

Nutrition & Health Sciences

STUDENT HANDBOOK

2019-2020



Emory University
Laney Graduate School

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Program Overview

Nutritional Sciences has entered a renaissance with the increased recognition of the role of nutrition in disease prevention and health maintenance. The goal of the Doctoral Program in Nutrition and Health Sciences (NHS) is to provide students with the necessary skills to investigate the relationship between nutrition and human health, especially with respect to the prevention and control of nutritional problems and related diseases. This includes, at a basic level, knowledge of how nutrients participate in biochemical processes and affect molecular events such as control of gene expression. At a population level, goals include a better understanding of the causes and consequences of variations in nutritional intakes and status in order to improve dietary practices and to enhance health on a national and international level. The program integrates the fields of nutrition and public health sciences because many of the important questions of human health involve the interface between these disciplines.

The program encompasses two major facets of modern nutrition: molecular/cellular approaches and population/epidemiologic approaches. By combining the expertise of scientists at Emory University, the U.S. Centers for Disease Control and Prevention, the American Cancer Society, CARE USA, local universities and other organizations in the metro-Atlanta community, training is obtained with an integrative perspective. Faculty and students are generally identified with one or two areas of emphasis; however, collaboration among members is facilitated by shared seminars, joint teaching and research.

The Doctoral Program in Nutrition and Health Sciences is a non-departmental program affiliated with the Public Health Sciences cluster of doctoral programs within the Laney Graduate School. Completion of the Ph.D. program normally requires at least four years.

PhD in Nutrition and Health Sciences Competencies

Upon completion of the PhD degree, graduates will be able to:

- Apply the fundamentals of nutrition science including methods of nutrition assessment.
- Evaluate scholarly work, programs and interventions including work completed by peers in nutrition health sciences.
- Conduct independent research using appropriate research design and methods in the field of nutrition.
- Communicate current knowledge about key concepts in human nutrition science to students and peers.
- Develop the skills needed to teach students about nutritional science and health.

Coursework

Core Curriculum

Entering NHS students take required coursework during the first year. Students also participate in the NHS Seminar and start lab rotations. In consultation with the DGS, entering NHS students may petition to waive or substitute some Core Courses for electives on a case-by-case basis.

Required core courses include:

- NHS580/GH548: Human Nutrition 1 - (Year 1 - Fall)
- NHS 581/GH549: Human Nutrition 2 - (Year 1 - Spring)
- EPI530: Epidemiology 1 (with lab) – (Year 1 Fall)
- BIOS500: Biostatistics 1 (with lab) – (Year 1 Fall)
- GH545: Nutritional Assessment - - (Year 1 - Spring)
- NHS570: Introductory Graduate Seminar (1 year, Fall & Spring)
- NHS790: Advanced Graduate Seminar (2 years, Fall & Spring)
- PUBH701: Translational and Interdisciplinary Public Health (Year 1 Fall)
- PUBH 700* (Year 1 Fall)
- JPE600: Jones Program in Ethics Core Seminar (During Orientation)

*hybrid course that is required for students without an MPH

The NHS core curriculum is designed to provide broad expertise in several aspects of nutrition, including:

- Basic understanding of the molecular mechanisms underlying normal and abnormal cell physiology and how nutrition may affect these pathways
- Approaches to the development of new indices for assessing nutritional status and/or exposure to environmental toxins, etc.
- Epidemiological studies and intervention trials to understand how nutrients relate to disease
- Clinical studies to identify the role and mechanism of actions of nutrients in disease prevention, treatment, and rehabilitation
- An understanding of these factors in the context of national and international issues of public health.

All students in years two and beyond will have a customized set of electives, agreed upon by the student, thesis mentor, and Director of Graduate Studies that will provide the appropriate background for their thesis work (see next section). These electives may be taken from the relevant offerings of any of the graduate or professional programs at the University. In addition, students are required to take the graduate seminar class for a total of 3 years (1 year at the introductory level and 2 years at the advanced level). Graduate School required courses in Scholarly Integrity and in teaching methods are taken during inter-sessions. **A full time course load, considered 9 credit hours or more per semester, is required for all NHS students.**

Students should register for at least 9 credit hours during the summer term. These can be courses offered during the summer, rotation research credits or graduate research (599R if not yet in candidacy and 799R if in candidacy.)

While students may enter the Program with interest in a specific area of emphasis, the nature of the first year's curriculum is designed to encourage students to explore different areas of nutrition and health sciences. During the first year, students take formal course work and participate in seminars, discussion groups, and lectures by faculty members and/or visiting scientists. They will be exposed to the basic principles of statistical analysis and epidemiological research. They may also begin research by working with different faculty members as part of the Research Rotation requirements. By the end of the second year, the student should be ready to identify an area of research. The student should also be in a position to identify a faculty member to serve as the thesis advisor for the PhD research.

Meetings with the Director of Graduate Studies and/or the Program Director are usually scheduled at the end of Year 1 and of Year 2 to discuss the progress of the graduate studies and to review the recommendations for electives.

