

UTSA

University of Texas at San Antonio
MARC U*STAR Program

MARC U*STAR Undergraduate THESIS HANDBOOK

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UTSA Honors College Thesis Handbook by Dr. Ann Eisenberg



rev. 06/01/2009

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I. AN INTRODUCTION TO THE MARC U*STAR THESIS

A. Why a Thesis Handbook?

This Thesis Handbook was developed to assist MARC U*STAR students in writing the MARC thesis that will represent the culmination of their MARC training experience. It is directly modeled after the UTSA Honors College thesis manual, as there is considerable number of Honors students in the MARC program. The thesis created can also be used for College Honors (different from Honors College), even if you are NOT in the Honors College.

This Handbook is designed to provide you with helpful information and pointers that will simplify – and de-mystify – the process of writing a MARC or Honors thesis. The answer to virtually every question ever asked about an undergraduate thesis can be found in this Handbook. It is a good idea to read this information carefully before you begin the process of developing your thesis project. Keep it handy between now and graduation! If you have a question about your MARC/Honors thesis, they will likely be addressed inside. However, if you have a question that is not answered in this handbook, please contact Dr. Taylor if it's related to the MARC program, and the Associate Dean of the Honors College (Dr. Eisenberg) if it's associated with Honors.

The Thesis Handbook also contains information that should be very helpful to your MARC mentor/thesis advisor and your thesis readers. Please provide them with the online link to this publication if they'd like more information.

B. Why Write a MARC Thesis?

The MARC U*STAR program is considered an honors program for talented and motivated undergraduates who wish to pursue doctoral study. Our goal is to prepare you in every way for the activities and rigors of graduate school. The MARC thesis and thesis presentation will benefit you in many different ways.

- It serves as an invaluable writing experience, that will set the stage for future thesis and grant creation.
- It provides with valuable opportunities to practice presenting your research in front of faculty and peers.
- It provides you the opportunity to dig more deeply into the literature related to your project and gain greater understanding and appreciation of what you are doing.
- It serves as concrete evidence of your research project, as well as your progress towards becoming a scientist.
- It can be provided to prospective graduate schools or employers to demonstrate your research skills, writing ability, and critical thinking abilities; oftentimes, papers on which you will be author are not published until after you graduate.
- It sets you apart from the “average” graduate in your field, by demonstrating devotion to a project and a desire to dig deeper into your field during your education.
- Is partial fulfillment of the requirements for the Honors College Tier II Honors
- Can also be used for College Honors, associated with the College of Science.

D. Basic Requirements for the MARC Thesis

Each of the essential elements listed here is described in greater detail later in this handbook.

1. Coursework: All MARC students are required to sign up for three, and preferably six credits of research (Independent study or Departmental 4993). Six credits of either and a GPA of 3.0 will earn you honors in the College of Science. If you are in the Honors College, they'll sign up for the Departmental honors courses. If you are not, then Dr. Taylor can contact the Honors College and they will admit you. A total of 12 such credits can be used towards your degree in the Biology program; other majors should check with their departments regarding application of Independent Study credit towards their degree plan.

1. ***You must have a Thesis Advisor/Research Mentor.***

The thesis advisor will be your research mentor and must be from the list of approved MARC mentors or be approved by the program. He or she will be a research faculty member at UTSA or the UT Health Science Center at San Antonio. If your research progress has been limited in your laboratory of record on the UTSA/UTHSCSA campus, please contact Dr. Taylor about substituting Summer research as the topic of record.

2. ***You must have two thesis readers.***

Thesis readers must have a Ph.D., but they do not have to be a member of a college or university faculty.

3. ***You must submit a thesis proposal to your three-member Thesis Committee early in your research progress. This can be done in conjunction with the departmental 4993 course.***

You should never begin extensive data collection on your desired project without verifying that all three members of your committee are comfortable with your plan of action outlined. The best way to ensure this is to have your committee members sign and approve the thesis proposal. MARC students should obtain approval for their thesis proposal early first semester in which they are beginning their research, second semester at latest (particularly if they are Honors students registered for a 4993 course). The thesis proposal must be approved and signed by the thesis advisor and both readers before it can be submitted to Dr. Taylor in the MARC U*STAR office.

4. ***You must submit your complete, signed, and bound thesis prior to Commencement. Turn in a copy to Dr. Taylor.***

5. ***All MARC students will present their final thesis during the RISE/MARC End of Semester Event on a final Friday of their last semester. These presentations will replace the RISE/MARC Colloquium and seminar. These presentations will consist of a 10 minute talk and a 5 minute Q&A session. Students who plan to graduate with Honors must also present their results at the Honors Research Colloquium.***

6. ***Your thesis must follow stylistic guidelines (see the Style Manual at the back of this handbook) for the submission of the thesis and the thesis proposal.***

II. WHAT IS A MARC U*STAR THESIS?

The MARC U*STAR Research Training Program has a commitment to preparing our students for doctoral education and beyond. The MARC U*STAR thesis project provides the opportunity for a student -- in close consultation with an expert member of the faculty -- to define and carry through a novel research project that at least contributes to the scientific body of knowledge and may result in actual scientific publication. We believe that our MARC participants, who are generally "honors" students whether or not they are Honors College participants, will be stretched and deepened by during this process and that the thesis will serve as a capstone experience of their undergraduate education.

The process involved in creation of the MARC U*STAR thesis is much different than that experienced in traditional undergraduate coursework. The thesis will be a substantial piece of work, both in terms of effort and length, and represent a time investment that spans several semesters. During the research process and thesis creation, students will essentially be working as apprentice scientists. The thesis itself will grow out of a research project in which students have made considerable personal investment, working with a faculty advisor and mentor. The findings reported will be novel discoveries made by the students. The thesis itself will be crafted collaboratively with the thesis advisor and readers, who will invest time and provide feedback to levels not normally experienced during the undergraduate years. There will be an extensive process of writing and rewriting; multiple drafts will be created before the final is approved. In the end, the students will have a personal "creation," a compiled story that not only presents their research findings but also demonstrates their ability to understand, interpret and communicate these findings.

An MARC thesis is not, however, a Master's thesis or a Ph.D. dissertation and should be, correspondingly, smaller in scope. **The MARC thesis is a large research project that can be pursued successfully in two to three semesters as part of a normal undergraduate course load.** We expect that the MARC thesis will exemplify the highest undergraduate standard in its ideas, methodology, accuracy, clarity, reasoning, and presentation.

A. "Honors" Clarification:

MARC is considered an honors program, but is not directly associated with the Honors College. However, many students are in the Honors College as well as the MARC program. Both programs require a thesis.

Another type of Honors, "College Honors," can be earned through the College of Sciences, as described here:

"The College of Sciences designates certain of its outstanding students as Honors students and provides the opportunity for advanced study under close faculty supervision.

