Completing Your Master's in Environmental Studies:

A Guide for Adelphi Graduate Students

This guide is intended as a supplement to the information in the Graduate Bulletin (course catalog). We hope that it will answer many questions you may have about the M.S. program in Environmental Studies at Adelphi. This guide contains the following sections:

1. General Information

What are the requirements for an M.S. in Environmental Studies?

Your environmental studies master's degree must include the following:

1) Environmental Studies Intro Seminar (0125-500)

2) And one of the following an internship (0125-791) OR the research thesis (0125-799). Programs are tailored to the individual, but all students must meet these basic guidelines:

Internship	**Research Thesis**
33 credits total	33 credits total
Includes 3 credits of ENV 791 (Internship)	Includes 3 credits of ENV 799 (Thesis Research)
150 hours of internship work	Lab and/or field research
May also include up to 3 credits of Independent Study or Guided Research	May also include up to 3 credits of Independent Study or Guided Research

(ENV 798)	(ENV 798)

What courses can count towards the Environmental Studies M.S. degree?

Master's students may count all courses offered by the Environmental Studies program at the 500 level or above towards their degree. Students wishing to count credits from their undergraduate work at Adelphi may apply up to 12 credits of Adelphi Environmental Studies courses at the 500 level or above from their undergraduate studies toward the master's degree. This does not include transfer credits from other universities. Upon approval of your committee or the Graduate Coordinator, up to 12 credits of graduate courses taken in other departments at Adelphi University may be applied toward the Environmental Studies degree. By arrangement with a faculty member, students may take up to 3 credits of Guided Research (ENV 798) on topics of special interest not covered by the regular program offerings. Guided Research may be conducted in conjunction with a graduate assistantship.

What about courses taken at other institutions?

Once having been admitted to graduate study at Adelphi, students may take course(s) and transfer credits (with grades of A or B only) from another university only if authorized to do so by the Department and by the Dean of the College of Arts & Sciences prior to registering for the course(s).

How many courses can I take a semester?

This will depend on your capabilities, background, and especially other commitments; consulting with an advisor will ensure that these factors are taken into account. In general part-time students take one or two courses a semester, with a maximum of three. Full-time students usually take three or occasionally four courses a semester. Remember that workloads for courses with the same number of credits will vary depending on the topic and instructor, and that workloads are often heaviest at the end of the semester. It is usually better to take a lighter load and perform better in your classes than to pile on the maximum number of credits and hurt your performance.

How long will it take to get a master's degree?

The average time to complete a degree in our program is about two years, for students who take close to the maximum number of credits each semester. Some students, of course, take much longer to complete their degree, often due to heavy outside commitments to work and family.

I want to teach high school environmental science or geology; how should I prepare myself?

The Adelphi School of Education offers a Master of Arts Program in Secondary Education, which can be earned by those with undergraduate degrees in related fields and by those with provisional certification as secondary school teachers. The requirements for this degree are described in the Adelphi Ruth S. Ammon School of Education website and the Graduate Bulletin:

https://www.adelphi.edu/program/graduate/adolescent-education/

http://catalog.adelphi.edu/preview_program.php?catoid=21&poid=9969

Is there a foreign language requirement for the M.S. in Environmental Studies?

No. However, students interested in the industry side of Environmental Studies would benefit from developing their foreign language skills.

Do I have to maintain a minimum grade point average?

Yes! Graduate students are expected to do well in their classes. Grades below a B- are unacceptable; you must have at least a 3.0 (B) average to graduate with a master's degree. Receiving 6 credits of "C" or 3 credits of "F" is grounds for removal from the program.

Is there a time limit on finishing my master's degree?

Yes. Adelphi's general policy states that master's degrees must be finished within five years from the time the student starts coursework. However, this limit may be exceeded by petition; talk to the Graduate Coordinator for more information.

Are assistantships available to help pay for my graduate education?

Yes, a limited number of assistantships are available through the program to support master's students. In general, these positions offer partial tuition remission and a small stipend, in return for work as a research assistant. These opportunities are available on a competitive basis based upon the following criteria: academic record, experience, matching with a suitable mentor, and need. Graduate assistants are chosen jointly by the Program Director and the Graduate Coordinator, in coordination with the faculty member who is sponsoring the research. Once accepted, assistants are expected to perform their assigned duties professionally and responsibly. These experiences are an important component of your graduate education.

