses to the Archives. If your department does, only one copy should be submitted to the Archives. Please check the requirements of your department. Undergraduate students do not pay a library processing fee.

### Graduate Degree Theses

- Number of copies: Normally, two copies are required for the Libraries – one for the Archives and a second for the appropriate divisional library. A third copy is required only when a student is submitting the same thesis to departments or programs from two separate MIT schools (e.g. Management and Engineering). If the departments are in the same school (e.g. Engineering Systems and Mechanical Engineering), only two copies are required.
- Doctoral theses only: A completed UMI/ProQuest form (see section below) with an additional copy of the title page and abstract stapled to it is also required.

### Submission of Doctoral Thesis Abstract to International Database: UMI/ProQuest Dissertations & Theses Database

Abstracts of all doctoral theses (Ph.D. and Sc.D.) will be submitted for inclusion in *ProQuest Dissertations & Theses*, an online database used by researchers around the world. *PQDT* can be searched by author name, subject terms, and all words in the title and abstract. All MIT abstracts will contain a note stating that copies of the full text are available from DSpace at MIT or the MIT Libraries' Document Services.

Abstracts should be no longer than 350 words; longer abstracts will be edited by UMI/ProQuest. Please complete the UMI/ProQuest form at <http://libraries.mit.edu/archives/thesis-specs/images/umi-proquest-form.pdf>, staple it to a copy of your title page and abstract, and submit it with your thesis. The form may be printed and completed by hand or opened and filled out in Acrobat Reader, then printed.

When filling out the form, choose the appropriate subject categories from the list provided with the form. Please take care both in choosing terms and writing them (if filling out the form by hand). Subject-based access to your thesis will depend on the accuracy of the information you provide and the precision with which it is transcribed by UMI/ProQuest. It is especially important that your name appear on this form exactly as it does on the title page and abstract of your thesis.

### Joint Theses

Most MIT theses are written by a single author. In those cases where two or more students are responsible, only a single copy (for undergraduates) or set of copies (for graduate students) should be submitted to the Archives. The title page of the thesis should bear the

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MIT Thesis FAQ: <http://libguides.mit.edu/mit-thesis-faq> --p.5

signatures of all authors and thesis supervisors. Permission to undertake collaborative thesis research must be obtained in advance from the Vice Chancellor or his/her designee. Undergraduate students who wish to undertake joint thesis research should submit a request to the Office of the Vice Chancellor. Graduate students who wish to undertake joint thesis research should submit a request to the Office of Graduate Education via the general petition process <http://odge.mit.edu/gpp/degrees/thesis/joint-theses>

## CHANGES AFTER SUBMISSION OF THESIS

All changes made to a thesis, after the thesis has been submitted to the MIT Libraries by the student's department, must have prior approval from the Vice Chancellor or his/her designee.

When the purpose is to correct significant errors in content, the student should create an errata sheet using the form and instructions at <https://libraries.mit.edu/archives/thesis-specs/images/errata-sheet.pdf> and obtain approval first from both thesis supervisor or program chair, before submitting for review by the Vice Chancellor. If the purpose of change is to excise classified, proprietary, or confidential information, the student should fill out the application form at <https://libraries.mit.edu/archives/thesis-specs/images/page-substitution.pdf> and have the request approved first by the thesis supervisor or program chair, before submitting for review by the Vice Chancellor. Students and supervisors should vet thesis content carefully before submission to avoid both scenarios whenever possible.

## FEES

Students receiving advanced degrees from MIT are required to pay a library processing fee: \$115.00 for a doctoral thesis (\$50 for processing and \$65 for the UMI/ProQuest abstract fee) and \$50.00 for all other advanced-degree theses. Undergraduate students do not pay a processing fee. Thesis charges are billed to the student's account when the thesis title is entered on the degree application. Please refer to the academic calendar on the Registrar's website to review relevant deadline dates.