Selection for honors designation is based on the student's academic performance and recommendation by the faculty of the student's major discipline. To be eligible for the program, students must have a minimum overall grade point average of 3.0 at UTSA and a minimum grade point average of 3.0 in their major at UTSA. These minimum averages must be maintained for students to receive the approval of the College Honors Committee and the discipline faculty. Students applying for College Honors are expected to enroll in the appropriate honors research course during their final two semesters. The completed research paper must be approved by the supervising faculty sponsor and another college

faculty member. Students interested in this program should contact their faculty advisors for additional information. 2006-2008 UTSA Undergraduate Catalog.

Any student who is in good standing in the MARC program, and is expected to complete a Thesis here, should also look into getting College Honors as the requirements overlap.

III. GETTING STARTED

A. When Should I Start My Thesis?

Students entering the MARC program having approximately one to two years left prior to graduation. MARC funding lasts for a maximum of two years. If you have only one year prior to graduation, we strongly suggest that you quickly begin looking for a project and putting together a thesis proposal/plan. Even if you have a good deal of time prior to graduation, it is good to become focused relatively early on a project that will be used towards your thesis; the sooner you start, the better off you will be. Students who enter the program with two years prior to graduation are expected to have complete their thesis proposal by the end of your second semester in the program, and preferably after the first semester. Students often choose to work on undergraduate theses in their final two, long semesters prior to graduation (i.e. spring and fall or fall and spring). However, if you wait this long, you can get into trouble getting everything done on time. If you are taking a 4993 course and do not complete the thesis, then you'll have to take an Incomplete and then finish up the subsequent semester; if you do this in the semester in which you plan to graduate, you run the risk of delaying your graduation if writing or research problems arise.

C. Finding a Thesis Topic:

All MARC students are expected to have an independent small project to work on in the laboratory. Don't worry, however, if you do not yet have one. You will work with your Research Mentor to find a topic on which to perform your research. Most of the time, the topic is provided by the research mentor, but this does not have to be the case. If you come up with a fantastic idea of your own, and your mentor supports it and believes that it is of small enough scope that you can actually finish it, you are free to pursue your own idea. However, if you have only a year in your laboratory, it is advisable to hop onto an ongoing small project that already exists in the laboratory and get running as quickly as possible.

C. Thesis Advisors/Research Mentors

In this publication we use the terms Research Mentor and Thesis Advisor interchangeably. The MARC U*STAR program has a pre-approved group of faculty mentors who have a track record of successfully working with undergraduate students. New MARC participants work with program staff to identify an approved MARC mentor/Thesis Advisor, and should quickly begin work in their laboratory. See the "Finding a Mentor," publication in the MARC Introductory Booklet for hints of successfully finding a mentor.

Responsibilities of Thesis Advisors/Mentors and Students

Your thesis advisor should be willing to meet with you on a regular basis. ***It is best if you meet with your thesis advisor on a weekly basis, but often every other week is often more realistic in the sciences.*** As soon as your thesis advisor has agreed to work with you, these meetings should begin and should continue at one- (or two-week) intervals until the thesis is

complete. The purpose of these meetings is for you to ask questions and seek advice and for the advisor to give advice, direction, and encouragement. ***One of the major mistakes students make is not meeting often enough with their thesis advisor!!*** Let the regularly scheduled meetings help you meet your deadlines!

The biggest fear most students have as they think about doing a thesis is that they will be unable to find a topic. Your research mentor will have a great deal more experience in developing new research ideas than you will, and generally has several small projects sitting on a shelf, awaiting someone to perform them. Your advisor should help you refine and focus your interests into a manageable project and should help you develop a strategy and a timetable for the work's successful completion. Work with him/her to find one that you believe will be satisfying. Don't dismiss an idea out of hand- it may become much more interesting once you have some background; read a bit and investigate! Do keep in mind, however- that ***the most important factor in completing an Honors thesis is your interest.*** You need to be interested in what you propose to study. You need to take ownership of the project. Nothing will cripple your progress more than working on a thesis that does not interest you.

Your advisor will read the drafts -- *several* drafts -- of your thesis and thesis proposal and will provide you with detailed feedback on the drafts (as well as on other activities you engage in as part of your research). ***A MARC or Honors proposal and thesis should always go through multiple revisions. You are expected to give your advisor ample time to read/view and comment on each version/revision!!*** You are also responsible for making the appointments with your advisor and making sure to show up for each of those appointments. Keep in mind that you are likely to want to ask your thesis advisor to write letters of recommendation for you at some time in the future. ***The responsibility and dedication you demonstrate in working on your thesis will be important factors in the quality of the letter your thesis advisor is willing to write for you.***

In summary, your thesis advisor should be willing to:

- meet with you on a regular and frequent basis (ideally at least once per week)
- help you define an appropriate scope for the project
- set forth clear expectations for the length of your thesis
- read your work in a timely fashion
- help you identify appropriate second and third readers
- help you identify the necessary resources to complete the project
- communicate with your readers to ensure common understanding of project length, criteria for assessment, and other conditions and assumptions involving the project

In response, you must be willing to:

- meet with your thesis advisor on a regular and frequent basis (and not chronically cancel or miss appointments)
- meet all deadlines that you and your thesis advisor set together
- notify your thesis advisor if you are having problems that interfere with your ability to meet deadlines or attend appointments
- work in the lab when you have committed to do so (if relevant)

C. Thesis Readers

How Do I Find My Thesis Readers?

Once you and your research mentor/thesis advisor settle on a topic, you will need to select two additional readers for your thesis committee. **Readers must hold a terminal degree** (Ph.D., M.D., J.D., M.F.A.) in their field of expertise, but unlike the advisor, they do not have to be members of a college or university faculty. Thus, Ph.D.'s who work in your thesis advisor's lab or who are associated with the MARC program (Dr. Taylor), are eligible to serve as thesis readers. Your research mentor should help you identify your two readers, who should be individuals who can help you in the creation of your thesis. It is best to choose readers whose expertise adds to the knowledge that your mentor provides in your particular field or who have useful skills in research methods. You can also choose someone whom you know will nurture you and help you deal with the stress involved in doing a complex project. While it is okay for you to suggest your own readers (e.g., a faculty member with whom you have a good relationship), monitor your thesis advisor's response closely. **You do not want to choose a reader who does not get along with your research mentor!**

How Do I Approach Potential Thesis Readers?

Although your research mentor should help you identify and select your readers, **it is your responsibility to ask the readers if they are willing to serve on a thesis committee.** It is a good idea to write up a one- or two-page description of your topic area and the approach you plan to take. You can then email this description to your readers or drop it off to them, along with a request to serve as a reader on your thesis committee and a time-line that specifies when you plan to complete written portions of your thesis. Explain to the potential reader that you would really like to work with him or her and that you value his or her input and assistance. Have them sign the thesis reader commitment form, found on the MARC website.

Responsibilities Involved in the Reader/Student Relationship

While you will work most closely with your thesis advisor, **you are also expected to work closely with your readers as you develop your ideas, plan your method of doing the project, and write the thesis.** You should anticipate that both your readers will have their own suggestions that they will want you to act on and changes and revisions that they will want you to make. You need to address these suggestions and revisions and **be aware that your readers do not have to accept (and sign) the thesis until they are satisfied with its quality.** Creating a thesis is not an assignment that you simply hand in at the end of the semester and receive a grade for it. It is an ongoing collaborative process among you, your advisor, and your readers. Sometimes readers can seem to be more demanding than your thesis advisor!