Who can give me guidance during my graduate career?

The Graduate Coordinator will advise you regarding coursework and your chosen path (internship or thesis). You do not need to select your path in advance. For the internship path, the Graduate Coordinator will serve as the instructor of record for the internship course (ENV 791). For the scholarly paper and research paths, you are encouraged to form a committee consisting of three faculty members (at least two from the Environmental Studies program; one may be from outside the program) as early in your studies as possible. This committee will meet with you to guide you in planning your program of studies and your research. Of course, questions can be directed to any faculty member or to the Graduate Coordinator. For suggestions on choosing a committee, see the section on Research Thesis (p. 12).

If I do a research thesis, how often should I meet with my graduate committee?

Meetings should be called by your advisor as often as needed, but at least three times during the preparation of your research thesis: a planning meeting at the beginning to discuss and approve your proposal; midway through your research; and the final meeting, the defense of your paper or thesis.

How do I decide if I should do an internship or research thesis?

The following are some considerations relevant to your choice:

1. You should definitely do a research thesis if...

…your goal is to work in a lab or to continue on for a Ph.D. With these future plans, the direct research experience you will gain doing a research thesis will be invaluable. Note that although many Ph.D. programs require only a bachelor's degree as a prerequisite, not a master's, you will improve your chances of admission to Ph.D. programs by successful completion of a master's research thesis. If you are not certain whether lab work is the career for you, then a research thesis will give you a chance to explore this option in a relatively short period of time. Your advisor is your best consultant in this decision.

2. You might choose to do an internship if...

…you plan to continue on to work in industry, government agencies, non-profit agencies, or other public or private environmental organizations. Although the research experience is worthwhile in many ways, it is less directly relevant to these career options.

3. If you are thinking about doing a research thesis, be aware that...

…although research is a tremendously valuable experience, scientific research demands continued dedication, is time-consuming, and is often unpredictable (experiments may fail, etc.). Even with an apparently straightforward set of experiments to do to finish one's project, there can be many problems that arise with techniques, reagents, and equipment, leading to almost inevitable delays. If you have a strict deadline by which you must finish your degree, or if you have limited time to devote to research because of other commitments, the internship might be a better option than a research thesis. Although a internship will also require a major effort, it can generally be finished in one or two semester's worth of work and writing, whereas a research thesis will almost certainly take longer.

2. Graduate Internship Requirements (ENV 791)

The Graduate Internship is a significant component of your education at Adelphi. In lieu of a research synthesis, you will engage directly in the environmental field and put your training to work. In the process, you will also gain valuable vocational experience and increase your network of professional contacts.

ENV 791 is a 3-credit graduate experience. The work you perform must reflect a semester's learning and progress toward your training as an environmental professional. Although the nature of the work and the exact number of hours required remains flexible due to the broad, inter-disciplinary nature of the program, 150 hours is the minimum (students may petition for fewer hours if the work performed is especially intensive). The work can be performed over 2 semesters.

The Environmental Studies Program can assist with identifying internships but ultimately it is the student's job to locate and arrange an internship.

PROCEDURE

1. *Arrange an Internship*. Speak with local businesses, governments and NGO's. Keep your eyes open to opportunities. Network with your classmates. Above all, identify an area that interests you. It is a good idea to run your ideas by the graduate coordinator *before* you apply for an internship.

2. *Application*. Once you have identified an internship, see the graduate coordinator to formally apply. To do so, you need a work plan, signed by your future supervisor.

Work plan:

1. Summary of the work to be performed
2. Detailed list of tasks and time frame
3. Description of the site/ agency and its function
4. Contact information for the supervisor.

Once your work plan is accepted you can register for ENV 791, using an Independent Study form.

3. *Assessment*. When your internship is over, submit the following documents for a grade.

