

CNHS Research Honors Policy

Purpose and Intent of CNHS Research Honors Distinction: The purpose of the CNHS Research Honors mechanism is to provide students who dedicate a significant amount of effort to research in their undergraduate education an opportunity to write and defend an undergraduate research thesis and have that distinction reflected in their academic transcript upon graduation. The intent of this Honors mechanism is not to create a new curricular path, but simply to honor students who are already making significant contributions as undergraduate researchers through a transcriptable form of distinction and recognition. The CNHS Research Honors mechanism is in no way intended to supercede or conflict with any aspects of faculty workload or student curricular requirements determined at the department or programmatic level, and participation is completely voluntary on the part of both the student researcher and faculty mentor. In addition, the Research Honors mechanism is not intended to replace the Honors College process as it is targeted explicitly for non- Honors College students and the two mechanisms are considered mutually exclusive. The name “CNHS Research Honors” has been proposed instead of the originally proposed “CNHS College Honors” to avoid confusion with the Honors College.

Brief Description:

To achieve CNHS Research Honors, a student will:

- 1) Submit a Research Proposal to the CNHS Research Committee for approval.
- 2) Perform a minimum of 6 credits of undergraduate research over a minimum of two semesters under the supervision of a faculty mentor (mentor may be from any UVM College).
- 3) Produce a written thesis on their research to the satisfaction of a selected Thesis Committee.
- 4) Orally present and defend their work to the satisfaction a selected Thesis Committee.

Student Eligibility: To submit an application, students must have a minimum cumulative GPA of 3.0 (rounded up to the nearest 0.05) or higher at the time of application. Individual departments in CNHS may elect to adopt stricter eligibility criteria for their majors at their discretion. Students actively enrolled in the Honors College are not eligible for the CNHS Research Honors pathway as many aspects of these pathways are considered redundant with respect to student effort. A Research Honors student is distinct from a Research Assistant in that they are taking curricular research credit where the student conducts the work towards the completion of a written thesis and oral defense as outlined in this policy. CNHS Research Honors students must perform their research as curricular credit and may not perform their Honors work as student employees.

Process Overview: To begin the process students should, prior to the Fall semester of their senior year, consult with and receive approval of a faculty member who agrees to act as thesis mentor for the project. Following the proposal guidelines, the student will then write a formal proposal in close consultation with the thesis mentor.

Students must complete the following to successfully submit the completed CNHS Research Honors application:

- 1) Complete the “Application To Undertake Work for CNHS Research Honors” form.
- 2) Email their proposal to cnhsresearch@med.uvm.edu with their name and “CNHS Research Honors Proposal” in the subject line. The proposal must follow the Guidelines for Honors Research Proposals as delineated below. Proposals will be reviewed on a rolling basis, but must be received no later than the first semester of the student’s senior year (either by September 30th, for May graduates, or by January 31st, for December graduates)
- 3) Ensure that their thesis mentor completes and submits the Faculty Recommendation Form by the above deadline.
- 4) Obtain IRB or IACUC approval (as appropriate) of all research to be conducted prior to commencement of the research.

Students may work on their theses during the fall and then spring terms of their senior years (as program flexibilities allow), but may also elect to perform their work in their junior year as some programs in CNHS may not be compatible with all of the research being performed in the final year. It is the student’s responsibility to contact the CNHS Research Committee about Research Honors process timelines outside of intended May graduation times.

The research proposal should be developed through close consultation with a thesis mentor, and must contain each of the required sections: Title, Abstract, Description of the Project, Previous Work, Significance, Proposed Methodology and References. Students whose theses involve interaction with human subjects, animal research, or bio hazards should be aware that such work often requires the approval of a University Institutional Review Board and should work with their thesis mentors to obtain it. Approval need not be secured at the time at which the proposal is submitted but the proposal should indicate that the student is aware of this requirement and taking steps to fulfill it.

The student’s thesis mentor provides guidance in constructing the thesis, helping the student to analyze his or her ideas critically and providing input and correction along the way. Thesis mentors are normally secured at the very latest in the semester prior to the submission of the CNHS Research Honors application package. The thesis mentor must be a full-time faculty member at the Assistant Professor/Clinical Assistant Professor rank or above with a portion of their workload assigned to efforts in the research of discovery or application, and hold a primary appointment at the University of Vermont. Once the application is received, the CNHS Research Committee will evaluate the proposal based on its written standards as specified in the guidelines. The CNHS Research Committee will then send a response to the student via e-mail.