If your thesis project involves data collection (as most work in the sciences and social sciences does), **it is imperative that you get your thesis proposal completed as soon as possible, so that your readers can approve it!** It is neither appropriate nor wise to find your thesis readers after you have already finished collecting your data. Your readers may be frustrated if they have not had the opportunity to provide input or feedback into the design of the study. In the worst-case scenario, they may refuse to sign off on your completed thesis because they believe you should have approached the study differently. **You are also most likely to be satisfied with your project if you give your full committee a chance to provide you with input at all stages of the process.**

Your readers should also be willing to meet with you on a regular basis from the time you begin your thesis until you complete it. Those regular meetings should take place no less often than once a month. **It is your responsibility to keep your readers apprised of your progress!**

A major mistake students make is not giving their mentors and, especially readers, enough time to read and comment on their drafts and demand revisions!! You will not be able to submit your thesis when you expect to unless you have given your thesis advisor and readers ample time to demand revisions. You always need to ask your advisor and readers how much time they need to read and respond to drafts of your work and when they expect to see a first draft of various sections of the thesis and thesis proposal.

In summary, your thesis readers should be willing to:

- Meeting with the student on a regular basis (at least once per month)
- Establishing clear expectations for the length of the thesis
- Establishing clear expectations for the scope and content of the thesis
- Reading and approving the student's thesis proposal in a timely fashion
- Reading and approving the thesis in a timely fashion

In response, you must be willing to:

- Meeting with readers on a regular basis (and not canceling or missing appointments)
- Involving readers and thesis advisor in all decisions relating to thesis content
- Informing readers of the deadlines that that the student, thesis advisor, and program have established and ***meeting those deadlines***
- Notifying readers of problems or delays that will influence the completion of the thesis.
- Producing a proposal and thesis of the quality required by your readers and advisor

Keep in mind that your thesis is not complete until it is approved by your full thesis committee – your thesis advisor and your two readers. Members of your thesis committee signal their approval of your thesis work by signing the signature page of your thesis (see instructions on the signature page later in this handbook). *Members of your thesis committee should not agree to sign your thesis unless and until they believe the work is of the quality expected.*

Do My Thesis Advisor/Research Mentor and Readers Have to Meet?

Whether your thesis advisor and readers choose to meet is up to them. In the past, most students have worked separately with their advisor and readers, with the advisor and readers providing independent feedback. It can often be a good idea, however, to schedule at least one meeting with your thesis advisor and readers early in the process so that all parties are clear on what the expectations are and so that problems originating from different perspectives can be ironed out in advance. Keep in mind, however, that members of the faculty are typically very busy people and it may be difficult to schedule a meeting of your full committee.

Can I Have More Than Two Readers?

You are required to have at least a three-person committee – your advisor and two readers. Beyond that, you can have as many readers as you choose. Keep in mind, however, that the larger your thesis committee is, the more people you have to please. Thus, it may be wisest to keep to a three-person committee.

E. Changing a Thesis Committee:

You are expected to identify all three members of your thesis committee as early in the process of writing a thesis as possible (see below for more details). Once you have filed the names of your committee members with Dr. Taylor of the MARC U*STAR office, you are expected to keep the

committee members the same throughout the process of completing the thesis. We recognize, however, that in some cases the composition of a thesis committee must change. While committee members, once approved, are allowed to continue serving as a thesis advisor or a thesis reader even if they leave UTSA, some may not agree to do so. Or, if a committee member goes abroad, it may be difficult or impossible for a student to continue working with that person. ***Students who wish to change the composition of their thesis committee after the MARC program and/or Office of the Honors College has approved the committee must request that change in writing and submit a revised Thesis Reader Commitment Form.***

While there may be a variety of circumstances that warrant a change in the composition of a student's thesis committee, students should be forewarned that an individual committee member's belief that the work is not sufficient quality is not one of those circumstances.

F. How Can I Find Financial Support for My Thesis Research?

The MARC U*STAR program does not currently provide support for faculty mentors. However, since your research generally addresses some of the ongoing research projects in your mentor's laboratory, he or she will generally use grant funds for your research. However, if you wish to find grants and apply for funding, it would be most appreciated by your mentor and would be a significant addition to your CV. For Honors students, each year the Undergraduate Fellows Program (deadline Aug 1) offers up to 15 grants of a minimum of \$300 each to students who are working on their Honors thesis. Check out the SACNAS website for additional scholarship opportunities.

IV. THE MECHANICS

A. Thesis Coursework:

Thesis coursework is not required but is strongly recommended. Registering for Thesis coursework can be greatly beneficial to you, particularly because it closely monitors your progress; if you tend to procrastinate, take this course! There are actually two types of thesis courses – HON 4993 or a 4993 course in your major (e.g., BIO 4993, CS 4993, PSY 4993). You may take your department's corresponding 4993 course, to assure that there are no problems with getting upper division credit in your major. MARC students who are NOT members of the Honors College have received special permission from Dr. Eisenberg, to take the Honors 4993 course (contact Dr. Taylor and she will arrange it). If you are going to work on your thesis for a longer period of time, you may be able to combine the Honors thesis, Departmental thesis and independent study courses; check with your department to determine their individual requirements.

If you do not want to take Thesis coursework, you are still required to take an Independent study course, and can merely agree to work with the research mentor to complete the thesis. ***You should keep in mind, however, that your Thesis is still expected to reflect a minimum of 300 hours of work (the equivalent of 6 credit hours), regardless of whether you register for a 4993 course.***

B. Registering for Thesis Courses:

If you are a member of the Honors College, to register for a 4993 course in *any* academic discipline, you must complete an Honors Thesis Course Registration Form and turn it in to the Office of the Honors College and provide Dr. Taylor with a copy. If you

are not an Honors student, Dr. Taylor can get you permission from the College of Honors, to submit a form and enroll. There is also a possibility that if you are NOT an honors student but have gone through necessary steps to obtain College Honors, you would be able to register at your department's office, although there might be initial confusion amongst secretarial staff.

In either case, however, fill out the Thesis Course Registration Form, on which you will identify your thesis advisor and a topic area (in one to two sentences). It also requires you to specify your expected date of graduation. Students whose thesis advisor is a tenure-track faculty member at UTSA should enroll in the appropriate 4993 course in their thesis advisor's academic discipline (e.g., BIO 4993, COM 4993, POL 4993). Students whose thesis advisor is a non-tenure-track faculty member at UTSA or a faculty member at another institution (e.g., UTHSC-SA) should register for BIO 4993 with Dr. Edwin Barea-Rodriguez (MARC Program Director) or HON 4993 with Dr. Eisenberg as the instructor of record. All 4993 courses, regardless of discipline, count toward the number of Honors hours required for graduation. ***Your thesis advisor (or Dr. Barea or Dr. Eisenberg for non-UTSA mentors) must sign the Honors Thesis Course Registration Form before anyone will register you for a 4993 course!*** Students may complete the form and register for a 4993 course any time from the opening of registration until the fifth day of classes.

