

BIOLOGY HONORS THESIS GUIDELINES

The faculty of the department will vote whether or not to accept the theses submitted by honors candidates. After necessary corrections are made on accepted theses, four final copies should be submitted to the department as outlined below. Those theses not accepted for the degree with departmental honors are returned to the candidate. Accepted honors theses will be bound by the department and deposited in the Trinity College Library, by which act they are deemed to be published, and may be read and cited by anyone in the world.

It is necessary that honors theses meet an adequate level of archival quality and departmental conformity for acceptance by the College Librarian. Please **note that this condition applies to only two copies** (one for the main library and the second for the LSC library) and not to any additional copies that you may wish to make. The archival and departmental requirements are as follows:

1. The white paper stock must be at least 20-pound weight and at least 25% rag content bond. This paper is available in the LSC Office from Ms. St. Amand. Each copy should be made on a high quality printer. Talk with your advisor about thesis printing; many students have used Central Services.
2. Use either Cambria or Times New Roman fonts with a 12-point size, with 1.5-2.0 line spacing. Left margins should be 1.25 inches; the others 1.0 inches. Justification of text is optional.
3. The title page and committee page **must conform** to the templates appended at the end of this document.
4. Theses should be written in typical scientific style: **Title** page, **Committee** page, **Abstract** page, **Introduction, Materials & Methods, Results, Discussion**, with or without a separate section titled Conclusion. **Literature Cited** should immediately follow the text of the thesis. Your research advisor has previous year's theses and should be consulted if questions of formatting arise.
5. **Tables** and **Figures**, under normal circumstances, should be intercalated within the text, but in certain instances can be appended after Literature Cited. These are to be given independent Arabic numbers, and **ordered as they are mentioned in the text**. Each table or figure must be provided with a concise but explanatory caption or legend and **must be referred to in the text of your thesis**. Graph legends should include a short statement about statistics seen in the graph (e.g., "N = 8," or "Error bars indicate 95% confidence intervals").
6. Figures (photographs, drawings, graphs) must have a caption which can be on the same page or if necessary placed on the facing page. Originals are not usually necessary as figures, but use your best products for the library theses.
7. After corrections are made as conditions for acceptance, four copies of theses will be bound by the department in black plastic "Quik-Bind" binders at a commercial copier establishment. Bring these copies to Ms. Erin Mostoller, LSC 124. Additional copies can be bound at the expense of the student. The department will place white labels on your thesis covers before depositing them in the LSC and Raether libraries.

We encourage candidates to format their thesis following a journal in their field. Whatever you do, follow the direction of research advisor for writing and formatting guidelines. Please consider these helpful style/editorial tips as you write (but consult with your advisor as styles vary among disciplines):

- a. Use the first person singular (“I”) – not the first person plural (“we”), except for those experiments or results that were truly obtained in collaboration with someone else. You may switch to passive voice (e.g., “xxx was measured...” as opposed to “I measured...” only if authorship has been clearly established in an earlier sentence, usually in the same paragraph by the use of “I”.
- b. Spell out **numbers** one through nine except in chemical names, or when used with units of measure or time (6 mm, 3 days, but five samples). Never start a sentence with a numeral; if you must open with a number, spell it out.
 - b1. In giving ranges, use “from 10.1 to 31.0 mm,” but “the range is 10.1 – 31.0 mm.”
- c. When abbreviating a unit of measurement, do not include the period (e.g., m, cm, mm, hr, da, ha, min, sec, mL, L, km, etc.). Keep **one space** between a numeral and its unit of measurement (e.g., 300 ft-c, not 300ft-c; 25 mL, not 25mL). Spaces should also be left between statistical equations: $n = 12$, $p = 0.002$, not $n=12$, $p=0.002$.
- d. If you report statistics in your thesis, report exact probabilities (e.g., $p = 0.057$, not $p > 0.05$) Report the results of statistical tests or central tendency as in the following examples:

(t = 2.47, 1 df, $p = 0.013$)
 ($\chi^2 = 2.21$, 10 df, $p = 0.029$)
 ($\bar{x} = 7.8$, SE = 3.21, $n = 46$)

“P” can either be upper or lower case, but **be consistent**. Avoid the redundant use of the word “significant(ly).” Write, for example, “the means differed (t = 2.47, 1 df, $p = 0.013$),” without using significantly.
- e. Give the meaning of an abbreviation the first time it appears in the text [exceptions: journal titles, units of measurement].
- f. **Scientific names** should appear in *italics* and not be underlined. (Families and on up in the taxonomic hierarchy are not italicized or underlined.) Give the Latin binomial (genus and species) and common name the first time an organism is mentioned. Many biologists use only the common name after the scientific name is given once. Some students will use the binomials throughout, as common names do not exist. Many biologists only write out the genus the first time it is used in the text (*Sciurus carolinensis*), and thereafter abbreviate the genus (*S. carolinensis*). Note however, that these rules vary depending on the discipline (especially in Botany; see examples below), so consult with your research advisor.
 - f1. Botanists often give the full binomial the first time it is mentioned in each paragraph, and then abbreviate the genus thereafter in the paragraph. Botanists also list authorities of each plant species after first usage of Latin binomial, and omit thereafter (e.g., *Gigartina acicularis* (Wulfen) J.V. Lamour.).
 - f2. Do not put “the” before a generic or specific name. An organism is “the blotched king snake,” but it is not “the *Lampropeltis getulus*” or “the *Lampropeltis*” so just leave out the “the” in such usage.
- g. Do not use postal code for states in your thesis (e.g., rather than **CT** use either **Conn.** or **Connecticut**).
- h. If a phrase or sentence is directly copied from another source, use quotation marks and

immediately follow with a proper literature citation.

- i. In many journals, commonly used Latin phrases such as et al., e.g., and i.e., are not italicized, whereas other less commonly used phrases are (e.g., *ad libitum*). Note that some advisors may want you to italicize all Latin phrases, so check with your advisor about **italicizing**.
- j. The Council of Science Editors (CSE) style is a standard citation style used by most life sciences journals. There are three CSE style systems: Name-Year, Citation-Sequence, or Citation-Name. We ask that you use the Name-Year system, unless your thesis advisor wants another system. You should look for a **CSE citation style guide**; there are plenty out there, but we offer a few examples below. In the Name-Year system, in-text citations consist of the author(s) last name and the year of publication (e.g., Smith 2012). In the Literature Cited section, all cited sources are listed in alphabetical order by author last name.
 - a. For in-text citations, the author's last name and year of publication are enclosed in parentheses: "...later work (Smith 2012) found that..." or the author's name is used in the sentence and the year is in parentheses: "...Smith (2012) later rejected the findings..."
 - b. If the document has two authors, include both surnames separated by "and" before the publication year: "a recent study (Jones and Smith 2014) found that..." If the document has more than two authors, include only the first author name, followed by "et al.": "...but later studies (Nilon et al. 2014) established that..." (Note that "et al." is an abbreviation for the Latin, "*et alia*," where *alia* is abbreviated but *et* is not, so be sure to have the correct punctuation for "et al.")
 - c. If you are citing several authors at once, list them in chronological order, or alphabetically if two works were published in the same year, and separate each with a semicolon: (O'Donnell and DeNicola 2006; Dunlap 2010; Smedley 2010; Foster 2014)
 - d. When the same author or authors have multiple publications in the same year, use a lower case modifier to distinguish them based upon the alphabetical order of the journals in which the papers appeared: (Blackburn 2004a; Blackburn, 2004b).
 - e. If a publication you cite was written by a committee or agency with unknown authors, as is often the case with technical and governmental reports, cite the organization name.
- k. All references referred to in the text must be cited at the end of the paper in alphabetical order under **Literature Cited**. No references should appear in this section unless they have been cited in the text. You may use the literature format appended below or proscribed in a top journal in your field of investigation, provided it does not use an abbreviated format without article titles—we expect each citation to have a title in the Literature Cited of your thesis. Please note that author first (given) names should **always be abbreviated**. Also notice that unless a word in the title of a journal article is a proper word, only the first word in the title is capitalized. **Whatever format you choose, you must be consistent with all of the cited papers and books**. Here are two examples to consider:
 - a. **Journal article** = Author(s). Year. Article title. Journal name. Volume (Issue): Pages. Example: Dunlap KD, Jashari D, Pappas KM. 2011. Glucocorticoid receptor blockade inhibits brain cell addition and aggressive signaling in electric fish, *Apteronotus leptorhynchus*. *Hormones and Behavior*. 60: 275-83.
 - b. **Book** = Author(s). Year. Book title. Edition. Place of Publication: Publisher. Example: Taylor WR. 1960. *Marine Algae of the Eastern Tropical and Subtropical Coasts of the Americas*. Ann Arbor (MI): Univ. Michigan Press.