Electives

Students are required to take at least 4 graduate level elective courses (usually in years 2 - 3), totaling at least 12 credit hours. Suitable electives may be selected to prepare the student for independent research. Additional courses may be taken in other fields, such as chemistry, genetics, immunology, biostatistics and epidemiology. The graduate student, in consultation with the Thesis Advisor, committee and the Program Director/DGS, selects the electives that would best serve his/her long-term goal. Courses can be selected from the Laney Graduate School, Rollins School of Public Health, or Departments from other colleges within Emory University. Students may also cross-register for courses at neighboring institutions through the Atlanta Regional Council for Higher Education (ARCHE) program. More details about the ARCHE program may be found at the Emory ARCHE website (<http://registrar.emory.edu/Students/arche.html>).

The following example electives have been recommended by previous NHS students:

- Nutrition-related:
 - GH551: Diet and Chronic Disease
 - GH523: Frontiers in Obesity Research and Prevention
 - GH552: Global Elimination of Micronutrient Malnutrition
 - GH568: Community Engaged Food Security
 - NHS 700R – Nutritional Metabolomics
- Epidemiology/biostatistics:
 - EPI534: Epidemiology 2 (with lab)
 - BIOS501: Biostatistics 2 (with lab)
 - EPI740: Epidemiologic Modeling
 - EPI750 or BIOS502 : Longitudinal Data Analysis
 - EPI591U: Applications of Epidemiologic Concepts
 - EPI537: Epidemiology of Chronic Disease
 - EPI591L: Assessment of Dietary Intake
 - BSHE732: Structural Equation Modeling
- Other
 - EPI730: Grant Writing

Grading Criteria

The grading scale in the Graduate School ranges from A (4.0) to C (2.0) and F (0); there is no D grade. Some courses may be taken on a Satisfactory / Unsatisfactory (S/U) basis with instructor approval. Students in the graduate program are expected to maintain an overall average of B (3.0) or better. A grade less than B in the core courses (including: NHS 580, NHS 581, BIOS 500, BIOS 501, EPI 530, EPI 534, and GH 545 as applicable) may be cause for placement on academic probation.

A grade of “Incomplete” must be corrected within a 12-month period or the Registrar will automatically change the grade to an “F”. It is the responsibility of the student to make the necessary arrangements to complete the course and have the grade changed. A full course load (a minimum of 9 credit hours) is required independent of the number of credit hours to be repeated for the removal of an “I” grade.

A student who has a grade point average below 3.0 at the end of a semester or who receives a “C” or “F” in any course will be placed on academic probation for that semester. Financial support may be withdrawn until the grade point average is raised to 3.0 or better.

Students with academic probation for two consecutive semesters may be subject to dismissal upon review by the NHS Executive Committee. Also, a student who receives a “C” or “F” in two or more courses in a given semester may be subject to immediate dismissal from the program.

Example Schedule

Year 1- Fall		
Course Number	Course Title	Credits
NHS 580/GH548	Human Nutrition 1	6
NHS 570R	Intro Graduate Seminar	1
EPI 530	Epidemiology 1 + Lab	4
BIOS 500	Biostatistics 1 + Lab	4
<i>JPE 600 - Jones Program in Ethics course is generally taken in August prior to the start of the semester. More information at: http://gs.emory.edu/professional-development/jpe/index.html and http://gs.emory.edu/handbook/academic-affairs/phd/jpe.html</i>		
Year 1- Spring		
Course Number	Course Title	Credits
NHS 581/GH 549	Human Nutrition 2	6
NHS 570R	Intro Graduate Seminar	1
GH 545	Nutritional Assessment	3
EPI 534	Epidemiology 2 + Lab	3
BIOS 501	Biostatistics 2 + Lab	4
NHS 597R	Research Rotations	Credits vary*
Year 1- Summer		
Course Number	Course Title	Credits
NHS 597R	Research Rotation(s)	Credits vary*
NHS 599R	Graduate Research	Credits vary*
<i>The Master's Equivalency Exam is generally taken in June or July.</i>		
<i>TATT 600 - Teaching Assistant Training is generally taken in August prior to the start of the semester. More information at: http://gs.emory.edu/professional-development/teaching/index.html and http://gs.emory.edu/handbook/academic-affairs/phd/tatto.html</i>		
Year 2- Fall		
Course Number	Course Title	Credits
NHS 790R	Advanced Graduate Seminar	1
NHS 597R	Research Rotation(s)	Credits vary*
NHS TATT605	TATTO Teaching Assignment**	Credits vary*
--	Elective Courses	Credits vary*
Year 2-Spring		
Course Number	Course Title	Credits
NHS 790R	Advanced Graduate Seminar	1
NHS 597R	Research Rotation(s)	Credits vary*
NHS TATT 605	TATTO Teaching Assignment**	Credits vary*
NHS 699R	Advanced Graduate Research***	
Year 2-Summer		
Course Number	Course Title	Credits
NHS 799R	Graduate Research	Credits vary*
NHS 597R	Research Rotations	Credits vary*
Years 3 and beyond (Fall & Spring)		
NHS 790R	Advanced Graduate Seminar	1
NHS 799R	Advanced Graduate/ Dissertation Research	Credits vary*
--	Elective Courses	Credits vary*

*Credits vary for research rotations, teaching assignments and electives. Each semester, students must maintain full-time status of 9 credits

**Teaching Assignment may be in the first or second semester

***Credit for Advanced Graduate Research may be taken as needed for pre-candidacy work towards the dissertation. Credits vary 1-9. The Mentor should confirm the correct amount of hours the students should carry.