C. Deadlines and Requirements for Students Completing their Thesis

Students who are planning on graduating from MARC should plan carefully to complete their theses on time. You should begin the following processes at LEAST the semester prior to your graduation semester, and the semester or summer before.

1. ***You must submit: (a) the working title of your thesis; (b) a one-paragraph description of your thesis topic; and (c) the names of your two readers by Census Date (i.e., the 12th day of classes).***
2. ***You must submit a complete draft of your thesis proposal to all three of your thesis committee members no later than November 15 in a fall term, April 15 in a spring term, and July 15 in a summer term.***
3. ***You must present a description of your proposed thesis project at the MARC Research Colloquium, preceding the Gathering to Honor Graduates scheduled for the Friday of the last day of classes in a fall or spring term.***
4. ***You must submit a signed copy of your thesis proposal to the MARC-U*STAR Office no later than the last day of the final exam period (see instructions concerning the signature page later in this handbook).***

In your final semester (or preferably, the semester before, to allow for problems):

1. ***You must submit a complete draft of your full thesis to all three of your thesis committee members no later than November 1 in the fall term, April 1 in the spring term, and July 1 in the summer term.***
2. ***You must present the results of your thesis project at the MARC Research Colloquium, preceding the Gathering to Honor Graduates scheduled for the Friday of the last day of classes in a fall or spring term.***

- 3 **You must submit a SIGNED AND BOUND copy of your completed thesis to the MARC U*STAR Office NO LATER THAN the last day of the final exam period** (see instructions concerning the signature page later in this handbook).

Please plan ahead and get your work done on time! Members of your thesis committee are under no obligation to rush to read or approve your thesis if you do not turn in the required materials by the deadlines indicated. These deadlines were selected to allow students ample time to revise their thesis proposal and full thesis so that the final version of the thesis meets the standards of the MARC U*STAR Program.

D. Grading the Honors Thesis (HON 4993) Course

Because an Honors Thesis committee is not supposed to sign off on any thesis work they believe deserves less than an "A," the typical grade for an Thesis (4993) course is an "A." ***If a student fails to meet the deadlines specified above, however, the student does not automatically receive an "A,"*** even if he or she manages to submit a signed thesis on time. In addition, regardless of any policy set by the Honors College, the instructor of record – who is typically your thesis advisor (if he or she is a UTSA faculty member) – can issue any grade he or she chooses.

The deadline for submitting a signed and bound thesis or a signed thesis proposal is the last day of the final exam period in a given semester. ***Students who register for just one semester of a 4993 course receive a grade for that course only when they complete the full thesis (and have it signed by all three members of their committee) by the deadline.*** The Office of the Honors College will notify thesis advisors as to whether students are registered for a second semester of Honors Thesis at the time grades are due. If they have not registered for the second course, the student will receive an incomplete in the first course, which will be removed when the thesis is complete.

E. Grading Departmental Thesis (4993) Courses

Students who register for two semesters of a 4993 course must work out an agreement with their thesis advisor as to how much work must be completed in the first semester to earn them a grade for that first semester. ***Students who plan to take two semesters of 4993 must complete at least their full thesis proposal (and have it signed by their full committee) by the end of the first semester in order to earn a grade for the first semester.*** The thesis advisor may also stipulate that a portion of the actual thesis should also be completed before he or she will issue a grade for the first semester of a 4993 course. Typically, thesis advisors in the sciences and social sciences grant a grade for the first semester of 4993 once the full thesis proposal is completed, signed, and submitted to the Office of the Honors College because the proposal represents a substantial portion of the eventual thesis.

If students meet all the deadlines specified in the previous section, it is assumed that they will receive a grade of "A" for the 4993 course. If students do not meet the deadlines for turning in drafts, but do manage to meet the deadline for turning in the signed and bound thesis or signed and bound thesis proposal (thanks to the dedication and good nature of their committee members), then the thesis advisor should issue a grade of "B" (or lower). ***Thesis advisors are strongly encouraged to impose this grade penalty on any student who begins working on a thesis in his or her last two semesters at UTSA and misses the deadlines!*** If students begin their thesis early and, hence, leave extra time in case problems delay part of their work, it is up to the discretion of the thesis advisor whether to impose the grade penalty.

If students do not meet the last-day-of-finals deadline for turning in the thesis or thesis proposal (and any additional work the thesis advisor specifies), then the thesis advisor should issue a grade of Incomplete ("IN"). The Incomplete will be not be removed and replaced with a grade until the student files the signed thesis or thesis proposal (and any additional work) with the Office of the Honors College. ***Thesis advisors are strongly encouraged not to change the Incomplete to a grade higher than "B" if the Change of Grade occurs in the student's final semester at UTSA!*** Students should be aware that grades of Incomplete automatically turn into an "F" on the last day of final exams a year from the end of the semester in which the grade of "IN" was issued. In addition, students cannot graduate with a grade of "IN" on their record.

F. Can I Use Honors Thesis Work to Meet Degree Requirements?

Students in most -- but not all -- majors can typically use one or both semesters of their Honors thesis (4993) course work to meet upper-division, elective requirements in the major -- as long as they do a thesis with a faculty major from their own academic discipline. The Department of Biology also typically approves substitutions of HON 4993 for upper-division Biology electives when the student's thesis advisor is on the faculty at UTHSC-SA. In some majors, students can request permission to substitute the Honors thesis course work for a Senior Seminar. Some majors do limit students to using only 3 hours of a 4993 course to meet upper-division degree requirements in the major and some majors do not have elective requirements within the major. You will need to discuss your own case with your advising center and department.

G. Filing Your MARC Thesis

When you are finished writing your thesis and your advisor and readers agree that it is complete, you should make sure that your thesis advisor and both readers sign your title page. [Sample title and signature pages are available in the Thesis Manual of Style in the back of this handbook.] You will also need to arrange to have your thesis *bound*. While hard-back binding is nice (and is available through the UTSA Library), it is not required. *At a minimum, however, you must have a copy center bind the original, signed copy of your thesis with spiral binding. The spiral-bound copy of your thesis must have plastic covers -- clear plastic for the front cover and opaque plastic for the back cover.* The MARC Program owns a binding machine; Angelina Hoefle can assist you in getting your thesis bound with a spiral-like binding. The bound, original copy of the thesis -- with original signatures -- must be filed Dr. Taylor by the last day of finals week in the semester in which you plan to graduate.

To summarize, the steps involved in filing your thesis are:

1. Re-write the thesis until your thesis advisor and two readers believe it is of Honors quality.
2. Have your thesis advisor and your two readers sign the signature page.
3. Get the thesis bound (vinyl or plastic spiral binding is fine)
4. Turn the thesis in to Dr. Taylor by NOON on the last day of the final exam period.