Responses can fall into one of three categories:

- Acceptance
- Revision (Student must resubmit a rewritten and revised proposal addressing CNHS Research Committee feedback)
- Rejection (Student does not meet qualifications or the proposal is truly unworkable.)

When submitting a CNHS Research Honors proposal, students should register for the appropriate Departmental Undergraduate Research Course (e.g., BHSC 298). Department’s should designate a specific section of their 298-level undergradaute research course as “Honors Reesarch” for

students participating in this mechanism which students will enroll in and will be coded as “Honors Research” on the student transcript. Students must take a minimum of 6.0 credits of honors research credit over a minimum of 2 semesters to receive CNHS Research Honors. Students may perform more semesters of research, which will be curricularly taken under the home department’s research course offerings and will not be formally considered part of the Research Honors curricular work. The first semester of research will receive a grade of Satisfactory Progress (SP) and then a final grade covering both semesters of research will be applied after the completion of the written thesis and oral defense. Typically, these 6 credits are distributed evenly between the first and second semesters, i.e. 3 credits each semester. However, if, for reasons owing to a student's schedule (the student is already registered for, say, 16 credits), and a student wishes to do so, Honors credit may be variably distributed across the two semesters, e.g., 2 credits the first semester and 4 the next). Please note that this is an "accounting issue" only; students are expected to do an equal amount of work both semesters regardless of how the credit is distributed. As a general guide, each credit of research taken is equivalent to ~3 hours of thesis-related work per week. Student thesis research credits are taken through research courses provided via the student’s home department.

Establishing a Thesis Committee:

Students will write a thesis and orally defend it in front of a formal “Thesis Committee” chosen by the student in consultation with the thesis mentor. The 3-person committee is comprised of the following people secured by the student with the guidance of their research mentor:

- The student's thesis mentor
- A faculty mentor from outside the student’s home department.
- A faculty mentor from the student’s home department who will serve as Chair of the committee.

CNHS Research Honors Application

All CNHS Research Honors Proposals must be submitted electronically. Requirements for submitting your application:

1. Complete the "Application To Undertake Work for Research Honors" form below. Email your written proposal, following the Guidelines for Honors Research Proposals, to cnhsresearch@med.uvm.edu. Your full name and "CNHS Research Honors Proposal" must be in the subject line. Applicants are strongly advised not to send files larger than 3 megabytes. If you have concerns about the size of your proposal submission, please contact the chair of the CNHS Research Committee.
2. Ensure that your thesis mentor completes and submits the Faculty Recommendation Form. You and your thesis mentor must submit all forms by required deadline in the first semester of your senior year (either by September 30th, for May graduates, or by January 31st, for December graduates).

Application to Undertake Work for CNHS Research Honors (All fields are required)

Applicant Information

Your Name (*Last, First Middle*):

Your UVM NetID:

Intended graduation date (month/year):

Your Email (netid@uvm.edu):

Major and Concentration:

Department in which your Honors Project will be pursued:

Overall GPA:

Project Title:

Thesis Mentor Information

Name:

Department:

Email:

CNHS Academic Advisor:

Does your work involve human subjects?

Does your work involve vertebrate animals?

Does your work involve recombinant DNA?

If yes to any of the above, please continue reading. If no, then skip to the bottom and submit this form.

By submitting this form, I am certifying that I understand the following:

- My proposal must mention whether or not my research involves human subjects, vertebrate animals, biological samples, or recombinant DNA.

- I must obtain certification from one or several of the research review Committees (IRB/IACUC/IBC) by contacting the Research Protections Office (656-5040) before I begin my research.
- The CNHS Research Committee will only approve my proposal pending Committee (IRB/IACUC/IBC) certification.
- The CNHS Research Committee must receive a copy of the research review Committee certification before data collection can begin.