Research Rotations

Overview

Research rotations are an integral part of the NHS program. One purpose of the research rotation is to expose students to current research in several different nutrition-related disciplines, thus allowing them to make a more informed decision about which area of emphasis in the Program they wish to pursue. A second purpose is to assist the student in deciding on a mentor by providing an opportunity to sample the research environment, assess the available research projects, and determine if the mentor will be suitable as a Ph.D. advisor.

Requirements

Each student is required to complete 3 research rotations. Ideally, these should be completed **by the end of the summer of the second year** in the program. An additional (4th) rotation may be completed if needed. Independent of the area of emphasis, at least one of the rotations must involve hands-on translational/clinical/laboratory/omics experience of primary data acquisition and at least one must deal with study design and/or statistical analysis (typically considered “epidemiology-related”.) The third rotation can be translational/clinical/lab or epidemiology-related.

Definitions:

- Translational, clinical, laboratory or “omics” research rotation: involves primary data collection or measurement. For “omics” rotations, some practical experience in sample acquisition or processing should be included along with experience analyzing data.
- Epidemiology research rotation: involves writing a grant, developing a protocol, statistical analysis, or DGS-approved epidemiology experience

Each rotation is coordinated with individual faculty members selected by the student and usually involves a time commitment of approximately 10 hours per week for a semester or 3-4 months. A typical research rotation should be equivalent to a course of 3 credit hours. Students who are planning to work more than 15 hours a week may be advised to register for more credit. Credits in excess of 3 per rotation should not be in lieu of course credits, but can be used to meet the minimum of 12 credits per semester. Note: Rotations do not need to formally start at the beginning of a semester, but students can only earn credits once per research rotation (e.g. a rotation from November to March must be registered for credits in either the Fall or Spring semester).

Coordinating research rotations may be a lengthy process and requires planning ahead. Research rotation opportunities are periodically circulated through the NHS listserv, however,

students are encouraged to connect with researchers in the NHS program with similar research interests to identify rotation opportunities. It can take several months to set up a rotation so planning should begin well before the intended start date. Rotations can be started in the Fall Semester of the first year, and should be started by the Spring Semester of the first year. Students intending to begin a research rotation in the Fall Semester of the first year are encouraged to contact faculty members the summer prior to beginning at Emory.

For the rotations, at least two should be supervised by a NHS faculty (full or adjunct) and at least one by a full time faculty member of the program. For faculty members outside the Laney Graduate School, permission should be requested from the DGS in advance of submitting a rotation proposal. It is expected that the rotations will be with 3 different mentors to expand the student's exposure to mentors and types of research. At the most, no more than 2 rotations should be completed with the same mentor.

Research Rotation Proposal

The research rotation should be structured as an investigation of a scientific problem in which a specific hypothesis is addressed. The ideal research rotation combines technical training, the acquisition of skills (e.g., laboratory or computer), exposure to a research area and the process of answering a scientific question. **The scientific goals of the research rotation should be defined by the student in a 1-2-page proposal of the project to be submitted within 2 weeks of the start date of the rotation.** The proposal should follow the format below and state the expected product of the rotation. The product is expected to be either an article, part of an article, grant or technical document. Some exceptions are made on a case by case basis to this requirement. Previous examples of research rotation proposals can be requested from NHS student representatives or the DGS.

The 1-2 page research rotation proposal should follow this format:

1. **Type of rotation**
2. **Type of research** (Bench lab work, clinical research, systematic literature review, Epi/statistical data analysis, primary data collection, policy analysis, program evaluation)
3. **Background**
 - Significance of the subject area (3-5 sentences)
 - Objective of the work
4. **Specific Aims** (1 or 2 detailed statements of the questions to be answered and scientific hypothesis being tested if applicable)
5. **Contemplated Approach**
 - Methods
 - Source of samples/ subjects (if applicable)
6. **Expected Final Product** (grant, portion of paper or paper, technical document)
7. **Timeline**

The rotation proposal has to be approved by the DGS who will provide feedback including clarifying the type of rotation and suitability of the expected final product.

Research Rotation Final Report

A report summarizing the work accomplished should be submitted to the DGS at the end of the rotation. An email with the grade of the rotation should be sent by the supervising faculty mentor to the DGS. The report should include at least:

- A ~one page, single spaced, abstract appropriate for the field of research
- A paragraph describing the activities completed, skills practiced and knowledge gained
- A timeline of any future products expected from the work (papers, grants, abstracts) and the role of the student in that work

If the student prepares a first author paper/technical report by the end of the rotation, this may be submitted instead of the expanded abstract. Generally, the expanded abstract should include at least the following sections: Background, Methods, Results, and Discussion. A second page should include detailed results (1-2 figures and/or tables) and references if necessary. Clarity and comprehensiveness are encouraged to meet abstract length requirements.

The final research rotation report should be submitted within one month of the end of the rotation experience. Note: work related to the research rotation (e.g. preparation of a manuscript or poster abstract) may continue after completion of the 3-6 month rotation experience. If there are other anticipated rotation products, the timeline for completion of ongoing projects should be described in the final report.