H. What If a Committee Member is Unavailable to Sign?

On some occasions, students complete their thesis and receive approval from their full committee, but an individual committee member is unavailable to sign the signature page of the thesis. This occurs most frequently when a committee member is at an institution outside of San Antonio or when a committee member has gone out of town shortly before the end of the term. If a committee member has approved the thesis, but is unable to sign when the thesis is due, that

committee member may email Dr. Gail Taylor (gail.taylor@utsa.edu) to state that he or she would sign if he or she were present at UTSA. The email notification can then count as a signature. *However, the student must obtain the committee member's actual signature at the earliest possible date.*

V. CONTENT OF THE THESIS PROPOSAL

A. Writing the Thesis Proposal

Your project proposal serves several purposes. Writing the proposal will help you organize your thoughts and decide exactly what you want to accomplish. While you are working on your project, your proposal will serve as a sort of road map that will help keep you focused on your goals. Your proposal serves as a contract between you and your advisor and your readers and between you and the MARC program. That is, it specifies what you need to do to complete the MARC thesis. Having all parties agree in advance on the nature of your project will minimize the chance of misunderstandings later.

Your proposal must explain why your project is worthwhile. How will it add to the body of knowledge that already exists in your field of study? You should be sure to explain not only the very specific questions you hope to answer, but also the larger questions that your project addresses- how will it impact the field or human health.

In the sciences and social sciences, the thesis proposal typically becomes the Introduction, Background, and Methods sections of the thesis itself. As a result, a proposal in these fields is usually fairly lengthy -- perhaps 15 to 20 pages in length. Essentially, your proposal should answer the following questions: (1) What is the point of the study? That is, what hypotheses will it test? What questions should it answer? (2) How does the study you propose relate to other research that has been done in the past? (3) How will the methods, design, and analysis you plan to use help you test your hypotheses and answer your questions? If you have difficulty addressing any of these questions, you probably need to question what you are doing. If you complete a good and detailed proposal for a project in the sciences and social sciences, the actual writing of your thesis will probably only entail adding two more sections -- the Results and Discussion sections.

Your thesis advisor and your readers should help you define the appropriate structure, content, and length for your thesis proposal! Keep in mind that the thesis proposal is written at a point when you have not yet done the research. Thus, you should be writing in the future tense – e.g., “I will...” or “The participants in the study will...”

When you submit your thesis proposal to your committee members and the MARC Program, you should make sure to submit a title page and signature page along with the content sections of your thesis proposal. The signature page for the proposal should follow the format of the signature page for the completed thesis (see the Thesis Manual of Style at the end of this Handbook for more information). The title page for the proposal should follow the format of the title page for the completed thesis, *except* that the section under the title and your name should simply say “Thesis Proposal” (see the sample title page for the thesis proposal at the back of this handbook).

B. What Happens If I Can't Do Everything I Planned in My Proposal?

As you work on your project, you may find that you will not be able to do exactly what you said you would do in your thesis proposal. This is a common occurrence and should not be a cause of major concern. Typically, the student and his or her thesis advisor and readers agree that the proposed project was too large or too broad, and the student and committee members come to an agreement on ways to narrow the focus of the project. Sometimes the student and his or her advisor discover that necessary materials or equipment are unavailable. They then consult with the other committee members and agree on ways to modify the project in light of that new information. It is also okay to change the focus of the project *as long as the full thesis committee agrees to changes in the focus!*

VI. CONTENT OF THE MARC/HONORS THESIS

A. The Order of the Thesis Components

Your Honors thesis should consist of the following sections:

1. Title Page
2. Signature Page
3. Abstract (a 150-300 word summary of your thesis)
4. Table of Contents
5. Acknowledgements
6. The Thesis Body
7. Footnotes/Endnotes (if applicable)
8. Bibliography
9. Appendices (if applicable)

These sections are described in greater detail in the Thesis Manual of Style at the back of this handbook.

B. The Text of the Thesis

Typically, the body of a standard, research-based thesis will include the following sections:

1. **Chapter 1: Introduction.** The Introduction should include a clear statement of the subject under investigation, the questions the thesis will attempt to answer, definitions of important terms, and a rationale for the study and the structure of the thesis. In the sciences and social sciences, the Introduction to the thesis may be essentially the same as the introduction to the thesis proposal. Although the two Introduction sections may be identical, keep in mind that you will need to change the tense from future tense (e.g., "The participants will answer..." or "The data will be collected...") to past tense (e.g., "The participants answered..." or "The data were collected....").
2. **Chapter 2: Background.** The Background section should include a presentation of previous work on the topic and a review of the literature and the historical background of the topic. This section should explain how previous work led to the questions addressed in your thesis and the methods for answering them. In some cases, students will include the Introduction and Background in one chapter.
3. **Chapter 3: Materials and Methods:** This should include a detailed description of the materials and methods -- the theoretical approach, instruments used, data collection and analysis, performance principles, etc. Again, as with the Introduction, if you plan to use

essentially the same Methods section for your thesis as you did for your proposal, you will have to remember to change from future tense to past tense and you will have to check to see if additional details need to be specified. You may have proposed to include 100 participants or 12 mice, but only included 96 participants or 10 mice. Now that you know who your participants were, you may need to include additional information about them. Also, you may have changed your procedures from your original proposal. Each of these changes and all this additional information needs to be documented.

4. **Chapter 4: Presentation of Findings or Results:** This section of the thesis must provide a careful analysis of results with convincing evidence to support the main thesis presented in the introduction, along with an analysis of the results of testing the hypotheses presented in the introduction. Charts, tables, and figures or other graphic aids may be used in the presentation of results.
5. **Chapter 5: Discussion and Conclusions.** This section will summarize the results of your research, attempt to explain any unexpected findings, and address directions that future work in the area should take.

These sections of the thesis are further described in the Thesis Manual of Style, available at the end of this Handbook.

C. How Long Should My Thesis Be?

There is no easy answer for this question. There is no set minimum or maximum length for an undergraduate scientific thesis. The correct answer is, "However long it takes to cover your topic adequately." ***Your thesis advisor and readers should help you determine how many pages it will take to do that and should give you some guidelines concerning the length of thesis they expect to see.*** You should keep in mind, though, that an Honors thesis is a major undertaking, so it is reasonable to expect the body of a traditional research thesis to be 25-50 pages.

D. What Special Stylistic Requirements Does My Thesis Have to Meet?

Stylistic requirements and guidelines are specified in the Thesis Manual of Style, available at the end of this Handbook. You should follow specifications for footnotes and references that are appropriate to your academic field. ***Your thesis advisor and other committee members also may set any stylistic requirements they choose to set.***

E. What if I Have Problems with Writing?

The Writing Center, on campus, is available to assist you in your writing. They also will help you learn how to write better. Keep them in mind when you are writing early drafts. Note: if your draft is long, you'll need to set up an appointment with a tutor, rather than just walking in.

F. What Happens If I Have No Results?

Students who write research-based theses often worry that their thesis projects will not work out. That is, they are concerned that the data they collect will be unable to support their results and that they will essentially have "no" results. You should not be overly concerned with this issue. Failure to support hypotheses is a common result of research in the sciences and social sciences.

