

# Biotechnology Thesis Manual

*Biotechnology Program Graduate Thesis Policies and Guidelines*  
*Working Draft: March 2005. Edited January 2008*

All MS graduate students must prepare a thesis, which must evidence originality, appropriate organization, clarity of purpose, critical analysis, and accuracy and completeness of documentation in some area of biotechnology. Students are encouraged to begin exploring ideas and working toward the thesis or project goal early in their program of study. Examples of previous students' theses will be made available in the Department's thesis library.

Students are expected to demonstrate the ability to conduct research or produce a significant, original project in a discriminating and disciplined manner. The thesis topic should be one that will further the student's knowledge and ability in the specialty by demonstrating skill as a researcher. The outcome should be an effort that serves as a foundation for the pursuit of independent work when the graduate program is completed.

Thesis proposals are presented to and evaluated by the Master's Thesis Committee in a meeting with the student convened for that purpose. The Committee will consist of the student's Advisor and at least two other faculty members chosen by the Advisor and student. The proposal must be submitted to the Committee at least two weeks prior to the meeting. Meetings cannot be scheduled at the end of the semester when finished theses are being evaluated. Students are encouraged to present their proposals in the first half of each semester, well before early registration time.

Students must maintain good progress (defined by the Advisor in consultation with the student) on the thesis during each semester he/she is enrolled in BT 695, and this will be reflected in a grade of P (Passing) on the student's semester grade report. Students who receive a grade of U, unsatisfactory, may not continue on their current project. Under special circumstances, with the support of a Advisor, students may appeal this rule to the Biotechnology Graduate Program Coordinator and the Dean of the College of Natural Sciences and Mathematics and allowed to continue in their original track.

The student's Committee must approve the finished thesis before it is deposited with the Coordinator. When the Committee approves the work, each Committee member will indicate so by signing the cover page of a new, clean copy of the approval signature page.

This signed copy of the thesis along with its approval sheet should be deposited in the Coordinator's office. Finished, signed, approved theses are due in the Coordinator 's office by the 12<sup>th</sup> week of the semester (specific deadlines will be announced each semester). *Note that the "Timelines" section of the "Graduate Student Manual" (Section VIII) gives a different date. Experience has shown that the dates in this Handbook (Section VIII) are the ones that count.* Graduate students must also provide the office with an electronic version of their written thesis (on disk or CD-ROM, in MS-Word and PDF formats).

Thesis presentations will be scheduled in the final weeks of each semester; students are required to present and defend their work. Relevant procedures and a set of deadlines will be announced each semester. A final copy of the thesis with all approval signatures, after any necessary revisions, must be deposited in the Department's library and the University Library. This should be a publication-ready document, conforming to all of the usual expectations of library-deposited theses available in the major style guides. For theses, the title page should have the signatures of Advisor, members of the Committee, the Coordinator and the Dean. The Title Page format may be found later in this manual.

## Master's Thesis Committee

The Committee consists of the student's Advisor as chair and at least two other members of the Graduate Faculty, one of who may be from outside the department. The Advisor will nominate the members of the Committee after consultation with the student. The Coordinator appoints the Committee members upon the request of the Advisor and sends written notification to the student, Committee members, and Dean. That said, the way it has been done in the Biotechnology Graduate Program is that the student and Advisor choose the Committee, and membership of the Committee is made official by getting signatures on the Checklist.

## thesis proposal

The student must submit five double-spaced copies of a proposal to his or her Advisor. The title page format for the proposal is included in this manual. The proposal must include at least the following items:

1. The student's full name.
2. The date of submission of the thesis proposal.
3. The department of academic specialization.
4. The degree sought by the student.
5. The tentative title of the thesis (subject to modification in consultation with the student's Committee).
6. Places for the signatures of the members of the Committee.
7. A place for the signature of the student's Advisor.
8. A place for the approval of the Coordinator.
9. A place for the approval of the Dean.
10. A cogent and concise statement of the project or the major problem of research. This should include a selected bibliography pertinent to the subject.

The thesis proposal must have the approval of the student's Advisor, the Coordinator, and the Dean. All theses involving human participants or animal subjects are subject to federal regulations and University policy. Appropriate approval from the Institutional Review Board (IRB) must be obtained depending upon the nature of the proposed research. Approval must be obtained before thesis proposals can be approved and prior to initiation of research.