If you need to cite internet sources, please follow the below examples:

Northern snakehead fish infosheet [Internet]. 2005. Maryland Department of Natural Resources, Fisheries Service <www.dnr.state.md.us/fisheries/snakeheadinfosheet.html>, accessed 13 Oct. 2005.

Schneider, C.W. 2005. The benthic marine algal flora of Bermuda. <www.trincoll.edu/~cschneid/bermuda.html>, accessed 13 Oct. 2005.

ELECTRONIC REPOSITORY OF THESES OR PROJECTS

Graduating seniors now have the option of electronically depositing their theses or senior projects into the new Web-based Trinity College Digital Repository. Seniors who take advantage of this option can choose whether to allow unrestricted open access to their work, or limit access to the campus community only. Once their work has been uploaded, it will be a permanent part of the Repository, and identified with a unique *url* for future reference.

In the past, seniors were expected to provide a print, bound copy of their thesis for inclusion in the College Archives. Seniors may still pursue this option if they wish. Alternatively, they may choose this new electronic option, by following the steps below:

1. Any text-based file format will be accepted (i.e., Word) and then automatically converted to pdf for publication in the Repository. If the primary format of the thesis is ***not*** text, i.e., video, audio, images, etc., please contact the Repository administrator first for assistance.
2. We recommend that you discuss the two access options (open access, or Trinity-only) with your advisor. Also remember that any quoted text, images, music, charts, etc., in the thesis should either be used under Fair Use guidelines, or by permission from the copyright holder(s) of the quoted material.
3. To start the submission process, follow this link:
http://digitalrepository.trincoll.edu/cgi/ir_submit.cgi?context=theses
<http://digitalrepository.trincoll.edu/cgi/ir_submit.cgi?context=theses> and create an account with the Repository software. (This will be different than your regular Trinity login)
4. Read through the submission agreement, and checkmark the box to agree with the terms.
5. Finally, fill in the fields on the submission form, including selection of open access or campus-restricted, and upload the thesis document.
6. We recommend submitting the entire text of the thesis as one file. (i.e. combine all the chapters and appendices into one document)
7. The Repository can also accept any supplemental files, in the form of media, translations, etc. Powerpoint files will be converted to .pdf by the Repository. At the bottom of the submission form, there is a checkmark box, which when selected allows you to upload additional files on the next page.
8. Once the Repository administrator approves the thesis submission, it will be visible on the Repository site.

Following are the 2 title pages for your thesis, properly formatted and with proper font.

TRINITY COLLEGE

EFFECTS OF VARIOUS SALINITIES ON A SALT-MARSH ALGA,
VAUCHERIA (TRIBOPHYCEAE, CHRYSOPHYTA)

BY

LAURA A. MACDONALD

A THESIS SUBMITTED TO
THE FACULTY OF THE DEPARTMENT OF BIOLOGY
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WITH HONORS IN BIOLOGY

DEPARTMENT OF BIOLOGY

HARTFORD, CONNECTICUT

27 APRIL 2012

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