Guidelines for CNHS Research Honors Research Proposals

The proposal submitted with the application for CNHS Research Honors should be concise, clearly written and thoughtful. Each proposal should include a statement defining the inquiry, an explanation of the methodology to be utilized, a description of the role of related and supporting research, and a section regarding the significance of the proposed work in relation to current knowledge. As the CNHS Research Committee evaluating your proposal may not include a specialist in your field of research, you should avoid overly technical jargon. Your ability to carry out Honors research successfully is judged, in large part, by the quality of the proposal.

Formatting the proposal

The entire proposal must not exceed 8 pages (including any tables and figures but excluding references) and should either be a Microsoft Word readable document (.doc, .docx, .txt, .rtf) or an Acrobat PDF (.pdf). Proposals should be double-spaced, set in 12 point Times New Roman font, and have 1-inch margins top and bottom and 1.5-inch margins left and right. The evaluation committee will not read past page 8.

Email your proposal to cnhsresearch@med.uvm.edu with your name and “CNHS Research Honors Proposal” in the subject line of the message.

Contents of the proposal

The proposal must contain each of the following components, clearly labeled:

1. Proposal Version: The proposal should indicate whether it is a new or revised submission.
2. Title
3. Abstract: Give a short summary (no more than 100 words) of your project and its significance.
4. Description of the Project: Explain the question you hope to answer and what it is you hope to accomplish.
5. Previous Work: Explain the status of work in this field. Explain what other scholars or artists have accomplished in this area to date.
6. Significance: Explain why your project is important. Explain what original contributions you hope to make beyond the existing work reviewed above. Explain the relevance of your project to the previous research in this subject area.
7. Proposed Methodology: Explain how you will proceed. Explain how you will collect and analyze your data or materials. Explain how you will interpret your results. This is an extremely important section of the proposal. It is imperative that it be detailed and well constructed. Timetables and schedules of work to be completed may be helpful.
8. Timeline: Students should provide a detailed feasible timeline of the proposed work to be performed.
9. References: Include any references cited in the proposal and any important works that you expect to use during your research. Reviewers may check your references for literature widely understood to be foundational in your field.

Evaluation Criteria

In general, the criteria used by the CNHS Research Committee to evaluate the thesis proposals may include, but are not limited to, the following:

- Is the proposal written clearly and concisely?
- Does the student explain the project's relevance to the field of study and beyond?
- Will the student be able to apply methods of research, analysis, and interpretation to the field of study?
- Does the proposal cite relevant works in the reference section?
- Does the proposal examine critically the work of other scholars and relate that work to the proposed project?
- Does the proposal show evidence of promise to contribute original research and knowledge at a level appropriate for undergraduate study, such that the thesis goes beyond describing existing work?

Revisions

In the case that a student is asked to revise the proposal, explicit recommendations for revision will be provided to the student by the CNHS Research Committee evaluating the application.

Rejected Proposals

If a student's thesis proposal is rejected, the student may ask the CNHS Research Committee to reconsider its decision. A student whose proposal was rejected is not barred from submitting a new thesis proposal the next semester, but must in such a case indicate whether a previous version of the proposal was rejected, and if so, what changes were made in response to the Committee's comments. If the thesis is to be completed in fewer than two semesters due to initial proposal rejection, it is also the student's responsibility to present in the new proposal a carefully revised timeline for the remaining thesis work and its completion. The thesis mentor should indicate in a special memo to the department that the timeline is feasible and that the student can be reasonably expected to have the work completed in the allocated timeframe.

Completing, Defending, & Certifying the CNHS Research Honors Thesis

Once an application is approved, the CNHS Research Committee does not have any further oversight regarding the content of the student's thesis until the final submission of the written thesis. The primary remaining functions of the CNHS Research Committee are to evaluate the submitted written thesis, sending comments to the student's independently chosen thesis committee, and to certify the completion of the process to the Chair of the student's home department indicating that the student's thesis has been successfully completed.

Related Coursework: The CNHS offers a thesis writing course (NH 195: Thesis Preparation) for Honors College students. It is highly encouraged that CNHS Research Honors students also take this course in the fall semester of the Junior year, but this is not a strict requirement of the Research Honors pathway. Students who wish to opt out of taking NH 195: Thesis Preparation must do so with the explicit written consent of their research mentor and this needs to be communicated to the CNHS Research Committee at the time of submission of the research proposal.