A familiarity with the rules and regulations as governed by the IRB application is recommended. For further questions, please contact the Office of Academic Affairs.

Upon approval of the proposal by the Dean, copies of the proposal will be distributed by the Dean to the Coordinator, the Advisor, members of the Committee, and the candidate.

## Timelines for Submitting Theses

At the start of each semester, the Coordinator will distribute specific deadline dates for submitting theses to Faculty and Graduate Students. Experience shows that the timelines that are enforced are the ones given in Section VIII of this Handbook, rather than those shown in italics, below. Ultimately, it is the student's responsibility to meet these deadlines. Questions or problems should be directed to the Advisor or the Coordinator.

1. All theses are due *at least three (3) weeks* prior to the commencement ceremony in which the degree is to be conferred. Prior to submission to the Biology/Biotechnology office, the thesis must have been defended and any and all changes and/or corrections from this defense must have been completed.
2. The copy of the thesis that is presented to the Biology/Biotechnology office for pre-checking must be a copy (printed on regular white paper as opposed to archival paper) that is free from all errors and is, to the best of the student's knowledge, a perfect copy. The Biotechnology Program is not responsible for proofreading the thesis; however, the entire document will be read for format and grammar. If errors

are found, the thesis will be returned to the student for corrections, which could delay graduation. Students should be sure to follow the margin requirements, pagination, placement of tables and figures, etc., as specified in this manual. If done properly, this should greatly reduce the number of changes that will have to be made.

3. After the Biology/Biotechnology office has cleared the thesis and any necessary corrections have been made, final copies may be made.
4. After copies are made students should get committee members' signatures. All signature pages must be printed on the same archival paper as the manuscript and all signatures must be original and must be rendered only in **black ink**. Any other color ink is not acceptable. Signature sheet format is found later in this manual.
5. After the Committee members have signed the signature pages, they should be submitted to the Coordinator and the Dean for their signatures. The Dean will also date the signature page in the space that is provided.
6. After all signatures are secured, each complete copy of the manuscript to be bound should be placed in a 10" x 13" clasp envelope. Three copies are required (these are for: the Office of Academic Affairs, the Library, and the Department). Students may have as many additional copies bound as desired. The student is responsible for the cost of binding of all copies except for the Departmental copy; the Department will reimburse the student for the cost of this copy. Currently this cost is approximately **\$40.00 per copy**, subject to change.
7. Students are to schedule an appointment with the University Library and to deposit the thesis for binding. Ellen Ressimeyer is currently the person with whom the appointment should be made.
8. At the time the thesis is deposited with the Library the student will be given a "Master's Thesis Deposit Receipt". This receipt must be taken to the Advisor to verify delivery and to ensure that the student receives graduation clearance.
9. Students are encouraged to submit the thesis earlier than the due date. This ensures a much quicker turn around.
10. Electronic versions of theses must be provided to the Biotechnology office as well as the paper copy. These are to be submitted on disk or CD-ROM in MS-Word and PDF formats.

## **format and appearance of the thesis**

Prospective graduates: be sure to follow these guidelines without deviation. Use the cover page, signature page forms, etc. exactly as given below. Even if your Advisor and Committee are OK with the format and appearance of your thesis, the Coordinator, the Dean, and even the Librarian can reject it for failure to conform to these guidelines. And deadlines for graduation are firm.

### **number of copies**

The student is expected to prepare the text of the completed thesis in accordance with the usual practices of good English. The student is also expected to provide copies of the manuscript including all tables and figures and copies of slides, if any, for all members of the Committee.

Following the defense of the thesis and acceptance by the Committee, a copy of the complete manuscript free from all errors must be submitted to the Coordinator for pre-checking. In the pre-check, the Coordinator will examine the manuscript in detail so that any errors of format found at that point can be corrected before the archival and final copies are made. When format errors have been corrected, the student will prepare an original (archival copy) and at least two copies of the final text.