While students may not be able to submit a thesis that yields no significant results to earn a Ph.D. degree, being unable to support any of your hypotheses is not a problem in an undergraduate thesis. The goal of conducting a research-based thesis is for you to learn about the process of conceptualizing a study and collecting and analyzing the data. As long as you followed the procedures laid out in your thesis proposal, the actual results of that process are unimportant. Instead of having to redo the study or give up on your thesis, your job in the Discussion or Conclusion section of your paper will be to explain what you think went wrong. Was something wrong with your methods that may have kept you from supporting your hypotheses? Do you think your theory was wrong?

VII. MARC THESIS PRESENTATIONS

A. The Presentation Requirement

During the spring and fall semesters, the MARC U*STAR Theses and thesis proposals will be presented in PowerPoint (see the MARC Resources page on the website for a template), to all other MARC students. They will be held on the Friday before the end of classes, taking the place of the MBRS-RISE/MARC-U*STAR Colloquium course. Honors students will also have to present at the *Honors Research Colloquium*. Out of courtesy, ***all participants in the MARC U*STAR program are expected to attend all the presentations.***

Each presentation is scheduled for a 15-minute time slot. Presenters should expect to speak for about 10 minutes, leaving 5 minutes for questions. If you are presenting your proposal, you should describe the plan for your thesis, including an introduction, hypothesis, aim(s) that you wish to accomplish, experiments planned, and methods utilized. This presentation describes the experiments that you WILL do, although some preliminary results may be presented. In your final Thesis presentation, you will add in your results and discussion. In both cases, you should keep in mind that your audience is from a variety of fields and carefully define any technical or field-specific jargon that you use.

Before presenting your research, we highly recommend that you presentation with your thesis advisor and lab mates, and perhaps Dr. Taylor. Practice it enough that you aren't reading it off the screen! And...remember that this thesis work is YOUR project. You should know the work very well and be able to speak about it comfortably in a conversational manner and answer questions from the audience.

While students are often nervous about the thesis presentation, it is helpful to think of it as an opportunity to share the fruits of your labor with others. Remember that you know more about your thesis than anyone else does. The members of the audience – other students and faculty – are rooting for you; they want you to do well in your oral presentation of the project. They are interested in your work and want to know what you have been doing. Dress up, look like a professional, stand tall, and speak up. Above all, relax! It's okay if someone asks a question you cannot answer. You don't need to try to bluff your way through the question-and-answer period (but don't refer the person to your advisor, either). Just say, "That's an interesting question. I would have to think about it, but right now, I don't know the answer." Most questioners have not read your thesis. If they ask questions that have nothing to do with your thesis, just politely indicate to them that you weren't dealing with that issue in your thesis.

How Do I Know When I Am Presenting?

You will be working with Angelina Hoefle, to schedule your presentation. Please notify your thesis advisor, so that he/she can also attend.

VIII. WORDS OF WISDOM

(Revised from From Dr. Ann Eisenberg's recommendations)

1. ***Get an early start in identifying a topic.*** If you are beginning your last year at UTSA when you read this handbook, you will need to work intensely to get everything done in time. If you have longer, prior to graduation, it is better! If you plan to work on (and register for) your thesis in consecutive spring and fall terms, you should identify your thesis advisor and topic by the previous November.
2. ***Begin writing early in the process!!!*** As soon as you complete your preliminary research, start writing!! Write even if what you write seems flimsy and superficial. The biggest mistake you can make is to keep putting off writing. The longer you wait to start writing, the bigger and bigger the task will seem.
3. ***Avoid thinking of your thesis as of monumental significance in the grand scheme of things.*** It is not your life's work. It will certainly not be the definitive statement on the topic. The more you inflate the importance of the work, the more you will be intimidated and overwhelmed by the prospect of researching and writing a thesis. Remember to work with your advisor to narrow down your topic sufficiently, so that it doesn't overwhelm you. It is better for your thesis to be narrow and deep, rather than very broad and very superficial.
4. ***Decide at the start of your project how many hours per week you will work on the project and stick to that commitment.*** The MARC Program requires approximately 16 hours per week during the school year and a full-time effort in Summer. However, please keep in mind that the MARC program also requires that you attend one Summer program, preferably out of town. As a result, you must plan carefully. Working at a steady pace will produce much better results than trying to do the whole project in two weeks. For many students, working on the thesis is the first occasion in which they need to set their own deadlines. Because there are few externally established deadlines, students are often tempted to do other things first (e.g., their work for other courses). ***Don't make your thesis work low priority!***
5. ***Set small, easily realizable weekly goals.*** Your grand aim is the production of an acceptable thesis, but if you set your eye only on that goal, you will find it difficult to reach. Writing your thesis is best accomplished by taking a series of small steps. Block out time on your calendar for reading, library research, time in the lab, writing, and editing.
6. ***Schedule frequent (preferably weekly) meetings with your thesis advisor to discuss your progress.*** If you see your advisor once a week, you will feel pressed to accomplish something each week. Remember also that your advisor has the primary responsibility for approving your project. He or she may decide not to approve your project if you have not had regular contact.
7. ***Don't ignore the deadlines set out by the program!!*** These deadlines may seem unrealistically early, but if you finish a full draft of your thesis proposal or thesis by these

deadlines, you will have adequate time for editing and polishing your work. Members of your thesis committee will also have adequate time to read your work and provide you with feedback. Spending the last week of the semester getting two hours of sleep a night and hovering on the brink of hysteria during your waking moments accomplishes nothing. It certainly does not improve the final product and it does not endear you to your thesis committee!

8. ***When you are setting up a timetable for your project, remember that it always takes longer than expected to complete a task.*** A good rule of thumb is to estimate the maximum amount of time you believe it will take to complete a task in the worst possible case -- then double your estimate.

IX. WHAT HONORS STUDENTS SAY ABOUT CREATING A THESIS

Because the words of other students are often most valuable, we interviewed several UTSA Honors alumni about their experiences in doing a thesis. We include a collection of their responses here.