Student Expectations:

CNHS Research Honors students are expected to:

- Produce the written thesis itself.
- Defend the thesis in an oral examination (a "defense") before a three-person "thesis committee" comprised of the following people secured by the student:
 - The student's thesis mentor
 - A faculty mentor from outside the student's home department.
 - A faculty mentor from the student's home department who will serve as Chair of the committee.

Thesis Document Specifications

Thesis Page Format and Type

The thesis should be printed on 8.5x11 inch paper as a single-sided document. Align text at the left margin (except for paragraph indentations). Font used should be 12-point Times New Roman throughout the document, although 10-point type may be used for notes to tables or figures and in footnotes and endnotes. Margins should be 1" at the bottom, top, left and right. Double-space the text throughout except for the following: Captions for tables and legends for figures are single-spaced. Block quotations are single-spaced. Likewise, footnotes or endnotes are single-spaced within and double-spaced between entries. Placement of page numbers beginning with the first page of Chapter One, pagination (in Arabic numerals, beginning with page 1) is continuous throughout the document, including the reference pages. Pages that precede the beginning of Chapter One are referred to as preliminary pages. Some preliminary pages do not bear page numbers (e.g., abstract, title page), whereas the paginated preliminary pages (e.g., table of contents, list of figures, list of tables, preface, acknowledgments, dedication) carry lowercase Roman numerals centered at the bottom of the page. Page numbers are the only typing on any page that goes outside of the margins specified above. All pages, including paginated

preliminary pages, should be numbered at the bottom of the page, centered between the right and left margins.

Headings

Each chapter should be numbered and the chapter title centered at the top of the page. Each chapter should begin on a new page. Headings are then used to identify major sections within a given chapter. For any sub-sections within these major sections, the sub-heading is typed flush at the left margin and text begins following a double-space below.

Charts, Graphs, Tables and Figures

If a thesis contains charts, graphs, tables or figures a separate list of charts (or graphs or tables or figures) is required and should be inserted after the table of contents. Each figure, chart, graph or table must be numbered and captioned (caption should be 10-point Times New Roman font). The caption must appear on the same page as the illustrative material it references.

Components of the CNHS Research Thesis

This section of the guide details the sequence and specifications pertaining to main components of the thesis. Please note that the title page, the table of contents, the body chapters, and the reference list are required components of the thesis.

Title Page

The final thesis submission must include a properly formatted title page. The title on the title page must be written in all capital letters, centered, and double-spaced if more than one line. Toward the bottom of the page type “By”. After a double-space, type your name. On the next line, type your program of study and Department. After this, double-space and type the month and year of graduation without a comma between the month and year. The date should be the month you intend to graduate (May, August or December). The title page is technically counted as page “i”, but the page number is not typed onto this page.

Abstract

The abstract briefly summarizes the research study. It is a concise summary of no more than 250 words that addresses the rationale and purpose, scope, methodology, and results of the thesis. The word “ABSTRACT” is a first-level heading and is capitalized, centered, and positioned just below the top of the page. Text of the abstract is single spaced. The Abstract page is an uncounted, un-paginated page.

Table of Contents/List of Figures

Each thesis must contain a table of contents and list of figures (if appropriate). The table of contents should include a listing for each chapter or section of the thesis and at least all of the first level headings. If a thesis contains charts, tables, graphs, figures or photographs, every illustrative material must be listed in an appropriate List of (Figures, Photographs, Charts, etc.) Material that appears in the thesis before the table of contents (abstract, preface, etc.) should not appear in the table of contents.

Chapters

The body of the document will consist of several sections called chapters. The number of chapters and their titles will vary by discipline and topic of the Honors thesis. Consult with your mentor to determine if certain standard chapter designations are appropriate in your program or academic discipline. For most CNHS Research Theses, CHAPTER ONE will be entitled “Introduction”; CHAPTER TWO, “Literature Review”; CHAPTER THREE, “Methods”; CHAPTER FOUR, “Results”; CHAPTER FIVE, “Discussion and Conclusions”.