The original (archival copy) and at least two additional final copies of the thesis must be submitted to the Dean for official approval. If approved, the original and two copies shall become the property of the University. Therefore, if the student wants a personal copy, with a completed signature page, or additional signed copies, they must be presented with the original and the two required copies.

## **paper and duplication**

### **archival copy (original)**

The thesis must be printed on high quality, durable, white paper, 8-1/2 x 11 inches in size and at least twenty-pound weight.

The paper chosen for the archival copy of the thesis must be selected for its permanence and durability and must be acid-free with a minimum of two percent alkaline reserve. Erasable papers are not acceptable for any portion of the project or thesis.

The electronic version of the thesis should be submitted on CD-ROM in both MS-Word and Adobe PDF file formats. There should be one electronic copy of all thesis material to accompany each paper copy (i.e., if you make four paper copies, make four electronic copies).

No compression or password protection should be used. All fonts used should be embedded in the document.

### **copies**

Copies of the thesis must also be on acid-free paper with a two percent alkaline reserve, again with a minimum weight of twenty pounds. Papers with high rag content do not work well in electrostatic or xerographic copy machines. If papers containing cotton rag are used in this type of copy machine, the rag content should not exceed twenty-five percent. When there is a higher rag content, the copied image can easily be erased or rubbed off.

Photocopying is a good method of duplication, but copy quality must be extremely good. This standard of quality is possible only if the machine used is very clean and well maintained.

Copies with stray marks, smudges, or other irregularities will not be accepted. The electrostatic method of photo duplication, which uses dry toner and a fusing technique with heat and pressure, is preferred. Duplication methods that use papers coated with an image-forming layer are not acceptable, nor are those that use processes involving zinc oxide.

Photocopies should have consistently dark print quality with high contrast throughout the thesis. Any copies that appear significantly lighter than the rest must be recopied to conform to a uniform dark, clear print quality. It should be noted that photocopy machines enlarge the original by approximately one percent. This varies slightly among different machines, but it is important to be aware of this enlargement so that margin limitations will not be exceeded. Tables and figures may be reduced on reduction photocopy machines provided that any accompanying text does not become smaller than the typeface of the text or than elite type.

## **preparing the manuscript**

### **printing**

Computer printers must be of letter quality. Dot matrix printers are, for purposes of these requirements, not of letter quality and therefore not acceptable. Acceptable font styles are: Arial, CG Times or Times New Roman and font sizes: 11 or 12. Nonstandard typefaces, such as script, are not acceptable. Italics are permitted for mathematical and statistical expressions and scientific names of genera, species, and the like. All textual material should be computer printed or typewritten. Special symbols may be drawn in black India ink.

All printing, including pagination, must be of the same size and style. The text of the manuscript must be double-spaced, but long tables, long quotations (defined as 100 words or as stipulated within the student's discipline and applied consistently), footnotes, and multi-line captions should be single-spaced. Text must be on only one side of the paper. All paragraphs must be indented five spaces. Do not right justify the text. Students are encouraged to bring sample pages of the final manuscript to their thesis Coordinators to see that all manuscript requirements are being met.

### **margins**

The following minimum margins must be observed:

1-1/2 inches at the top, one inch at the bottom and right, and 1-1/2 inches on the left side of the page. The extra half-inch on the left is to allow for binding. This same 1-1/2 inch binding margin must be left on the appropriate side if the paper is turned ninety degrees in the typewriter when typing tables, charts, or other similar material. All information, including titles, footnotes, and tables, must conform to the margins specified (except for page numbers). Large plates, charts, etc., must be reduced when possible so that they fit within the prescribed margins, but notations or writing on them must be easily legible and no smaller than elite type. When plates larger than 8-1/2 x 11 inches cannot be reduced, refer to the section entitled "Oversized Material" for directions.