A final grade for the research rotation may not be recorded if the rotation report is incomplete. A grade of “Incomplete” will be automatically assigned for the Research Rotation for that term if the report is not submitted before the end of the semester. It will be the responsibility of the student to have the correct grade changed before the Registrar automatically changes it to an “F”.

Teaching Requirements

See also Appendices A-C

Overview & Requirements

The TATTO (Teaching Assistant Training and Teaching Opportunity) Program is administered by the Laney Graduate School to provide teacher training and experience for doctoral students in the Graduate Program in Nutrition and Health Sciences (NHS).

The four stages of the TATTO program (outlined below) provide students with credible training and optimal teaching experience, while ensuring that they are not overtaxed with teaching responsibilities. With few exceptions, no student may serve more than a total of four semesters in any combination of teaching assistant and associates positions during his or her first four years at Emory. TATTO requirements must be completed before applying for candidacy.

1. The first stage of TATTO is a short teaching workshop offered in late summer. It should be taken immediately prior to a student's first teaching experience, generally following the first year of graduate study at Emory. Faculty for this course are drawn from among the best teachers across the university. The syllabus covers general topics of importance to all students, including syllabus writing and grading, lecturing and leading discussions, the use of writing as a pedagogical tool, the conduct of lab sessions, and the use of new technologies in the classroom. Because the summer course is offered between semesters, it is credited to a student's transcript the following fall when students register for TATT 600. TATT 600 must be taken prior to the assistantship and associateship.
2. In the second stage, programs provide training that addresses intellectual problems and teaching strategies from the perspective of particular disciplines. Students register for the program-teaching course, offered as a regular course through the Registrar's course listings. Optimally, students enroll in this course at the same time they participate in their first teaching opportunity, the teaching assistantship.
3. The teaching assistantship, the third stage of the TATTO program, varies from program to program. The defining characteristic of the teaching assistantship is a controlled, carefully monitored initial teaching opportunity. A faculty member who provides continuing guidance and evaluation closely supervises the teaching assistant. The student registers for TATT 605 during the semester of the teaching assistantship.
4. **Optional:** The teaching associate position, the fourth stage of the TATTO program, advances the student to a teaching opportunity with greater responsibilities. The Laney Graduate School favors a co-teaching model for this stage, one in which the student and a faculty member collaborate in all aspects of a course, from syllabus design to final grading. In many programs, graduate teaching associates are largely responsible for teaching a course of their own design. In all cases, teaching associates can expect attentive mentoring and evaluation. Students register for TATT 610 during the semester of the teaching associate position. (**Note:** Not all students in science programs participate in the fourth stage of TATTO.)

Students who demonstrate exceptional teaching ability may be eligible to apply for appointment as Dean's Teaching Fellows. To be eligible for consideration, a student must have completed all Laney Graduate School and program requirements except the dissertation and must have been admitted to PhD candidacy. Dean's Teaching Fellows have complete responsibility for the course or courses they teach. The Laney Graduate School offers a number of these fellowships to students, usually in their fifth or sixth year, on a competitive basis. Applications for the Dean's Teaching Fellows are due the December before the fellowship begins (the next academic year). More information about the Dean's Teaching Fellowship is available at http://gs.emory.edu/financial_support/advanced.html.

In compliance with recommendations of the Southern Association of Colleges and Schools, students may not serve as the teacher of record for a course before they have completed at least 18 semester hours of graduate credit in their teaching field.

Teaching assistants and associates may not take on additional instructional responsibility without the approval of the Dean. Students should not serve more than a total of four semesters in any combination of teaching assistant and associate position during his or her first four years at Emory without the approval of the Dean.

The Nutrition and Health Sciences TATTO program falls under the jurisdiction of the Graduate Studies Committee, with the DGS being the primary administrator of the program. Additional faculty members participate in the various aspects of the program as requested by the Director of Graduate Studies. Record of the student's progress will be kept in OPUS.

Information on teaching requirements from Laney Graduate School (including dates of the training) may be found at: <http://gs.emory.edu/professional-development/teaching/>

TATTO Credit

The Registrar notes TATTO credit on transcripts, which documents fulfillment of the degree requirement.

- The Laney Graduate School TATTO summer course, the teaching assistant, and the teaching associate positions do not count toward the total number of credit hours required for the PhD.
- The credit hours for the program course are counted toward the total required for the PhD, but not toward the minimum 15 hours of course work.

Under rare circumstances, students with significant prior college teaching experience may request exemption from some TATTO requirements. In such cases, the student's DGS should submit a written request for exemption to the Laney Graduate School, outlining the extent of the student's prior teaching experience. If the experience closely matches a given TATTO requirement, that requirement may be waived. However the first stage, the Laney Graduate School TATTO summer course, is required of all doctoral students, without exception.

Teaching Assistant and Associate Positions

The terms teaching assistant and teaching associate designate a student's progress through the TATTO program. Teaching Assistant positions vary from program to program. The defining

characteristic of this position across all programs is a controlled, carefully monitored initial teaching opportunity. A teaching assistant may be responsible for 10 to 12 hours per week of discussion, laboratory supervision, etc. The Teaching Associate position advances the student to a teaching opportunity with greater responsibility, sometimes in a co-teaching arrangement with a faculty member. In some programs, the student and faculty cooperate on all aspects of a course, from syllabus design to final grading. In other programs, a teaching associate takes full responsibility for an entire class. More information about Teaching Assistant and Associate positions can be found in [Appendix A: Teaching Assistantship](#) and [Appendix B: Teaching Associateship](#) sections.