- Chapter 1: Background, Statement of the Problem, Hypothesis (if appropriate), Key Terms
 - In Chapter 1, you will offer a brief introduction to your topic and statement of the problem. This sets the context and justification for your study as well as sets the table for what is to follow. If a quantitative study and appropriate, one or more research hypotheses are stated (each hypothesis must be linked to a specific and independent research question as well as tested in your statistical plan). Typically, key words and/or definitions are included in this chapter. This chapter is generally 3-5 pages in length depending on the topic and discipline.
- Chapter 2: Literature review
 - Chapter 2 provides an in-depth overview of the research literature on your topic. It offers a recent and relevant research synthesis that progresses logically and intentionally from a broad overview of the topic to a more specific focus on the specific research question being proposed. This chapter includes multiple headings (the number of which varies depending on topic and explanation needed). The length of Chapter 2 also varies greatly but typically ranges between 10-20 pages. Your thesis mentor will be instrumental in determining the depth and length of your literature review.
- Chapter 3: Design, Subjects, Measures, Procedures, and Analysis
 - Chapter 3 includes all details related to the methodology of your study. Here, you will describe your subject sample (i.e., inclusion/exclusion criteria, recruitment strategy). The specific instruments or tools you are using and the procedures you follow are also included. Additionally, how you analyze your data is described. Each of these sections are detailed within separate headings. The general length of this chapter again varies depending on specific methodology associated with your topic and discipline although 8-10 pages is reasonable.
- Chapter 4: Results
 - The results of your analyses are offered in Chapter 4. Here, there is no discussion or interpretation of the results; rather the specific findings are detailed. It is important to associate these findings, if appropriate, with any and all hypotheses previously offered.
- Chapter 5: Discussion, Limitations, Conclusion/Implications
 - The last chapter of your thesis is an important one. It is in this chapter that you discuss your findings in light of the current research existing and explain how

your findings compare or contrast with this literature AND why. You will also offer insight into the limitations of your research study and recommendations for future study on the topic. Implications and practical applications of the study are also discussed.

List of References

Every thesis must include a list of references regardless of the citation style used throughout the thesis. The full publication information for all sources cited in the thesis must be included. Regardless of discipline, entries should be single-spaced with a double-space between each entry. The style of the entries should follow the style manual appropriate to the author's discipline.

Appendices

If necessary, the appendix or appendices should follow the references in the thesis organization. Supplementary materials such as surveys, questionnaires, charts, tables, photographs, etc. the author chose not to include in the body of the thesis may be included in the appendices. This material may all be included in one appendix (listed in the table of contents as simply Appendix) or may be organized and divided into two or more labeled appendices (labeled Appendix A, Appendix B, etc.).

Specific steps in the completion of the thesis:

1. Schedule a defense, which must be held on or before the Friday of the last week of classes of the final semester of thesis work:
 - a. Talk to your three committee members and find a day, time, and location they (and you) can all agree to.
2. Submit one copy of the thesis to each member of your thesis committee at least one week prior to the date of the scheduled defense and a digital submission to the CNHS Research Committee at cnhsresearch@med.uvm.edu. The CNHS Research committee will review the written thesis and provide a list of questions/comments to both the student and the thesis committee to be addressed during the oral defense.
3. Print out the Evaluation of the CNHS Research Honors Thesis Defense form for your thesis committee to complete at your defense.
4. Attend your defense:
 - a. At the defense, you will be asked to explain your project and answer a series of questions about it.
 - b. A defense will normally last between 1 and 2 hours.
 - c. After the questioning ends, you will be excused while your thesis committee decides whether the thesis and oral defense are of a quality sufficient for earning Research Honors, and assigns a grade for the 6 credits of thesis work. Your thesis mentor should ensure that the grade for your thesis is applied to both semesters of Research Honors work. This will involve your thesis mentor contacting the chair of your home department to make sure the grades for the thesis have been submitted.
 - d. Your thesis committee may recommend that some corrections be made to the written thesis. These corrections should generally be completed within a week following the defense. You may be asked to submit a copy of the corrected thesis to one or more members of your committee.

- e. At this point, the chair of your thesis committee will complete the Evaluation of the CNHS Research Honors Thesis Defense form and return it to the CNHS Research Committee. This form must be received by the CNHS Research Committee by the last day of the classes in the second semester of the project. At that point, the CNHS Research Committee will certify that the thesis work has been completed successfully and will instruct the student's home department Chair and the CNHS Office of Student Services to designate "Awarded CNHS Research Honors" on the student's transcript.
5. Submit your thesis to ScholarWorks as appropriate: The College will establish a ScholarWorks folder for CNHS Honors Research work where students may submit their thesis electronically at the discretion of their advisor based on the embargo considerations of the work. The mentor may elect to embargo the work as part of the Thesis Evaluation Form.