## BINDING

All copies must be submitted to the student's department **unbound** between cardboard covers; the thesis and covers should be clipped or tied together, NOT stapled or punched. Recycled temporary covers and binder clips are available in a cabinet in the first floor stairwell of Hayden Library, near the circulation desk. The front cover should be labeled with the following information: author's name, thesis title, course, month and year of graduation, and which copy it is (first, second, or third). The MIT Libraries pay for the binding of theses retained in their collection. Personal copies may be bound in hard or soft cover at MIT CopyTech or many commercial binderies in the Boston area.

## COPYRIGHT

The Institute's policy concerning ownership of thesis copyright is covered in *Rules and Regulations of the Faculty*, 2.73. (<http://web.mit.edu/faculty/governance/rules/2.70.html>) and *MIT Policies and Procedures* 13.1.3 (<http://web.mit.edu/policies/13/13.1.html#sub3>). The following are guidelines to assist the student in determining who holds ownership of the thesis copyright:

The Institute will hold ownership of the copyrights to theses if:

1. the thesis research is performed in whole or in part by the student with financial support in the form of wages, salary, stipend, or grant from funds administered by the Institute

and/or

2. the thesis research is performed in whole or in part utilizing equipment or facilities provided to the Institute under conditions that impose copyright restrictions.

In general, students may retain ownership of thesis copyrights when the only form of support is (a) teaching assistantships (the duties of which do not include research activities) and (b) NSF and NIH traineeships and fellowships (although the trainee or fellow may be required to grant certain publishing rights to NSF or NIH). Actual determination of a student's status is made by reference to the account from which the student receives support. Questions regarding restrictions imposed on any of the Institute's facilities or equipment may be addressed to the administrative officer of the laboratory or department or to the appropriate contract administrator in the Office of Sponsored Programs (<http://osp.mit.edu/>).

Specific questions on permission to copyright should be referred to the Technology Licensing Office (617-253-6966, [tlo@mit.edu](mailto:tlo@mit.edu)).

When copyright ownership is held by the student, the student must, as condition of a degree award, grant royalty-free permission to the Institute to reproduce and publicly distribute copies of the thesis. In this case the following legend on the thesis title page: "The author hereby grants to MIT permission to reproduce and to distribute publicly paper and electronic copies of this thesis document in whole or in part in any medium now known or hereafter created." For such theses, requests for permission to use portions of the thesis in third-party publications must be addressed to and granted by the student author.

When copyright is held by the Institute, students and third parties should contact the MIT Technology Licensing Office (617-253-6966, [tlo@mit.edu](mailto:tlo@mit.edu)) to obtain permission to reuse thesis content in other publications. However, the student is authorized to post electronic versions of the student's own thesis, in whole or in part, on the World Wide Web. Any further publication of the thesis in whole or in part shall be made only with the authorization of the Technology Licensing Office, in consultation with the head of the department or course in which the student was registered when the thesis was accepted.

Regardless of whether copyright is held by the student or the Institute, the MIT Libraries publish the thesis electronically in DSpace@MIT (<http://dspace.mit.edu>) allowing open access viewing and limited downloading/ printing.

Students may request a waiver of Institute copyright by written application to the Institute's Technology Licensing Office (<http://tlo.mit.edu/>). The waiver shall be granted only if the retained rights of the student as described in this guide are inadequate for the student's needs and if a license from the Institute to the student would also be inadequate. Any such waiver of the Institute's copyright shall be subject to a royalty-free grant from the student to the Institute to publicly distribute copies of the thesis, in whole or in part. The student must also place the legend above on the thesis title page.

## Implementation: How to Copyright a Thesis

Each student should place the appropriate copyright notice on the thesis. Copyright notice consists of four elements:

1. the symbol "c" with a circle around it © and/or the word "copyright,"
2. the year of publication (the year in which the degree is to be awarded),
3. the name of the copyright owner, and
4. the words "All rights reserved."

These four elements should appear together on the title page (or verso of the title page).

Examples:

- a. student is copyright owner: © 2008 Jane Doe. All rights reserved.
- b. Institute is copyright owner: © 2008 Massachusetts Institute of Technology. All rights reserved.

Sample title pages are included on pages 17-20. A copyright notice should also appear on any non-paper material (e.g. DVD or CD) included with a thesis.