1. **Log of hours worked and actions performed. Supervisor must sign the log.**
2. **Letter signed by supervisor outlining tasks completed and evaluation of performance**.
3. **Written document outlining exactly what you did and methods used.** This must be a complete record of your experience. If your work was technical, then you must report on the methods used and examples of results (if results are proprietary then your supervisor must contact the Graduate Coordinator). For example, if you banded birds, you will report on how the work was performed, detail your responsibilities, and list the equipment utilized. If you surveyed the public, you would report on the methods used to select the subjects, design the questions and analyze results. This should include a self- evaluation.
4. **Paper (15-25 pages) analyzing your contribution to mitigating an environmental issue and relating your experience to the program mission.** This should incorporate your results, and so should include a literature review related to your work, maps, figures, etc.
5. **Presentation to the program.** Each semester we will set aside a time (usually within the program seminar series) to hear your 10- 15 minute presentation on your internship.

Note that all of the writing in your Methods paper and Reflection paper must be entirely **in your own words**, with proper citation formatting. (See the Reference Formatting guidelines on p. 15.)

3. Guidelines for the Research Thesis (ENV 799)

The research thesis is the culmination of your master's degree. It is your opportunity to become an expert in laboratory or field techniques and make an original contribution to the environmental field. However, it is not for the uncommitted. Research can be very rewarding, but also very frustrating. We suggest that you take a look at the program's master's thesis collection to get a sense of the format, depth, and breadth of the research performed by previous students.

The research thesis must obviously be based on your own work in the laboratory and/or field. You will work closely with your advisor, who will guide you in the research and in the actual writing of the thesis; additional guidance is available from other faculty members, especially those you select to be your advisory committee.

Defining a thesis project

The extent of your project (i.e., what you must accomplish in order to finish) will be determined in consultation with your advisor and your thesis committee, generally at the meeting at which you present your thesis proposal. Your accomplishments will fall into two areas:

1. **Research**: You must perform analysis or experiments that represent reasonable attempts to answer a question, solve a problem, or find out something unknown. If you obtain negative but informative results, they may be acceptable. A master's thesis does not need to describe a major research advance, as a doctoral thesis generally should, nor need a master's thesis necessarily result in a scientific publication.
2. **Writing**: You must present your results to the program in the form of a thesis. The requirements for the thesis are described in more detail below.

How long will it take to finish?

This depends on you, on the project, and on your advisor. The research for a master's degree generally takes a minimum of six months to complete, and the average is probably somewhat longer. Students who devote less time to their project, whether because of outside commitments or because of low motivation, are likely to take longer to complete the

necessary research and writing. Your advisor may be able to give you a rough idea of how long he or she expects a project to take, but be aware that this can only be an estimate. Remember the caution in the first section about the uncertainty involved in scientific research.

Writing the thesis itself may take less time than doing the research, generally one to three months. Be sure to allow additional time for your advisor to edit your rough draft and for you to revise it. Advisors often have other obligations besides reviewing your thesis for you.

Checklist for Completing a Research Thesis

1. Choose advisor (see Section A below).
2. Choose a committee, in consultation with your advisor.
3. Choose and define a thesis project in consultation with your advisor (see Section B below).
4. Develop an outline, bibliography, and plan for your project (see Section C below).
5. Prepare a thesis proposal and present it to your thesis committee.
6. Have a proposal meeting with your committee to receive suggestions and approval of your thesis studies. This is not optional; you must have a proposal meeting that occurs in advance of your defense. This meeting serves to makes sure that you are on the correct track with both your thesis and with your degree. See below for more information about the proposal.
7. Carry out your research! (You can begin the research at any time, even if not registered for "thesis research"; see Section D below.)
8. Register for thesis research for credit (ENV 799).
9. When experiments are complete, or nearly so, begin writing (see Section E below).
10. Submit drafts to your advisor; edit and revise according to your advisor's suggestions (see Section F below).
11. Submit the advisor-approved thesis to your committee.
12. Successfully defend your thesis (see Section G below).
13. If necessary, revise the thesis according to your committee's suggestions.
14. Submit the final version to your advisor and/or committee.
15. Upon final approval, submit the thesis to the program for archiving.
16. Graduate: upon successful completion of course work, thesis, and defense.

(NOTE: In order to receive a diploma by a certain date, you must apply for graduation by the deadline. For January graduates, applications must be filed with the Office of the University Registrar on or before the last Friday in September; for May graduates, on or before the second Friday in October; for August graduates, on or before the first Friday in June. See http://ecampus.adelphi.edu/registrar/graduation.php for further information).