Teaching Assistant and Associate opportunities are provided to NHS students with priority given to the nutrition core courses (Human Nutrition I and II and Nutrition Assessment, currently coordinated by the Program Director, Dr. Ramakrishnan) followed by other electives taught by program faculty at the graduate and undergraduate level. Students who successfully complete the three required stages of the TATTO program and who are interested in additional experience may request additional teaching opportunities as Teaching Associates (see [Appendix B: Teaching Associateship](#)) or Assistant Instructors (see [Appendix C: Assistant Instructorship](#)).

Nutrition and Health Sciences Seminar

All students in the Program are required to participate in three years of NHS Seminar which involves the preparation of lectures on topics directly related to nutrition. After the first 3 years, participation is encouraged but not required. The purpose of the NHS Seminar is to provide students with experience in preparing lectures, conveying scientific principles to an audience, and learning to provide and receive constructive feedback. All NHS students are expected to attend seminar on a weekly basis and present a total of 5 lectures throughout the duration of their career at Emory. The program specific ethics lectures are usually scheduled as part of the seminar series and should be attended by all students.

First year students will take 2 semesters of Introductory Graduate Seminar (NHS 570) and may present a recent paper or a research topic approved by the NHS Program Faculty. Second and third year students take Advanced Graduate Seminar (NHS 790) and are required to present a seminar related to their area of research and/or interests as a stand-alone lecture in both the fall and spring semesters. Note, Seminar lectures should be included on the annual progress report (see [Documenting NHS Student Progress-The Annual Progress Report](#)) and may be included on a student's curriculum vitae (CV).

Credit Requirements for Graduation

The primary intent of this Program is to prepare students for Ph.D. or M.D. /Ph.D. degrees. In special cases, a student may be allowed to terminate with a M.S. degree if circumstances preclude proceeding to the Ph.D. degree and s/he has met the requirements for the M.S. degree listed below:

- M.S. 24 hours of course work. At least 20 of the 24 hours must be in course work other than Directed Study or Research and at least 14 hours must be at the 500 level or higher.
- Ph.D. To be eligible for PhD candidacy, students must have earned at least 54 credit hours at the 500 level or above
- M.D./Ph.D. Same requirements as for Ph.D. degree. Credit will normally be given for satisfactory completion of comparable courses as part of the M.D. training (e.g., Medical Biochemistry and Medical Genetics for Introductory Biochemistry and Molecular Biology).

Residency Requirements

M.S.	2 full semesters (min. 12 hours/semester)	Course level 400 or higher
Ph.D.	4 full semesters (min. 12 hours/semester)	Course level 500 or higher

NHS Student Milestones

Master of Science (M.S.) Equivalency Exam

The Master Equivalency Exam is administered at the end of the first year in the NHS Program (during the summer following the Spring semester). The exam is designed to assess the candidate's knowledge of the areas of nutrition and health sciences laid out in general textbooks and covered in introductory level graduate courses. The exam is prepared from questions solicited from the NHS Program faculty and is administered by the DGS. The test consists of three parts:

- Part 1 covers a number of required topics – students are required to answer all questions.
- Part 2 consists of a critical evaluation of a nutrition-related journal article.
- Part 3 consists of a set of questions covering special topics in nutrition – typically, students have to answer 5 of 9 questions.

At least two faculty readers will evaluate independently each answer and assign a numerical grade to each, and the mean grade will be determined for each question. Grades for each question are used to calculate a cumulative grade for each part. The candidate is deemed to have passed the examination if s/he receives a cumulative grade of greater than 70% on each part. If the candidate receives a cumulative grade of less than 70% on any one part, the NHS Program Executive Committee may terminate the student at the Master's level or allow a re-examination. If no re-examination is allowed, the student must complete a research project in a Program faculty's laboratory, and prepare and defend a Master's thesis in order to receive a M.S. degree.

Under special circumstances, a student who has successfully completed the Masters Equivalency Exam may petition to leave the program with a M.S. degree. While this path is discouraged, it is available with the approval of the Program Director and Director of Graduate Studies. In order to petition for early departure from the Program with a M.S., the student must have satisfactorily passed the Masters Equivalency Exam and have completed a sufficient component of the research to develop into a manuscript suitable for publication. Guidelines for the preparation of the written M.S. thesis are the same as for the Ph.D. thesis and may be obtained from the Laney Graduate School website. The thesis defense will be of the same format as for the doctoral thesis defense and will typically include a 1-hour presentation of the research, which is open to the public and a closed session defense with members of the Thesis Advisory Committee.

All students must pass the Master Equivalency Exam before taking the General Doctoral Exam. A Master's degree will not be granted without a thesis.

Independent of admission status, ALL STUDENTS in the NHS PROGRAM are required to take and pass the Masters Equivalency Exam.

Choosing a Thesis Advisor

After the successful completion of the first year and a half of course work, typically before February of the second year, a student must choose a thesis advisor. The role of the thesis advisor is:

1. To assist with the design and implementation of a thesis project

2. To fund the student's stipend beginning in the 22nd month of training
3. To assist the student in selecting suitable electives that would be most beneficial to his/her career goal
4. To help the student form a Thesis Advisory Committee.