1. Why did you decide to do a thesis?

"UTSA is not known at all for undergraduate geology and I had very high aspirations concerning graduate school. Therefore, I had to do more than just take classes if I wanted to overcome this disability. I need to distinguish myself from all the other GPAs out there, demonstrate my initiative and excitement for geology, and conduct a research project to develop some advanced skills. It worked; here I am!" (Aaron Kullman, Geology)

"Because I wanted to graduate with Honors. Looking back on it, though, I see that it has been the single greatest piece of work that I have ever accomplished." (Duane Miller, Philosophy)

"Frankly, I wanted to receive Honors. Secondly, I believed the freedom of a creative writing project could only be fully appreciated in the Honors Program." (Jeff Jaeckle, English)

"At first, it was because I wanted to graduate with Honors, but by the time I truly made the decision, it was because I was excited about having the chance to spend the kind of graduate-level time and research on a topic which really excited/intrigued me. I realized early on that the thesis would be a huge challenge, but would be the kind of "epic" intellectual opportunity that I was really hungry for.... Being able to do my thesis on 1960's American Art was like a dream. It seemed more like a reward than a task!" (Arend Zwartjes, Humanities)

"To make myself more competitive for the [medical] schools I was applying to." (Carlo Martinez, Biology)

2. What did you gain from completing a thesis?

"A greater knowledge of how to research topics, but most importantly, once you have written a 32-page thesis, it doesn't seem so daunting to write a 101-page book or something like that." (Duane Miller, Philosophy)

"The interaction with my thesis advisor was by far the greatest benefit that I came away with. Her professionalism, insight, and incredible support, attention, and ability truly helped me improve so many aspects of my intellectual capacity.... Doing the thesis taught me intellectual rigor and truly advanced my critical analysis skills." (Arend Zwartjes, Humanities)

"I would not have my current job if I hadn't taken on the Honors thesis. I also got an opportunity to work on exciting subject matter outside the realm of the basic Computer Science curriculum." (Ankur Kohli, Computer Science)

"I have become more critical of my writing, as well as of others'. I learned how to break down a question or problem and find the best way to answer it." (Carlo Martinez, Biology)

"All the practical stuff that goes into producing such a work has come in handy in graduate school." (Liz de la Portilla, Anthropology)

"I learned more about research methodology and statistical analyses than any classroom course could have taught me." (Patricia Tenorio, Psychology)

"I feel much more prepared for graduate school since I've gone through the process. It made me more competitive and I ended up with various offers to graduate school. It strengthened my presentation skills and my self-confidence, except when I got a draft back from Dr. Eisenberg :). I also developed close relationships with my readers." (Anne Turner, Psychology).

3. What advice would you give to students considering doing a thesis?

"Start early!!!! Also, make sure you meet your own deadlines!" (Cynthia Davis, Biology)

"I would tell them to make a plan about how and where they will do their computer typing and also I would suggest that they organize their photocopies in as orderly a manner as possible! I ended up with a stack of photocopies from tons of books and magazines, all unlabeled and a mess! Eventually, I learned to label and file everything, but they should do this from the beginning!" (Arend Zwartjes, Humanities)

"Maintain close communication with [your] readers. Though I kept [mine] informed of my progress, the updates were sporadic and, in the end, many of them had very good advice to give." (Carlo Martinez, Biology)

"I wish I had read everything pertaining to my thesis and my thesis proposition before even starting. Don't procrastinate. With my thesis proposal, I procrastinated and it was extremely stressful. With my actual thesis, I did not procrastinate and it was generally an enjoyable experience. Also, don't expect your readers to contact you -- they won't. Contact them, drop off chapters and chapter revisions at their offices, make sure you know their e-mails, phone #s, office hours, home phone #s, etc." (Duane Miller, Philosophy)

"Involve your advisor and committee -- a lot! Someone told me once, 'If you show your science to more people, you will become a better scientist.' It's true for many different reasons. The more you talk about your work, the better you understand its strengths and weaknesses, the better a presenter you become, you learn new applications and insights that you may never have thought of or just a new way of looking at things, and your committee is interested in helping you!" (Aaron Kullman, Geology)

MARC U*STAR/HONORS THESIS MANUAL OF STYLE
University of Texas at San Antonio
Honors College/MARC U*STAR Training Office

A. THESIS SECTIONS

An Honors thesis must include the following sections, in the order listed below. Each section should begin on a new page, with its section title a little over 1 inch from the top of the page and centered between the left and right margins.

1. Title Page

All information on the title page should be centered. The top of the title page should have the words "THE UNIVERSITY OF TEXAS AT SAN ANTONIO" (in upper-case letters) with "San Antonio, Texas" printed directly below that (in lower-case letters). The title of the thesis should appear several lines below that in upper-case letters. If the thesis consists entirely of written materials, several lines below that the phrase, "A Thesis Submitted in Partial Fulfillment of the Requirements for a Bachelor of XX Degree in YY with Tier 2 Honors in the Honors College, and special recognition from the MARC U*STAR Research Training Program." The XX refers to the type of degree you are earning (e.g., Bachelor of Arts, Bachelor of Science, Bachelor of Fine Arts, Bachelor of Business Administration). The YY refers to your academic discipline or major. ***Be sure that you do not put "XX" or "YY" (or someone else's degree or major information) on the title page of your thesis! If you are not earning Tier 2 Honors with the Honors College, leave this part out as well!***

Your name should appear several lines below the degree information with the name of your academic Department (e.g., "Department of Biology," "Department of English, Classics, and Philosophy") and the Month and Year of your graduation below that.

Sample title pages for the thesis proposal, a research-based thesis, and a creative thesis can be found at the end of this handbook.

2. Signature Page

The signature page should contain at least five lines for signatures – your signature, the signatures of the three members of your thesis committee, the signature of the Program Director of the MARC U*STAR Training Program (Dr. Edwin Barea-Rodriguez), and the signature of the Dean of the Honors College (Dr Richard Diem) if you are in the Honors College. You should sign first and the Dean of the Honors College should be the last to sign. Your name should appear at the top of the page under the heading "PREPARED BY." The other signatures should appear below that in a section with the header "APPROVED BY." Before you take the signature page to your committee members for them to sign, ***you will need to type in their names directly below the blank line you provide for their signature.*** It is a good idea to check the spelling of your committee members' names as well as whether they like to use their middle initial as part of their name.

At the bottom of the page, the words "RECEIVED BY THE HONORS COLLEGE and MARC U*STAR Program:" should appear in the center of the page. Directly below that, you should type in the month and year in which you are filing your thesis (e.g., "May 2002").

A sample signature page appears as the last page of this manual. This signature page can be used for both the completed thesis and the thesis proposal.

3. Abstract

Each thesis must include an abstract of between 150 and 400 words. The abstract is a summary of the thesis. For a traditional academic thesis, the abstract should generally include a statement of the problem, your argument or hypotheses, a brief description of your methodology, and a summary of your findings and conclusions. For a thesis project executed in a non-written medium, the abstract should typically include a statement of the creative goal or problem, the historical and/or cultural context of the work, a discussion of the medium/processes used in the project's creation, and the student's conclusions. Because the abstract summarizes a complete work, it should be written in the past or present (not future) tense. The abstract will be one of the last sections of the thesis that you write.

Two examples abstracts for traditional academic theses follow:

A Psychology Abstract:

Gender stereotypes about acceptability of emotional display are believed to be established during the first decade of life by both male and female children. This study examined children's perceptions of their parents' experiences with negative emotions and the relationship between those perceptions and parents' reports of their willingness to display negative emotions. It tested three hypotheses: (1) that children would be more aware of mothers' than father's emotions; (2) that older children would be more aware of parents' negative emotions than younger children; and (3) that children whose parents reported expressing more negative emotions would be more aware of their parents' negative emotions. To test the hypotheses, 48 children, ages 6 to 10, were asked to answer questions about their fathers' and mothers' negative emotions. The children's parents completed a questionnaire that concerning the likelihood that they would share their negative emotions with their child. Major findings were that age, gender of parent, and the specific emotion influenced children's perceptions of their parents' emotions and that fathers' (but not mothers') reports of their own expressiveness were related to how much the children could say about their parent's emotional experiences ($p < 0.01$, three way Anova). Unlike previous studies, age did not influence the extent to which children cited themselves as the cause of parents' emotions. These findings have implications for the development of gender stereotypes about emotion."