### **pagination**

Every page on which any typing, figure, table, or drawing appears is counted and numbered with the following exceptions: the approval sheet is neither counted nor numbered; the title page is counted as page i but not numbered; the abstract title page is counted but not numbered, although the number assigned to this page is used in the table of contents; the Literature Cited is preceded by a division sheet containing the centered words Literature Cited, or other heading as determined by the discipline, and this page is counted but not numbered, although the number assigned to this page is used in the table of contents. Can you believe that last sentence! I wonder if this "draft" document will ever be approved. Or even read. But anyways, where were we? If appendices are needed, they follow the Literature Cited and are preceded by a division sheet marked Appendix or Appendices, as appropriate, and it is counted but not numbered. All numbers are placed without punctuation in the upper right hand corner, 1/2 inch from the top edge and aligned with the right margin, except any page beginning with a centered heading must have the page number centered one half-inch from the bottom edge. The preliminary pages (those preceding the text of the thesis) are numbered consecutively in lowercase Roman numerals centered in the bottom margin. The first page to be numbered is the first page following the title page, and it is numbered ii. The text and reference pages are numbered consecutively in Arabic numerals, beginning with 1 on the first page of the text.

### **footnotes and endnotes**

Students should follow the most recent MLA guidelines for footnotes and/or endnotes. Note: Depending upon the nature of the thesis and the approval of the Advisor, students may opt to follow other format guidelines instead.

### **tables and figures**

The word "table" designates tabulated numerical data used in the body of the thesis and in the appendices. The word "figure" designates all other nonverbal material, such as illustrations, charts, graphs, maps, photographs, drawings, diagrams, and facsimiles of manuscript pages. These may be inserted electronically or through a "cut and paste" method.

All tables and figures must be of reproducible quality. They are to be inserted as near as possible to the portion of the text which they illustrate. The table or figure, including the captions, is to be placed on the page inside the prescribed margins. Tables and figures are not to appear on the same page as the text to which they refer unless they occupy a half page or less; when text is used on the same page, it should be separated from the table or figure by a triple space. Two or more small tables or figures may be grouped on a single page. Any original figures should be rendered with black India ink. The use of pencil is not acceptable on the original, nor is the use of felt-tip pen as the color bleeds through to the adjacent pages. The use of color,

especially in graphs, charts, or maps, should be avoided because colors often cannot be distinguished in copies. Therefore, lines of a graph should be identified using symbols or labels instead of colors. Areas on maps may be indicated by crosshatching rather than by color.

All tables and figures must be produced on quality paper, as specified under "Paper and Duplication". Tables and figures on transparent film or produced by computers on lower-quality paper must be photocopied on the quality paper specified under "Paper and Duplication."

Small figures must be mounted using the dry-mount process. With this method, dry-mount tissue, placed between the figures and the mounting paper, fuses when heat is applied (by either a heat press or an electric iron). Acid-free dry-mounting tissue must be used.

Rubber cement, aerosol spray glues, and gummed or cellophane tapes deteriorate rapidly and therefore are not acceptable. Spray adhesives and dry-mount cements must not be used.

When many smaller figures are used throughout the thesis, it is advisable to distribute the bulk by placing a portion of the figures toward the top of the page and the rest toward the bottom in order to even out the thickness of the manuscript. When smaller figures are being mounted using the above method, it is important to have page numbers and identification of figures already typed on the mounting paper. This identification of figures should be typed either beneath the figure or on the front of the preceding page.

Information should not be typed on the back of the preceding page (facing the figure). Tables and figures are numbered in separate series. Each table and figure, including any in the appendix, must be numbered consecutively in Arabic numerals in its own series. The captions for figures and tables must be identical with those used in the list of tables and the list of figures in the preliminary pages. Page numbers should be given to tables and figures that are interleaved with the text.

Graphs must be drawn on cross-section paper (or prepared by an artist), but the thesis paper margins must be preserved.

Large charts, tables, figures, etc., which must be reduced to fit within the prescribed margins, must have lettering and symbols which, after reduction, are at least as large as elite type so that they can be read easily.

## **photographs**

As noted, photographs are a type of figure. The following additional regulations apply to photographs. All photographs must be original prints for all copies of the thesis. Black and white photographs are preferred. If a color photograph must be used, a photograph of the same subject in black and white should be included since color photographs tend to fade. The photographs included in the archival copy of the thesis must receive archival processing. Standards for archival processing of photographs are specified by the American National Standards Institute (ANSI). These standards are listed under the following ANSI numbers: PH 4.29, PH 4.30, PH 4.32, and PH 4.33.