Any NHS faculty member is eligible to be chosen as a thesis advisor. If a student chooses a non-NHS or adjunct NHS faculty member as his/her thesis advisor, a co-advisor, who is a full-time NHS and Emory University faculty member, must also be named.

The thesis advisor is responsible for the full financial support of the student starting no later than the start of the third year (September 1) and earlier if possible. The thesis advisor is responsible for full financial support and associated fees (Sponsor Tuition) during the remainder of the student's tenure in the Graduate Program. The sources of stipend funding should be submitted by the advisor to the program assistant by Aug 1 who should also be notified of any changes as needed. The stipend rate is set by the Laney Graduate School. Effective Fall 2019, that annual stipend is set at \$31,000 and any additional amounts need the prior approval of the Program Director and DGS. Therefore, when selecting a thesis advisor, the student should make sure the advisor is likely to have enough funding to support a student during this time or would be willing to apply for funding. The student and the prospective thesis advisor are encouraged to discuss the responsibilities and options with the DGS as soon as possible. Identification of the primary mentor by early spring of the second year promotes a smooth transition into the dissertation focused third year..

Once a Thesis Advisor is selected, complete and submit the Mentor Assignment form to the DGS and the program coordinator:

<http://nutrition.emory.edu/documents/NHS%20Dissertation%20Advisor%20Assignment%20Agreement%20Form.pdf>

It is the policy of the Laney Graduate School that the Graduate Program be acknowledged in all publications co-authored by the student during his/her tenure in the Program.

Suggested wording: Nutrition and Health Sciences, Laney Graduate School, Emory University

Forming a Thesis Advisory Committee

After successful completion of the Masters Equivalency Exam, a student must, with the help of the Thesis Advisor, select a Thesis Advisory Committee (Thesis Committee). This Committee is expected to help define the future course of the student's training (design and evaluation of the thesis project, recommend additional coursework, etc.) as well as to evaluate the General Doctoral Exam and Thesis Defense. Information regarding LGS policies for Dissertation Committees is at this link: <http://gs.emory.edu/handbook/academic-affairs/phd/dissertation-committee.html>

A Thesis Committee is to be made up of 5 (or more) members. Thesis Committees must include:

- The Thesis Advisor
- A recent NHS Program Director or DGS

- Three NHS faculty members, one of which may be the mentor
- At least one faculty member from outside the NHS Program
- Note: At least 3 members must be Graduate School faculty

Recent NHS Program Directors and DGS include:

- Usha Ramakrishnan, PhD
- Aryeh Stein, PhD, MPH
- Miriam Vos, MD, MSPH

Once the Thesis/Dissertation Committee is formalized, a Thesis Committee form must be turned in to the NHS DGS and submitted online to Laney Graduate School. The form and submission link can be found here:

<http://www.graduateschool.emory.edu/academics/policies-progress/dissertation.html>

The scheduling of regular meetings of the Committee is required *at least twice a year* to keep the committee members abreast with the progress of the research. Submit a NHS Thesis Committee Meeting Report to the DGS and the program coordinator after each meeting:

<http://nutrition.emory.edu/documents/NHS%20Thesis%20Committee%20Meeting%20Summary.pdf>. The dates of the committee meetings should be recorded in the student's annual progress report.

Preliminary Thesis Proposal

Before the General Doctoral Exam, the student should prepare a 3-page preliminary thesis proposal that details the thesis work to be undertaken by the student, regardless of what is to be proposed during the General Doctoral Exam. Because the General Doctoral Exam is in the format of a grant proposal, it may differ from the focus of the thesis. The format of the preliminary thesis proposal is as follows:

Guidelines for the Preparation of Preliminary Thesis Proposal:

A 3-page *Preliminary Thesis Proposal* to be prepared by the student and approved by the Thesis Advisor within 3 months of entering the project.

- Scope of Project
- Background
- Hypothesis and Specific Aims
- Proposed Approach
- Methods: If new methods are involved, discussion of how they will be validated must be included
- Timetable in 6-month blocks with definable targets
- Significance of the work

The proposal should be signed by the advisor and student and a copy must be provided to the DGS within 3 months of starting to work with the thesis advisor on the dissertation project.

General Doctoral Exam (Advancement to Candidacy)

The purpose of the General Doctoral Exam is to assess a student's ability to conceptualize,

articulate and justify an original research question. In preparing for the General Doctoral Exam, the student should demonstrate original thinking and a thorough understanding of the planning and experimental techniques necessary to investigate a scientific research problem. The problem should be at a level suitable for publication in a refereed journal or submission to the NIH as a grant. The student's knowledge of the research topic, and any other related aspects of the research, should be sufficient to demonstrate the ability to conduct independent research.

The examination consists of a **written original research proposal** and **an oral defense** before the student's Thesis Advisory Committee. The research proposal must be in the format of a formal grant application. The oral component of the doctoral exam is in the format of 40-45 minute oral presentation describing the research question and specific aims suitable to address the question. The oral component may address broader areas of nutrition as background information, which are related to but not directly involved in the research proposal.