A Biology Abstract, with a very limited scope:

Neurotrophins are a family of proteins responsible for the regulation of neuronal development, maintenance, repair, survival, and growth in the central and peripheral nervous systems. Neurotrophins are released from neurons and bind to receptors on a neuronal body. To establish baseline cell survival rates and dendritic development for subsequent neurotrophin studies, we cultured cortical neurons at various densities. We hypothesized that neuronal viability would vary directly with density. Fetal rat cortical neurons (embryonic day 11) were isolated, trypsinized, dissociated, and plated on 12 well plates at 2, 4, 6 and 8 $\times 10^5$ cells per well. 5'-Flouro-2-deoxyuridine and Uridine were used to inhibit glial growth. The neurons were cultured for six days then photographed for dendritic analysis. Cells were then isolated, tested for viability using the spectrophotometric MTT test and Trypan Blue Exclusion, and counted using a hemacytometer. The results for these

experiments supported the stated hypothesis. At plating densities between 2×10^5 cells/plate to 6×10^5 cells/plate, there was a gradual but significant increase in cell viability ($p < 0.1$). Between 6×10^5 and 8×10^5 cells there was an apparent critical number of neurons that resulted in high viability, but no further significant density-related increases in neuronal survival. These results are possibly caused by neuronal-produced neurotrophic factors reaching a critical level at higher neuronal concentrations, and influence neuronal survival. Future studies will investigate the role that neurotrophins are playing in the observed viability phenomenon.

4. Table of Contents

Every thesis must have a Table of Contents, listing the contents and page numbers. Begin numbering with the "Abstract" as page 1. (The title page and signature page do not have page numbers.) Continue numbering consecutively through the table of contents, acknowledgements, the thesis body, bibliography/references, and appendices. For more information, see Page Numbering below.

5. Acknowledgements

In this section, you have an opportunity to express your appreciation to those who have helped you with your thesis or who have contributed to your academic and personal growth. While an Acknowledgements section is not required, it is encouraged. This is your chance to let the people who have helped you know how much you value their support!

6. Thesis Body

The format for the thesis body should follow the conventions of your academic discipline. The body of the thesis will generally include a statement of the problem, a survey of existing literature, your argument (hypotheses), a description of your methods, your findings or results, and your conclusions (often including directions future work might take).

7. References

You should use whatever form of citation that is dictated by the discipline in which you are writing. Your thesis advisor is the appropriate source for advice on documenting your sources.

8. Appendices (if applicable)

Any tables, graphs, illustrations, photos, or other material (e.g., survey/research instruments) that you refer to in the thesis, but do not include in the body of the thesis, should be included as appendices, following the conventions of your academic discipline. As with all other parts of the thesis, your appendices must have 1-inch margins on both sides.

B. THESIS FORMAT

The Honors thesis format must adhere to the following standards:

1. Paper

Honors Theses should be typewritten or laser printed on good quality, 8-1/2" x 11" paper. Continuous-feed paper is not acceptable for an Honors thesis.

2. Margins

Your left-hand margins must be 1-1/2 inches. Your top, right-hand, and bottom margins should be 1 inch. This applies to the entire thesis, including the title page and all appendices, diagrams, and figures.

3. Type

The thesis must be typed or prepared on the computer in 11- or 12-point size, in a times or arial font. The text must be justified on the left side. It is up to you and your thesis advisor whether you use full justification. If you justify the right-hand margin, you must do so consistently throughout the entire document (except within figures, tables, and appendices).

4. Line Spacing

The abstract, table of contents, acknowledgements, and body of the thesis must be double-spaced. Footnotes/endnotes and the bibliography/references must be single-spaced within each entry and double-spaced between entries. The title page must be spaced and laid out as shown on the last page of this handbook. Appendices must adhere to margin and page-number requirements, but they do not have to conform to spacing requirements, except in the labeling and titling of each appendix.

5. Page Numbering

Page numbers may appear either at the top of the page or at the bottom, either in the center or the right, but not at the left. Page numbers must be within the 1-inch margins. For more information on page numbering, see Table of Contents above.

6. Direct Quotations

Direct quotations of up to five lines in length should be included as part of the body of the text and enclosed by quotation marks. Longer quotations should be indented and set off from the main flow of the text. All quotations should be referenced appropriately.

7. Documentation

You may use whatever form of bibliographic and footnote/endnote citation required by your discipline. Your thesis advisor should provide you with the appropriate citation format.

8. Other Formatting Instructions

If a single line of text appears either at the top or bottom of a page, a page break should be inserted so that no line of text stands alone.

Chapter titles should begin 1-1/2 inches from the top of the page. Minor divisions may be set off from the text in boldface type or by centering, numbering, or lettering. Such divisions should be parallel and consistent between sections and may be included in the Table of Contents.

You should avoid auto-hyphenation programs. When it is necessary to hyphenate, you should make sure the reader will not be confused or inconvenienced.

Mathematical or chemical equations should be set off from the text in the same manner as a long quotation. Equations that will be referred to again in the text should be numbered or lettered in a consistent style and the label placed in parentheses or brackets. Equation editors and Greek alphabet fonts are available in most word processors. In extreme cases, equations may be hand lettered in black ink.

Foreign language phrases, including genus and species names, should be italicized in the same font as the text. A species name should be spelled out completely, with the genus capitalized and the specific name in lower case, the first time it appears and anytime it begins a sentence. Subsequent occurrences should abbreviate the genus (e.g., *E. coli*).

9. Binding

The copy of your thesis that contains your committee members' original signatures must be bound before it is submitted to the MARC U*STAR Office. The MARC U*STAR program owns a binding machine that can be used to bind your thesis. Your front cover should be clear plastic and the back cover should be opaque plastic or vinyl. The original will be filed in the MARC U*STAR Office. You can keep one bound copy and the other will be sent to your thesis advisor.

C. Example of Title Page: Thesis Proposal

UNIVERSITY OF TEXAS AT SAN ANTONIO
San Antonio, Texas

INDUCED REGENERATION AND GENE EXPRESSION
IN THE CHICK LIMB BUD

A Proposal for an Thesis for the
MARC U*STAR Training Program

Joanne M. Smith

Department of Biology
December 2006

D. Example of Title Page: Research Thesis

UNIVERSITY OF TEXAS AT SAN ANTONIO
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INDUCED REGENERATION AND GENE EXPRESSION
IN THE CHICK LIMB BUD

A Thesis Submitted in Partial Fulfillment of the Requirements for
the Bachelor of Science Degree in Biology
with Tier 2 Honors in the Honors College
and Special Recognition from the MARC U*STAR Training Program

Joanne M. Smith

Department of Biology
December 2006

E. Example of Signature Page

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