Photographs should be printed on an 8-1/2 x 11 inch sheet of single -weight polyfiber photographic paper with a glossy finish and included in the thesis without further mounting. The margins for the photographic image should be the same as those for typing (see "Margins"). If 8- 1/2 x 11 inch paper is not available, the photograph(s) must be printed on a larger paper of this specific type and trimmed to size.

If the photographs are less than 8-1/2 x 11 inches, they should be firmly dry-mounted as discussed in the section "Tables and Figures". Acid-free dry-mounting tissue must be used.

No other adhesive should be used. Rubber cement, gummed or cellophane tapes, spray adhesives, dry-mount cements, photographic corners, and acetate pockets are not acceptable.

Mounted photographs should not extend into the 1-1/2 inch binding margin on the left side of the thesis.

Digitally inserted photographs are also acceptable; they should be in .jpg format.

Note: Please refer to copyright guidelines before reproducing and including photos and other inserts that are under copyright.

### **oversized material**

Occasional exceptions to the 8-1/2 x 11-inch paper-size limitation are made when deemed necessary, as is sometimes the case with musical scores. The same physical specifications as listed under "Paper Quality" must be applied to all oversized material included in a thesis.

Charts, maps, graphs, tables, or any other necessary tables or figures which are larger than the standard page size and cannot be successfully reduced may be carefully folded and included in order in the thesis or placed in a large acid-free envelope for storage, when bound in a pocket, attached by the bindery, to the back board of the cover of the thesis. Oversized material to be stored in an envelope should be folded so that it is approximately one inch narrower than the width of the envelope and about 1/8 of an inch shorter than the length of the envelope. For example, if the dimensions of the envelope are 7-1/2 x 10 inches, then the outer dimensions of the folded oversized material to be stored should be no larger than 6-1/2 x 9-7/8 inches. Envelopes made of acid-free material can be obtained from a number of sources.

When oversized material is to be included as a regular page in the thesis, the material should be arranged on the page to allow a margin of 1-1/2 inches on the binding edge. When the figure is folded this binding margin must protrude from the folds and be a 1-1/2 inch stub on the left side of the folded page. The page should be folded carefully so that there are as few folds made as possible, and so that the page can be easily unfolded after the thesis is bound. The folded outer edges of the material should be 1/2 inch smaller than the text pages on all three unbound edges of the thesis. The overall dimensions of the folded material, then, will be approximately 8 x 10 inches. With these dimensions the bindery can safely trim 1/8 inch off the three open edges of the thesis without slicing into the folds.

### **computer printouts**

A computer printout to be submitted as part of the thesis should be reduced to the standard 8-1/2 x 11 inch page size. Computer paper, which is 11 x 14-7/8 reduces to 8-1/2 x 11 inches on a photocopy machine set at seventy-seven percent reproduction size. Margin requirements are the same as for the rest of the thesis. The reduced print cannot be smaller than elite type and should be of dark, clear, good quality. Computer printouts must meet the standards specified for paper quality. If the available printer does not produce clear print, the computer printout should be typed.

### **slides**

Slides must be taken with Kodak Ektachrome 50 Professional film (Tungsten) ASA 50 balanced for exposure by Tungsten (3200K) lamps.

Two-dimensional items must be placed on a flat black wall. Two new 500W (3200K Tungsten photo lamps should be set at forty-five-degree angles to the item to be photographed so that the surface will be evenly lit. Make sure that all extraneous light sources are turned off before starting.

All exposures must be metered from a gray card (eighteen percent reflectance). The gray card should be held near the center of the item. For the light reading, the meter is held within six inches of the surface and in such a manner that the card is not shaded by the meter or by the person holding the meter.

Transparencies must be in a glass mount. Slide-mounting glass should be cleaned to remove contaminants before the slides are assembled. The transparencies must be masked with silver tape before being placed between the glass.

A typed label with the following information should be placed on each slide: name, date, title, and number. Slides must be arranged in correct sequence and numbered consecutively. A small gummed paper dot must be applied to the lower left corner of each mount. Slides, when mounted and labeled, must be placed on 9-1/8 by 11-3/8-inch archival slide pages.