This General Doctoral Exam is a prerequisite to Advancement to Candidacy and is generally taken early in the third year. Students should complete their research proposal defense exam by no later than March 15th of their third year. Students who fail to successfully pass their research proposal defense by this date may be considered as making unsatisfactory progress and may be put on academic probation at the decision of the Executive Committee. For more details on the structure of the research proposal and oral defense, as well as other frequently asked questions, see [Appendix D: Proposal Defense- Policy and Guidelines for Implementation](#). After the oral defense, the committee must complete the General Doctoral Examination Checklist form and the student should submit this to the DGS and to the program coordinator:

<http://nutrition.emory.edu/documents/Current%20Report%20of%20Completion%20PhD.pdf>.

Students advance to candidacy after successfully defending the dissertation proposal, completing any required edits to the written proposal and submitting the Application for Advancement to Candidacy to the Graduate School

(<http://www.graduateschool.emory.edu/academics/policies-progress/candidacy.html>).

Please see the Laney Graduate School Handbook for more information

(<http://gs.emory.edu/handbook//academic-affairs/phd/candidacy.html>)

Please note: The research proposal used for the General Doctoral Exam will ideally be based on work that the student intends to conduct for his/her thesis; however, this is not always the case and is not required. In cases where the student's actual thesis is based on ideas proposed in a funded project by the mentor, the research proposal should address an idea independent from the thesis advisor's work. Additional information may be found in [Appendix D: Proposal Defense- Policy and Guidelines for Implementation](#).

Advancement to Candidacy

Candidacy status is an indication that a NHS doctoral student has developed sufficient mastery of a discipline to produce an original research contribution in his or her field.

Eligibility

To be eligible for candidacy, a student must meet the following requirements:

1. Complete all NHS requirements for candidacy: including required coursework, rotations and program required JPE training
2. Complete both qualifying examinations (Masters Equivalency Exam and the General Doctoral Exam)
3. Submission of the Preliminary Thesis Proposal
4. Complete TATTO 600, TATTO 605, and JPE 600 (also see item 1)
5. Resolve any Incomplete (I) or In Progress (IP) grades
6. Be in good standing with a minimum cumulative 2.70 GPA
7. Have earned at least 54 credit hours at the 500 level or above

TATTO 610 and JPE 610 may be completed after entering candidacy.

Timing

Students should enter candidacy as soon as all requirements have been completed. Students must reach candidacy by September 15 of their fourth year (see Laney Graduate School Handbook).

Students who do not meet this deadline will be placed on academic probation, will not be eligible for PDS funds, and may forfeit financial support. These sanctions will be lifted when the student enters candidacy.

Procedure

Students enter candidacy by submitting the application to enter candidacy, available on the LGS website. The application requires programs to affirm that all program requirements have been met (1-3 above), and LGS affirms that remaining requirements have been met (4-7).

Documenting NHS Student Progress-The Annual Progress Report

An Annual Progress Report must be prepared by the student, reviewed and approved by the DGS and submitted to the Program by September 1st of each academic year. This Annual Progress Report should contain the following:

1. Course work.

- ◆ Itemize all courses taken during the most current academic year and all previous years (Semester, Course Number, Title, credit hours, grade achieved). You may attach a computer grade printout if you prefer.
- ◆ List the number and name of all required courses that you have not yet taken (write 'none' if applicable), and the semester in which you intend to take them.
- ◆ List the number and name of any other courses you plan to take in the coming academic year.

2. Rotations

- ◆ List the rotations (Supervisor, semester, and topic) you have already taken, and provide

a timetable for completion of any additional required or elective rotations.

3. Major milestones

- ◆ List the date of successful completion of the Master's Equivalency exam and the Doctoral Qualifying examination. If these have not been completed, please indicate when you intend to take them.
- ◆ Date or expected date of advancement to candidacy

4. Doctoral thesis / committee

- ◆ List the names of the chair and the other members of your doctoral committee. If these have not been identified, please give a time frame for their selection.
- ◆ If you have identified a likely title for your dissertation, please provide it. Has your committee approved your thesis proposal?
- ◆ List the dates of your completed committee meetings (required to meet 2 x year).
- ◆ What do you see as a likely date for defense of your thesis?

5. Presentations and publications (as first or as junior author)

- ◆ List the complete author list, title, and Journal for any articles submitted, accepted, or published since you began the Ph.D. program. Please attach a copy of the abstract.
- ◆ List the complete author list, title, and conference name, date and place, for any conference presentation (oral or poster) since you began the Ph.D. program. Please attach a copy of the abstract.
- ◆ List NHS seminar lecture titles and dates.

6. Other achievements

- ◆ Identify any other achievements related to your progress in the NHS program.

7. C.V.

- ◆ Attach a current academic C.V.

8. Discussion

- ◆ Provide a self-evaluation of your progress to date.

9. Goals

- ◆ Provide one or more goals for the upcoming year.

10. Individual Development Plan (IDP) one page summary

Individual Development Plan (IDP)

Starting in 2015, the NHS program began requiring that an IDP be completed by all students year 2 and higher and updated annually. A one page summary of the IDP is due with the annual progress report and CV. IDPs are a useful tool to help graduate students and postdocs identify their career goals and what they need to accomplish to achieve those goals. The IDP concept is commonly used in industry to help employees focus and obtain their career goals. The IDP process is intended to facilitate communication between faculty mentors and their trainees. The NHS program is recommending the website sponsored by The American Societies for Experimental Biology (FASEB). <http://myidp.sciencecareers.org/> is a web-based career planning tool tailored to meet the needs of PhD candidates and postdocs in the sciences. The web program facilitates completion of the IDP and provides opportunities to learn about careers in science. The suggested use of the web program is:

1. The student completes the planning tool on the website
2. The student shares the one page summary with their thesis advisor or a career mentor and meets to discuss.
3. Include the IDP summary with the annual progress report.