## Use of Previously Published Material in a Thesis

Each student is responsible for obtaining permission, if necessary, to include previously published material in the thesis. This applies to most third-party materials (i.e. those created and published by someone else); it may also apply to the student's own previous work. If, for example, a student has already published part of the thesis as a journal article and, as a condition of publication, has assigned title to the journal's publisher, the student has no further rights in the article. Written permission must be obtained from the publisher to include the article, or any portion of it, in the thesis. Similarly, permission must be obtained to include papers written while the student was employed by a commercial company or non-profit organization if title belongs to the company or organization. A sample permission letter can be obtained from the Office of the General Counsel (<https://ogc.mit.edu/frequently-asked-questions>).

If the student knows, prior to publication or employment, that such material will be included in a thesis, he or she may wish to retain title to the material or to reserve sufficient rights to use the material. Further information is available at Scholarly Publishing @MIT Libraries (<http://libraries.mit.edu/scholarly/>) or by contacting [copyright-lib@mit.edu](mailto:copyright-lib@mit.edu) for more information.

## POLICY FOR TEMPORARY RESTRICTIONS ON THE DISTRIBUTION OF THESES

Thesis research should be undertaken in light of MIT's policy of open research and the free interchange of information. ***Written notification of patent holds and other restrictions must reach the MIT Libraries before the thesis in question is received. Under normal circumstances all theses are open and available for public inspection once they have been received by the Archives.*** When there is good reason for delaying the distribution of a thesis, the procedures below should be followed.

For additional details on procedures for temporary restrictions, please see *Graduate Policies and Procedures* at <http://odg.mit.edu/gpp/degrees/thesis/restrictions-on-thesis-publication/>



## Patent Claims

When MIT holds the rights to any intellectual property contained in a thesis, students and their supervisors must work with the MIT Technology Licensing Office (<http://tlo.mit.edu/>) to determine if a patent application is to be filed. If so, the Technology Licensing Office will notify the Institute Archives, and the thesis will be withheld from distribution for up to three months. If an extension is required, application must be made to the Vice President for Research, who will inform the Archives if an extension is approved.

When a student holds the rights to any intellectual property contained in his or her thesis, application for permission to withhold a thesis temporarily from distribution must be granted by the Vice Chancellor or his/her designee. Undergraduate students should follow instructions found here: [https://due.mit.edu/faqs/frequently-asked-questions#Thesis\\_Hold](https://due.mit.edu/faqs/frequently-asked-questions#Thesis_Hold). Graduate students should follow instructions found here: <https://odge.mit.edu/gpp/degrees/thesis/restrictions-on-thesis-publication/>. If the hold is granted, the Vice Chancellor will inform the Archives, and the thesis will be withheld for a period of 90 days. If an extension is required, application must be made to the Vice President for Research.

## Government Restrictions

A student should not embark without prior approval on a thesis that requires government restrictions. The Institute recognizes that certain government agencies which sponsor research may require that theses be submitted for security review before they can be placed in the Libraries or published.

## Privacy and Security

Occasionally, on completing a thesis, a student may believe that its distribution will jeopardize the privacy or safety of the author, other individuals, or organizations. If the thesis cannot be rewritten to remove the problematic material, the author and supervisor should submit the thesis to the director of the program, who will prepare a recommendation for the Vice Chancellor, who will then consult with the Vice President for Research. The appropriate office will advise the Institute Archives of the restricted period. In all cases the restricted period should be kept to a minimum.

## FORMATTING

### PAGINATION

The title page is always considered to be page 1, and every page must be included in the count regardless of whether a number is physically printed on a page. ***The entire thesis (including title page, prefatory material, illustrations, and all text and appendices) must be paginated in one consecutive numbering sequence.***

Theses should be prepared double-sided whenever possible. ***In a double-sided thesis, both sides of every page (starting with the title page and including any pages that have been left blank) must be accounted for in the numbering sequence.*** Therefore, in a double-sided thesis, odd-numbered pages are always on the right and even-numbered pages on the left. Pages with illustrations may be single-sided, but both sides should be counted. Single-sided theses should be numbered only on the front of every sheet. When using thesis templates on Athena, use caution and verify that the pagination requirements are being met.