## arrangement of contents

The thesis typically includes the following parts arranged in the following order. Sample D “Table of Contents” of this manual. See Sample E for an example of “List of Tables.”

thesis part	page assignment
1. front flyleaf (blank)	no page number assigned
2. approval sheet	no page number assigned
3. title page	small roman numeral (assigned, not printed)
4. copyright page (optional)	small roman numeral (printed)
5. acknowledgment or dedication page (optional)	small roman numeral (printed)
6. table of contents	small roman numeral (printed)
7. list of tables (if used)	small roman numeral (printed)
8. list of figures (if used)	small roman numeral (printed)
9. list of abbreviations or symbols (if used)	small roman numeral (printed)
10. abstract	small roman numeral (first page assigned but not printed; second page, if necessary, printed)
11. literature review	Arabic numerals, starting with 1
12. body of thesis (chapters)	Arabic numerals, continuing from body (assigned, not printed)
13. division sheet	Arabic numeral (assigned, not printed), continuing from body
14. literature cited	continuing Arabic numerals (printed)
15. division sheet	continuing Arabic numeral (not printed)
16. appendices (if included)	continuing Arabic numerals (printed)
17. back flyleaf (blank)	no page number assigned

A thesis has three major parts: preliminaries, text, and reference material. Although these divisions are not so labeled in the thesis, the terms are used here for the sake of convenience.

### preliminary pages

The preliminary pages include the following in the order given: the approval sheet, the title page, the copyright page if the thesis is copyrighted, an acknowledgments page, a table of contents, a list of tables, a list of figures, a list of abbreviations or symbols, and an abstract.

The function of the approval sheet is to enable the student’s Advisor, Committee, the Coordinator, and the Dean or a representative to indicate that the manuscript satisfies the thesis requirement for the particular

degree. It includes the title of the thesis, the student's name, and spaces for the prescribed signatures (see Sample B).

## **The signatures on all copies must be originals and rendered in black ink.**

The title page is counted as page i, but the number is not printed on the page. The date should include the month and the year in which the thesis is approved by the student's Committee. Words are underlined (to indicate italics) in the title only when they themselves are titles or when they are scientific terms that are customarily underlined (see Sample C).

A master's candidate must decide whether or not to copyright the thesis. If such a page is used, it is page ii, typed (see Copyright).

An acknowledgments page in which the student expresses recognition of and appreciation for any special assistance is optional but is customarily included. If such a page is used, the word Acknowledgments should be centered without punctuation two inches from the top of the page.

The text of the acknowledgment should begin on the fourth line below.

The contents page should be headed Table of Contents, with the heading centered without punctuation two inches from the top of the page. The listings begin at the left margin four spaces below the heading. The table of contents lists all material following the contents page.

The titles of chapters, parts or sections must be listed and must be worded exactly as they appear in the body of the manuscript. The page number of each part is listed flush against the right margin and below the heading page. Any space between the last word of a section title and the page number can be filled with spaced periods (see Sample D).

The format of the list of tables and the list of figures is the same as that for the table of contents (see Sample E). The list of abbreviations or symbols should follow the form normally used in the student's discipline.

The abstract consists of an essay-style summary of the thesis. It should be a succinct account allowing readers to make an accurate decision as to whether the full contents will aid their study. Diagrams or other illustrated materials and formulas or equations in the abstract are to be avoided if possible (see Sample F). The title on the abstract page should follow the pattern of the title page for the thesis (see Sample F). The abstract title page is not numbered or centered, but the body of the abstract should continue the consecutive Roman enumeration begun with the title page. In other words, the abstract page is assigned a number, but it is not typed. The body of the abstract is to be typed and double-spaced.

### **the text**

The text, the body of the thesis, is to be double spaced using one side of each page. As indicated in the table of contents, each of the major divisions of the body of the manuscript will begin a page. The heading for the division should be centered without punctuation two inches below the top of the page, the next beginning four spaces below the heading. The pages of the text are numbered consecutively in Arabic numerals from the first page of the text through the bibliography and any appendices.

### **literature cited**

For the Literature Cited, the student should follow departmental practice on inclusion or exclusion of works and on the form of the entry. In practice, the Biotechnology Graduate Program merely asks that references consistently adhere to the format of an appropriate journal in the field. This section should begin with a cover sheet headed Literature Cited or another heading as determined by the discipline, centered without punctuation. This page is assigned a number but it is not printed. The heading is repeated on the first page of the literature cited itself, two inches from the top, centered, and without punctuation. The list of sources begins four spaces below the heading.