A. Choosing an advisor

Our master's students do their research primarily with Adelphi faculty members, or occasionally with investigators at outside institutions. To find out about the research interests of Adelphi faculty, there is general information available online at http://environmental-studies.adelphi.edu/faculty/. For more details, talk to individual faculty members. For information on doing research at outside institutions, talk to the Graduate Coordinator. Students generally choose an advisor who is most knowledgeable in the student's area of interest, but other considerations that are important are the personality and accessibility of the advisor, and the type of projects available in the advisor's lab.

B. Choosing a thesis topic

Generally the thesis project will be chosen in consultation with your faculty advisor. Because faculty are experts in their chosen field, they are likely to have the best idea of what topic is suitable for research and would make an acceptable thesis subject. Your advisor will probably have specific ideas for research projects that fit into his or her research program; advisors should be glad to hear your own ideas as well.

C. Finding references

Your advisor should be able to give you some references to get started; you should do your own literature searches as well. The staff of the Science Library can guide you in doing literature searches. Be sure to include recent references, if available. Try to be complete in your coverage of the pertinent literature. The "PubMed" database, available on the Internet at www.pubmed.gov, or Scopus, available through our library databases at http://libraries.adelphi.edu/research/databases/biology.php are good sources for references.

D. Starting your research: when and how

You can begin your research while you are taking classes, although some students prefer to wait until they have completed or almost completed their coursework before beginning their research. If you have decided on an area that interests you, have found an advisor, and can make the time in your schedule, then you are encouraged to begin your research as soon as possible.

Usually the advisor will guide you when you start out, showing you the basic techniques that you need to know. As you gain experience, you will become more independent, but never hesitate to seek guidance from your advisor. Your thesis committee members and other faculty may also be sought for advice. Be sure to keep a diary or lab notebook of your research; this will be an invaluable record when it is time to write up your results.

E. The thesis proposal (optional)

As soon as possible after you have defined your thesis project, you should prepare a proposal describing your planned project and present it to your thesis committee for approval and suggestions. The proposal should be a short written document, generally 2-5 pages, that includes the following: a short introduction to the field; a clear statement of the problem or hypothesis that your thesis research addresses; a description of the techniques that you will be using; and a description of the experiments that you will be performing, making clear how they relate to the topic of your thesis. You should also have an up-to-date bibliography. Your advisor should edit and approve your thesis proposal before you distribute it to your committee. Then, schedule a thesis committee meeting. At this meeting, you should make a short presentation (10-20 minutes) of your thesis project. Your committee will then offer suggestions and criticisms; you may need to revise your thesis proposal in light of their comments. A form indicating the committee's approval of your revised thesis proposal is signed by the committee at the successful conclusion of your thesis proposal meeting, and kept in your file.

F. Writing the thesis: Format

The leading source of information on acceptable style for scientific writing is the book *Scientific Style and Format: The CSE Manual for Authors, Editors, and Publishers*, 7th edition, available in the reference section of the library (call number T11 .S386 2006). For general guidelines on writing clear and correct English, you are strongly encouraged to read W. Strunk's *The Elements of Style*, also available in the reference section of the library (call number PE1408 .S772 2005). This volume is also available in paperback in bookstores.
The thesis must be written in your own words, not in sentences compiled from articles. In general, the format follows that of a primary journal article, with some additional elements.

- The Department and faculty members have examples of previously accepted theses that you may wish to examine.

The thesis should contain the following sections:

- Title Page (see example at end of this document)
- Abstract
- Table of Contents
- List of Figures and Tables
- Introduction
- Materials and Methods
- Results
- Discussion
- References

The **Introduction** should present a comprehensive discussion of the necessary background for the thesis research; think of it as a small version of a review article. It should be complete and up-to-date, incorporating all relevant recent references from the primary literature and review articles. If you wish to include figures, tables, etc. from research articles or reviews, you may need to obtain copyright permission from the publisher. The library staff should be able to help you to do so. Of course, the sources of these figures or tables must be cited.

At the end of the introduction, you should briefly present the problem or question that your project addressed.

Materials and Methods should be complete to enable the readers of the thesis to understand the experiments directly, rather than giving all techniques by reference to other articles. It should be written in narrative (text) form, not in the form of tables or lists (*i.e.*, no bullet points), and should be in the past tense.