**PREFATORY MATERIAL****Selecting a Title**

Your work will be a more valuable research tool for other scholars if it can be located easily. Search engines use the words in the title, and sometimes other descriptive words, to locate works. Therefore,

1. be sure to select a title that is a meaningful description of the content of your manuscript; and
2. when possible, use word substitutes for formulas, symbols, superscripts, Greek letters, etc., which do not appear on most computer keyboards and would make your title more difficult to search.

Examples:

"The Effects of Ion Implantation and Annealing on the Properties of Titanium Silicide **[not TiSi<sub>2</sub>]** Films on Silicon Substrates"

"Radiative Decays of the J/Psi **[not J/ψ]** to Two Pseudoscalar Final States"

**Thesis Title Page**

The title page of the first copy must bear the **original signatures** of the author, supervisor, and chairman; a photocopy of the signed title page is acceptable for the second copy. The title page should contain the title, name of the author, previous degrees, the degree(s) to be awarded at MIT, the date the degree(s) will be conferred (June, September, or February only), copyright notice, and appropriate names and signatures.

For candidates receiving two degrees, both degrees to be awarded should appear on the title page. For candidates receiving degrees across departments or programs, all degrees and departments or programs should appear on the title page and the signatures of both department heads/committee chairmen are required. Whenever there are co-supervisors, both signatures are required (see example on page 19).

<p>Use of the Regulated Secretary Pathway to Ease Protein Product Recovery in Animal Cell Culture</p> <p>by</p> <p>David M. Stevenson</p> <p>B.S. Chemistry Angelo State University, 1987</p> <p>SUBMITTED TO THE DEPARTMENT OF CHEMICAL ENGINEERING IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF</p> <p>MASTER OF SCIENCE IN CHEMICAL ENGINEERING AT THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY</p> <p>FEBRUARY 1994</p> <p>©1994 David M. Stevenson. All rights reserved.</p> <p>The author hereby grants to MIT permission to reproduce and to distribute publicly paper and electronic copies of this thesis document in whole or in part in any medium now known or hereafter created.</p> <p>Signature of Author: _____ Department of Chemical Engineering January 14, 1994</p> <p>Certified by: _____ Gregory Stephanopoulos Professor of Chemical Engineering Thesis Supervisor</p> <p>Accepted by: _____ Robert E. Cohen Professor of Chemical Engineering Chairman, Committee for Graduate Students</p>	<p>Thesis title as submitted to registrar</p> <p>Author's name as submitted to registrar</p> <p>Previous degree information</p> <p>Copy this phrase substituting degree, department and any specializations</p> <p>Month and year degree will be granted (June, September, February ONLY)</p> <p>Copyright statement</p> <p>This permission legend MUST follow if copyright is owned by student (<b>but not if owned by MIT</b> - see page 17)</p> <p>Author's department and the date thesis is to be presented to the department</p> <p>Full name and title of supervisor as it appears in the MIT catalog</p> <p>The name and title of this person varies in different degree programs and may vary each term; contact the departmental thesis administrator for specific information</p>
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**Thesis Abstract Page**

Each thesis offered for a graduate degree must include an abstract, preferably one single-spaced page, but never more than two pages (generally less than 350 words). The abstract should be thought of as a brief descriptive summary rather than a lengthy introduction to the thesis. Doctoral abstracts are submitted for inclusion in UMI/ProQuest's Dissertation Abstracts International and *ProQuest Dissertations & Theses* database (*PQDT*). **Doctoral candidates should keep their abstracts under 350 words. Longer abstracts will be edited and shortened by UMI/ProQuest.** Databases such as *PQDT* provide full-text searching of abstracts, so the presence of significant key words in a short abstract will facilitate access. The abstract should immediately follow the title page.