The sources themselves are frequently arranged in alphabetical order by the last name of the author or the first major word of the title of anonymous publications, but some disciplines may suggest a different grouping of sources. The precise content of the entry should be determined by the discipline, but the intent is to provide all of the information necessary for the reader to locate and consult the sources. Regardless of the form used, each journal citation should include at least the author's name, title of the article, the journal in which it was published, the volume and issue number, year, and pages. Book citations should include, as a minimum, author, title, and publisher. Format of literature citations should conform to those used by the major journals in the investigator's specific field.

## **appendices**

Appendices should begin with a division sheet marked Appendix or Appendices. This page is assigned a number but it is not printed. All pages following the division sheet are numbered with the consecutive Arabic numerals begun on the first page of the text.

## **copyright, due date, binding**

### **copyright**

If copyright is to be secured for the thesis, the notice of copyright must appear at the center of a separate copyright page. The notice consists of three elements: (1) the symbol ©, (2) the year of first publication (the year in which the thesis is approved by the student's Committee), and (3) the name of the owner of copyright (name of thesis author).

Example:

© 1998 by Les B. Happee

Such notice does not include sound recordings. Information on copyright protection may be obtained at the reference desk in the library.

A Master's candidate must decide whether or not to copyright the thesis. It is not required.

### **due dates**

Copies of the thesis must be officially deposited with the Dean on or before the date specified in the academic calendar. The report of the oral examination will be filed by the Coordinator with the Dean immediately after the Committee has given final approval. See Section VIII for a generic timeline for completion of the thesis. At the start of each semester, the Coordinator will distribute specific deadline dates for that semester.

### **binding**

After the signature page is signed by the Dean, the original and at least two copies of the manuscript are each to be placed separately in 10 x 13-inch envelopes. An electronic version of the manuscript (on disk or CD-ROM) must also be submitted at this time.

If slides are a part of the thesis, a complete set of slides in archival slide pages must be placed in each of the envelopes, which contain copies of the manuscript.

The envelopes are to be left unsealed. The following information should be typed on the front center of the envelope: the student's name, permanent home address, title of the thesis, degree, and the month and year in which the thesis is approved.

The thesis and all copies to be bound are taken to the university library and deposited for binding. The student must call the circulation department and make an appointment beforehand. If sound recordings are part of the thesis, mention this when arranging an appointment. The original will go to the Office of Academic Affairs. One copy will be retained by the library and one copy will go to the Biology Department.

The student must bring the Master's Thesis Deposit Receipt from the library to the Advisor to verify deposit for binding. The student must pay the binding costs for all copies, **except for the Departmental copy, for which the student will be reimbursed (save your receipt)**. If the student wishes to have additional copies bound in the same manner, arrangements should be made when copies are deposited for binding. The student has not satisfied all requirements for the degree until the receipt is presented to the Advisor.

The bindery will put the author's surname and the first five words of the title, followed by an ellipsis, if necessary, on the spine.

The Biotechnology Graduate Program uses a gold cover for Master's theses.

### **summary of the procedure for depositing the thesis at the library**

OK, once your thesis is approved and signed by your Advisor and all members of your Thesis Committee, you are ready to make final copies for binding. You may want the faculty to put original signatures on each copy of your signature page (vs. photocopies of the signature page). **Use black ink.**

Deliver no less than three (3) copies of the Thesis to Library. The Library keeps one copy, another goes to Academic Affairs, and the third goes to the Department of Biology (where we will proudly display your work for posterity). Make any additional copies that you want for yourself. As of December 2008, you are charged \$120 to have the first three copies bound, and \$30 for each additional copy. The Department of Biology will pay you for its copy (see the Coordinator). Make payment to the Cashier (125C Ferrell Hall) and bring the receipt of payment to the Library. Keep an electronic copy and maybe a hard copy (un-bound) in your file in the Department of Biology, in case your Thesis gets lost.

Be sure to specify that Master's theses should be bound with gold cloth (i.e., gold cover) with black print.