The **Results** section should present the results of the research in narrative form, with enough text to make them comprehensible. Data in the form of figures, tables, and graphs should always include explanatory legends.

In the **Discussion** you should interpret and explain the results presented in the previous section, and set them in the context of the field as a whole. This is where you would revisit the description of the problem that you posed in the Introduction, and explain the relevance and meaning of your results. If there were additional questions that you were unable to answer, or new problems that arose as a result of your investigations, indicate those here also. What questions are the next important ones to address on this topic?

References

List all the references that you cited here, in proper format (see last section, p. 19).

G. Writing the thesis: editing and revising

You should give a rough draft of your thesis to your advisor well in advance of when you plan to finish. He or she will edit it and hand it back with comments and suggestions, which you should use as the basis for your next draft. Continue going through drafts with your advisor until he or she is satisfied. At this point you can make copies for your committee and schedule your defense. At your defense, your committee will almost certainly have suggestions for improving your thesis as well, which you should incorporate into the final version that you submit to the department.

H. Defending your thesis: checklist

- Write the thesis, in a form acceptable to your advisor, as described above.
- Copy and distribute the thesis to your committee. The examination committee must consist of the thesis sponsor and at least two additional members of the faculty.
- Schedule the thesis defense for a time when you and all your committee members can meet. The scheduling of the defense must be approved by the advisor and the program director.
- Notify the program secretary to schedule a room and announce the defense.
- Prepare your presentation.
- Defend your thesis: present your thesis research, including background material, results, discussion, and sufficient materials & methods to make clear how the experiments were done. Generally you should make your presentation 30-45 minutes long, and include audio-visual aids such as pictures, graphs, figures, and outlines of your key points.
- The committee and other attendees will ask you questions, which you will answer to the best of your ability.
- The committee will then choose one of four options:
  1. No revisions required;
  2. Minor revisions required, subject to the approval of the advisor only;
  3. Major revisions required, subject to the approval of all members of the committee; or,
  4. Unacceptable, failure.

  The usual decision for papers that have been previously revised by the advisor is either the first or second option.
- After the final version of the thesis is completed, acceptable to the advisor (option 1 or 2 above) or to the whole committee (option 3 above), you must submit your thesis through ProQuest ETD (https://www.etdadmin.com/main/submitting?siteId=844)
- The advisor reports the results of the defense to the program.

4. References for the Internship Paper or Research Thesis

Statements of fact or interpretation that are derived from references must be cited. In general, avoid the use of direct quotations. If these must be used, be sure to indicate that they are direct quotations by enclosing in quotation marks or, in the case of quotations longer than three lines, indenting the text. Internet websites from professional sources (such as peer-reviewed

journals or scientific organizations) may be used as reference sources only if correctly cited and referenced. The author is often listed at the bottom of the web page along with the year of "publication." **For complete information on references, including the format to use in citations, refer to the book** *Scientific Style and Format: The CSE Manual for Authors, Editors, and Publishers*, 7th edition, available in the reference section of the library (call number T11 .S386 2006).

The Environmental Studies program recently adopted the name-year format used in the book *Scientific Style and Format: The CSE Manual for Authors, Editors, and Publishers*, 7th edition, as our official referencing style. A summary of this style is below:

Environmental Studies program Reference Formatting (adapted from the CSE manual)

The citation of newspaper or popular magazine articles, internet-only resources (unless they are affiliated with a peer-reviewed journal or professional or governmental organization), or encyclopedias, is strongly discouraged, as these are rarely cited in scientific journals.

In-text references

- In-text references will generally be placed in parentheses at the end of a sentence, prior to the period. "The Xyz gene is located on chromosome 2 (Smith 2007)."
- Less commonly, the author will be mentioned outside of parentheses, with the year following in parentheses. "Smith (2007) found that the Xyz gene is located on chromosome 2."
- Direct quotations from other sources are very rarely found in scientific journal articles, so you should avoid them.