<p>Use of the Regulated Secretory Pathway to Ease Protein Product Recovery in Animal Cell Culture</p> <p>by</p> <p>David M. Stevenson</p> <p>Submitted to the Department of Chemical Engineering on January 15, 1994 in Partial Fulfillment of the Requirements for the Degree of Master of Science in Chemical Engineering</p> <p>ABSTRACT</p> <p>An experimental study was performed to determine methods to improve the cloning efficiency of the BTC3 cell line prior to obtaining clonal cell lines expressing recombinant protein. Polylysine pretreatment of the substrate was found to increase colony formation along with the use of conditioned media. Using the acquired knowledge, clonal lines were obtained from the parental (nonclonal) line, as well as from mixtures of cells expressing recombinant prolactin.</p> <p>Secretion experiments were carried out on the clonal lines to determine whether the recombinant prolactin could be used in a controlled secretion production scheme. Results show the recombinant prolactin to be partially sorted to the regulatory secretory pathway, however the native insulin appeared to be preferentially sorted by the cells.</p> <p>Thesis Supervisor: Gregory Stephanopoulos Title: Professor of Chemical Engineering</p>	<p>Thesis title as submitted to registrar</p> <p>Author's name as submitted to registrar</p> <p>Copy this phrase, substituting the department, the date the thesis will be submitted, and the degree to be received</p> <p>Type the word ABSTRACT before the body of the text</p> <p>Single-spaced summary; keep under 350 words</p> <p>Full name and title of supervisor as it appears in the MIT catalog</p>
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## Biographical Note and Acknowledgments

Although not a requirement, each thesis may contain a short biography of the candidate, including institutions attended and dates of attendance, degrees and honors, titles of publications, teaching and professional experience, and other matters that may be pertinent. An acknowledgment page may also be included. These sections may be single-spaced.

***Please note that your thesis will be publicly available online at DSpace@MIT, which is regularly crawled and indexed by Google and other search-engine providers.***

## STYLE

The style of quotations, footnotes, and bibliographic references may be prescribed by your department. If your department does not prescribe a style or specify a style manual, choose one and be consistent. Further information is available on the web site of the MIT Writing Center (<http://writing.mit.edu/wcc/citation>).

## NOTES AND BIBLIOGRAPHIC REFERENCES

Whenever possible, notes should be placed at the bottom of the appropriate page or in the body of the text. Notes should conform to the style appropriate to the discipline. If notes appear at the bottom of the page, they should be single-spaced and included within the specified margins (see margin and spacing section below).

It may be appropriate to place bibliographic references either at the end of the chapter in which they occur or at the end of the thesis.

## APPENDICES

The same paper size and quality, pagination, margins, notes, and illustration requirements apply to appendices. They support the research in your thesis ***and should be as readable and reproducible as the rest of your work.*** Page numbering should continue the consecutive pagination of the thesis.

## TYPEFACE AND SIZE

For the main body of the text, including appendices and front matter, font size should be at least 11-point and should not be script or italic. Italics may, however, be used for short quotations or to highlight variables in an equation, for example. Notes and the text in tables, etc., should not be smaller than 10-point.

## MARGINS AND SPACING

Top, bottom, and both side margins must be at least an inch wide (1") to allow for binding and trimming. All information (text headings, notes, and illustrations), *excluding page numbers*, must be within the text area. Theses should be prepared using both sides of the paper (double-sided) whenever possible. Oversize sheets must be folded to come within the text area so the folds will not be trimmed off or bound in during the binding procedure.

The text of the thesis may be single- double- or one-and-a-half-spaced. The abstract, biography, notes, bibliography, and acknowledgment should be single-spaced.

## PRODUCTION

### USING ATHENA

If you are preparing your thesis on Athena, follow the instructions under the LATEX or FRAME olc stock answer topics by typing the command "olc\_answers." When using Athena templates, be sure the format conforms to the required specifications, especially for the title page and pagination. Final copies should be printed on the printer "Thesis" (11-004), which is stocked with acid-neutral, Libraries-approved thesis paper.