Important Dates (All dates are latest possible submission dates; earlier submission are strongly encouraged)

September 30th (for May graduates) or January 31st (for December graduates) – CNHS Research Honors applications and proposals due. Responses to applicants will be emailed within 3 weeks of application submission.

October 31st (for May graduates) or February 28th (for December graduates) – Revised proposals due (where revisions requested)

Last day of Semester Classes in which student intends to graduate – Last day by which Oral Thesis Defense must be completed (thesis must be submitted to committee members and CNHS Research Committee 1 week prior to defense date)

1 week following Oral Thesis Defense – Revised thesis must be submitted to Thesis committee (where required) and final grade and Evaluation Form must be submitted to CNHS Research Committee, who will contact the student's home department Chair and the CNHS Office of Student Services of the student's successful completion

Faculty Recommendation Form for CNHS Research Honors

To be completed and submitted by the Thesis Mentor prior to the application and proposal submission deadline.

Thesis Mentor Information (*all fields required*)

Full Name:

Department (primary affiliation):

Email Address:

Applicant Information

Student's Name (*Last, First Middle*):

Project Title:

By submitting this form, I am certifying that I have read the contents of the proposal submitted by the above student and I approve it for submission to the CNHS Research Honors Committee.

1. Does this student's proposal involve the use of biohazards or recombinant DNA?

If yes, is the IBC protocol approved or submitted?

2. Does this student's proposal involve the use of vertebrate animals?

If yes, is the appropriate IACUC protocol approved or submitted?

3. Does this student's proposal involve the use of human subjects?

If yes, is the appropriate IRB protocol approved or submitted?

By submitting this form, I am certifying that I understand the following:

- The student's proposal must mention that the research involves biohazards or recombinant DNA, vertebrate animals, or human subjects, if in fact such research is involved.
- The CNHS Research Committee will only approve the student's proposal pending Committee (IRB/IACUC/IBC) certification.
- The CNHS Research Committee must receive a copy of the research review Committee certification before data collection can begin.

What contributions will the proposed research make to the student's education?

I waive / do not waive (please circle) the student's enrollment in the NH 195: Thesis Preparation writing course

Why is the proposed methodology appropriate?

Will the student have access to necessary resources and/or equipment?

Please detail the resources/equipment required:

What skills, background, and academic preparation does the student bring to the proposed project?

Evaluation of CNHS Research Honors Thesis Defense

Sections A-C should be completed by the Thesis Committee Chair and submitted to the CNHS Research Committee (cnhsresearch@med.uvm.edu) by the last day of classes in the semester that the student intends to graduate.

A. Information

Student's Name: _____

Department in which Honors work was performed: _____

Honors Thesis Title: _____

Thesis Committee: (Home Department faculty member, Chair): _____

(Thesis Mentor): _____

(Third Member): _____

Date of Defense: _____

B. Qualification for Honors Work

The decision of the Thesis Committee is that this student: (check one)

- Passed the defense at the Honors level
- Passed the defense at the Readings and Research level (students gets curricular credit and grade but not "Honors" distinction)
- Failed

C. Grade and Signatures

The grade (A-F scale) submitted for this work is: _____

Signed: (Thesis Mentor): _____

(Non-department Committee Member): _____

(Home Department Committee Member/Chair): _____

D. Submission to ScholarWorks

The student will be asked to submit their thesis to the ScholarWorks database, a public research archive that is the University of Vermont's preferred vehicle for sharing faculty and student research. We are aware that sometimes the publication of student research may compromise the confidentiality of as-yet unpublished faculty research. In light of this and related considerations, please check the appropriate statement below, providing brief explanations if appropriate, and sign:

_____ The student **has my permission** to post the thesis to ScholarWorks

_____ The student **does not have my permission** to post the thesis to ScholarWorks

(please explain)

_____ The student's work should be **embargoed** on ScholarWorks for a certain amount of time (please specify the reason for and the length of the embargo).

Signature of Thesis Supervisor(s):