Upon delivery of your thesis copies to the Library, they will give you a Master's Thesis Deposit Receipt. Take the receipt to your Advisor. It is at this point that the Advisor notifies the Coordinator that you are cleared to graduate. From there, the Coordinator and Dean notify the Registrar.

Library contact person is Ms. Ellen Hassig Ressmeyer, WVSU Archives, Room 206 Drain-Jordan Library.

SAMPLE A: Cover Page of Thesis Proposal

West Virginia State University

**Graduate School**  
**THESIS PROPOSAL FOR MASTER OF SCIENCE**

Student's Name: \_\_\_\_\_ Date: \_\_\_\_\_

Department/Program: \_\_\_\_\_

Degree: \_\_\_\_\_

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

Committee Members:

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

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

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

Approved by Biotechnology Graduate Program Coordinator:

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

Approved by the Dean of the College of Natural Sciences and Mathematics:

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

SAMPLE B: Approval Sheet of Thesis

THESIS TITLE HERE  
SINGLE-SPACED IN CAPITALS

By

John William Doe

A Thesis  
Submitted to the  
Faculty of the Biotechnology Graduate Program  
of  
West Virginia State University  
in Partial Fulfillment of  
the Requirements for the Degree  
of  
Master of Science

Committee:

\_\_\_\_\_, Advisor

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_, Biotechnology Graduate Program Coordinator

\_\_\_\_\_, Dean of the College of Natural Sciences and  
Mathematics

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

(Spring, Fall, or Summer) 20\_\_  
West Virginia State University  
Institute, West Virginia

SAMPLE C: Title Page for **Thesis**

TITLE HERE  
SINGLE-SPACED IN CAPITALS

A thesis presented to the Faculty of the West Virginia State University  
Biotechnology Graduate Program  
in partial fulfillment of the  
requirements for the degree of Master of Science

By

(Student's name in full)

Advisor, Advisor's name,  
title, and department

(Month and year in which thesis is approved)

SAMPLE D

Table of Contents

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## SAMPLE E

### List of Tables

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SAMPLE F

Sample of Abstract

Abstract

TITLE HERE SINGLE-SPACED IN CAPITALS

John H. Doe, M.A.

West Virginia State University (Month and year degree granted)

Coordinator: Dr. Erasmus B. Soar

(Abstract, typed and double -spaced, starting at this point, continuing on next page if needed.)

## **DESIGNATED MANUALS**

For all Biotechnology Theses:

Gibaldi, Joseph. *The MLA Handbook for Writers of Research Papers*. 6th ed., NY, Modern Language Association, 2003

Or (with permission and approval of advisor and committee):

*Publication Manual of the American Psychological Association*, 5<sup>th</sup> Ed. APA, 2001.

## HOW TO SET LEADERS (Works with Word)

- Open up a sheet of paper
- Set your margins as follows:
  - Top = 2 inches
  - Left = 1 1/2 inches
  - Bottom = 1/2 inches
  - Right = 1 inch
- Be sure your ruler is displayed - if not, go to View and place a check (by using cursor) by Ruler.
- Type Table of Contents or List of Tables or List of Figures (and Center) - return and change Center heading to left setting so type is not centered.
- By pointing cursor at the **TAB** set (at left end of ruler) choose the left TAB set ( ) and go to about the 5 1/2 mark on your top ruler and point your cursor and set your left TAB and click. With your cursor change your **TAB** set to ( ) and go to the last "hash" mark (probably the third mark past the 5 1/2 mark) on your ruler and again, by pointing the cursor, set this **TAB** here. Return and press TAB two times and type the word Page. (You will notice that it is typing the word Page from right to left). Press Return.
- Next go to FORMAT (top of your screen) and choose TAB. This will open a "window" that has leaders - which automatically has NONE set. Go to 2 and enter a check mark and say OK. This will automatically set your leaders so that they will end where you have marked your LEFT TAB to set. Press TAB once more and this will take you to the end of the line where you can type your page numbers which will automatically line up from right to left.

When you need to change your level of header go back to TAB and with your cursor choose the left ( ) TAB set and set this where it is appropriate. You can keep setting these TABS as your levels of headings change.