### PAPER

**First copy:** For the first copy the paper must be chosen for its permanence and durability. This is the copy that should bear the original signatures. The paper must be (a) acid-neutral or acid-free, (b) watermarked, (c) at least 20-lb. weight, and (d) contain at least 25% cotton. It may contain some post-consumer waste (pcw) recycled material. The following 20-lb. watermarked acid-neutral papers are examples of those that are acceptable:

- Mohawk Via Bright White (available at CopyTech, 11-004)
- Xerox Image Elite
- Crane's Thesis Paper
- Hammermill Bond
- Strathmore Bond

**Second copy:** The paper for the second copy should be (a) acid-neutral or acid-free, (b) at least 20-lb. weight, and (c) contain 25% cotton. It need not be watermarked.

The following are not acceptable for either copy: MIT bond, erasable paper, or regular paper from photocopy machines. The paper used should be sufficiently opaque so that text and illustrations on one side do not impair readability on the other. If there are any questions about the acceptability of paper, contact the Thesis Processor at [mit-theses@mit.edu](mailto:mit-theses@mit.edu).

If you are preparing your thesis on Athena, print the final copies on the printer "Thesis," which is stocked with Mohawk Via Bright White.

The standard size for theses is 8½ by 11 inches (see section on oversize pages).

### DOUBLE-SIDED OR SINGLE-SIDED PRINTING

Double-sided printing is strongly recommended. However, the paper should be sufficiently opaque so that text and illustrations on one side do not impair readability on the other side. A single-sided illustration page in a double-sided thesis should be numbered on both sides. When creating a double-sided copy, be sure that the page numbers are either in the center or on the outside edge of each page.

## OVERSIZED PAGES

Charts, graphs, tables, etc., should be reduced whenever possible to an 8½-by-11-inch format. If material is not reducible, oversize sheets must be folded to come within the text area so the folds will not be trimmed off or bound in during the binding procedure. Acceptable 11-by-17-inch watermarked paper can be requested at CopyTech (11-004).

## GRAPHICS

### Use of Color

Students may print their theses in full color. Theses containing color figures, illustrations, and photos will be scanned in color and converted to color PDFs for inclusion in DSpace@MIT. Please be aware that heavily saturated color graphics may “bleed through” and compromise legibility for double-sided pages. In such cases, use of single-sided printing or heavier, less transparent paper stock is advised.

### Photographs

Pages containing photographs should be numbered as regular pages. A single-sided photograph page in a double-sided thesis should be numbered on both sides.

***All graphics must respect the 1” margins.***

## NON-PAPER FORMATS and MEDIA

Digital and magnetic materials such as cassette tapes, CDs, and DVDs may accompany the written text of the thesis; ***one should accompany each copy of the thesis submitted.*** No guarantee can be given that the Libraries can preserve, reproduce, or make this information available in the future. Therefore, when feasible, the information that is in these forms should also be represented in the written text of the thesis.

### Labels

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by

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Submitted to the  
Department of Mechanical Engineering  
in Partial Fulfillment of the Requirements for the Degree of

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at the

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WHY FIGHT?

Examining Self-Interested versus Communally-Oriented Motivations in  
Palestinian Resistance and Rebellion

by

T. Nichole Argo

Submitted to the Department of Political Science on  
on February 5, 2009 in Partial fulfillment of the  
requirements for the Degree of Master of Science in  
Political Science

ABSTRACT

Why do individuals participate in weak-against-strong resistance, terror or insurgency? Drawing on rational choice theory, many claim that individuals join insurgent organizations for self-interested reasons, seeking status, money, protection, or rewards in the afterlife. Another line of research, largely ethnographic and social network based, suggests that prospective fighters are driven by social identity — they join out of an allegiance to communal values, norms of reciprocity, and an orientation towards process rather than outcome.

This project tested these two lines of argument against each other by directly linking values orientations in a refugee camp to *professed willingness to participate* in resistance or rebellion in two different contexts. Professed willingness to participate in resistance, and especially in violent rebellion, is positively correlated with communal orientation and negatively correlated with self-enhancement values. The strength of correlation grows negatively for self-enhancement and positively for communal orientations-as anticipated sacrifice increases. Results are discussed.

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