Citation with one author

(Aguade 1998)

Two authors

(Foster and Walker 2009)

Three or more authors

(Lin et al. 2008)

Multiple sources cited for the same information (arrange in chronological order)

(Aguade 1998, Sabeti et al. 2002, Foster and Walker 2009)

Reference list at the end of the paper

- References should be arranged alphabetically by the first author's last name.
- The list should have a hanging indent (the first line of each reference should be at the left margin, and any subsequent lines should be indented).
- Each author's name should be listed as the last name followed by first and middle initials, without periods (that is, John B. Smith would be listed as Smith JB).
- For article titles, only the first word should be capitalized (with the exception of proper nouns).
- For journal titles and book titles, all words should be capitalized (with the exception of minor words such as "and," "the," etc.).
- Journal articles accessed online should be cited with the same format as print articles, with volume and page numbers. The URLs where articles were accessed should not be included (unless specified below), nor should Digital Object Identifiers (DOIs).

Journal article with one author

Aguade M. 1998. Different forces drive the evolution of the Acp26Aa and Acp26Ab accessory gland genes in the Drosophila melanogaster species complex. Genetics 150 (3): 1079-1089.

Author. Year. Article title. Journal volume (issue): pages.

Journal article with two to ten authors

Lin S, Coutinho-Mansfield G, Wang D, Pandit S, Fu X. 2008. The splicing factor SC35 has an active role in transcriptional elongation. Nature Structural & Molecular Biology 15 (8): 819-826.

Authors. Year. Article title. Journal volume (issue): pages.

Journal article with more than ten authors

Sabeti PC, Reich DE, Higgins JM, Levine HZ, Richter DJ, Schaffner SF, Gabriel SB, Platko JV, Patterson NJ, McDonald GJ et al. 2002. Detecting recent positive selection in the human genome from haplotype structure. Nature 419 (6909): 832-837.

First ten authors et al. Year. Article title. Journal volume (issue): pages.

Book

Brooker RJ. 2011. Genetics: Analysis & Principles. 4th ed. New York (NY): McGraw-Hill.

Author(s). Year. Book Title. Edition. City (State or Country): Publisher.

Article or chapter in an edited book

Foster WA, Walker ED. 2009. Mosquitoes (Culicidae). In: Mullen GR, Durden LA, editors. Medical and Veterinary Entomology. 2nd ed. pp. 201-253. Burlington (MA): Academic Press.

Author(s). Year. Article title. In: Editor(s). Book Title. Pages. City (State or Country): Publisher.

Thesis or dissertation

Frenke KB. 1972. Distribution of fecal coliforms in sediments of the New York Bight [thesis]. Garden City (NY): Adelphi University.

Author. Year. Title [thesis or dissertation]. City (State or Country): Institution.

Institutional report

World Health Organization. 2010. World Malaria Report 2010. Geneva (Switzerland): Author.

Organization. Year. Title. City (State or Country): Publisher.

(If the report is self-published by the organization, refer to the publisher as Author.)

Article on a professional website

Brody TB. 2011. Drosophila behavioral programs [Internet]. c1995, 1996. Society for Developmental Biology web server, The Interactive Fly website. [cited 2011 August 12]. Available from: http://www.sdbonline.org/fly/aimain/6behavior.htm.

Author(s). Year of last update (at bottom of web page, if given). Article title - usually seen at top panel of browser [Internet]. Place of publication (if known): Organization Name. [cited date]. Available from: URL.

Note that if author is not given, substitute the organization name (which should also be used in the citation). If this is not available, substitute the article title (and do not repeat it after year).

5. Thesis proposal approval and Thesis final approval form:

Environmental Studies Master's Thesis Approval Report

Student Name: _____

Project Title:

_____

_____

Committee (print): _____, Chair
_____
_____

I) APPROVAL OF MASTERS DEGREE VERBAL AND WRITTEN PRESENTATION

Check one:

☐ Approve with no changes.

☐ Approve with minor written revision to be reviewed by committee chair.

☐ Approve with major written revision requiring review by committee.

☐ Not approved. Additional work, verbal presentation to the committee, and written revisions for committee review and consideration may be required.

Committee Signatures: _____, Chair Date: _____
_____
_____

II) FINAL APPROVAL

Committee Signatures: _____, ChairDate: _____
_____ (if required)
_____ (if required)

6. Sample Title Page

[Title]

A Research Thesis Presented to

The Faculty of the Environmental Studies Program
Adelphi University

By
[Name]

In Partial Fulfillment of the Requirements
for the M.S. Degree in Environmental Studies

[Date]
Advisor: _____
Thesis Committee: _____

_____