Ph.D. Thesis Dissertation

After the thesis research has progressed to a point satisfactory to the Thesis Advisor and the Thesis Committee, a student may start to prepare the written thesis and set a date for the Thesis Defense. The Thesis Defense will typically include a 1-hour presentation of the research that is open to the public and a closed session defense with members of the Thesis Advisory Committee.

Please consult the Laney Graduate School's Degree Completion requirements for guidelines on formatting of the thesis and required paperwork. The program office should be notified of the defense and the thesis should be distributed to the Thesis Committee at least 2 weeks prior to the defense date.

The possible outcomes from a dissertation defense are:

- Approval and determination that the student has met the objectives in full.
- Approval with revisions needed. This is in the case that the student has substantially met the objectives, and that only minor edits (grammar, spelling, a few fact checks, small additions or subtractions) are required.
- Rejection of the dissertation in current form

When revisions are required, the committee members will provide lists of required corrections to the student. These must be completed within two weeks. The Mentor would then certify that these have been completed.

Degree Completion

If you are approaching the end of your degree program, please review the timeline on the LGS website at the link below. There are several forms you need to complete in order to receive your degree, and some important guidelines, instructions, and checklists you should refer to as you prepare your dissertation or thesis for submission.

<http://gs.emory.edu/handbook//academic-affairs/standards/degree-completion.html>

The student must submit the forms required by the Laney Graduate school:

<http://www.gs.emory.edu/academics/completion/index.html>

[Instructions, Forms and Surveys](#)

The timing of defense must be considered carefully and should be discussed with the mentor and the DGS. The stipend and health insurance may end shortly after the defense and this may affect decisions on timing.

Commencement

Commencement takes place each year at the end of spring semester. All students who received a degree, master's or doctoral, during the previous summer, fall or spring semester are eligible to participate. Information about, and instructions for, the ceremonies are in the documents on the Laney Graduate School website: <http://gs.emory.edu/academics/commencement.html>

Graduate Student Travel

Travel Safely and Let Emory Know

When you travel, please protect your personal safety. Visit [Emory's International Travel](#) resources site, and use the [International SOS](#) feature to learn about advisories affecting the region you will travel to. Emory students are required to submit a record of where you will be and how you can be reached to International SOS before starting your travel.

This record can be essential. In the case of tragic events such as natural disaster and abrupt violence, information in International SOS records can help us to quickly ascertain that members of the Emory community near those are safe and unharmed.

Purchasing Travel with Emory Funding

[Emory's Travel Policies](#) establish all Emory University rules related to travel.

- *Note: If you use Emory funding, you must comply with the policy. If you don't, Emory funds may be withheld.*

Essentially, the policy requires that air travel bought with Emory funds be bought through one of Emory's air travel providers. This requirement includes travel, which is at first paid for using a personal credit card, and later reimbursed using Emory funds, like PDS funds.

In order to access and/or book your flight through Emory air travel provider, Corporate Travel Management (CTM), you will need to log in using your net id and password at [Booking Air Travel](#). Set up your Travel Profile using the [Quick Start Job Aid](#).

- For Agent assisted travel please call 877-289-4627 or email emory@travelctm.com
- For CTM technical support please call 877-208-1396 or email na_online@travelctm.com

Please direct travel related questions or concerns to: travel@emory.edu

Travel Links

- [2019 Mileage Reimbursement Rate \(IRS\) - 58 cents/mile](#)
- [Airfare Upgrade Exception Form](#)
- [Tax-Exempt Certificates](#)
- [Receipt Requirement Chart](#)
- [Travel Policy Changes 2018](#)
- [Travel FAQ 2018/19](#)

Withdrawal, Leave of Absence, Parental Accommodation

[Laney Graduate School Handbook](#)

Withdrawal

- Consult the LGS Handbook, Academic Affairs, section 1.3.3.
- If you withdraw from all your courses, you must complete a Request for a Leave of Absence.
- If you withdraw during the semester, you must obtain the signatures of all instructors.

Leave of Absence

The official Request for a Leave of Absence does not ask you about the reason you are requesting a leave. We encourage you to discuss those reasons as well as your plan for returning with your advisor and/or Director of Graduate Studies. You and your program may wish to create a written record of those discussions, to be kept by your program.

- Consult the LGS Handbook for the most current policy: Academic Affairs, section 1.3.3.
- You are limited to two one-year leaves of absence.
- Obtaining a leave of absence will affect your health insurance coverage as well as stipend payments (if applicable). The rules are a little complex and how you will be affected depends on when your leave takes effect. Ask your program administrator and graduate school staff and be sure you know exactly how these important areas will be affected.
- To return from a leave of absence, you will need to apply for readmission. The form is posted to the right.
- You can return only at the start of a semester.

Parental Accommodation

A graduate student caregiver designated as having substantial parental responsibility may be relieved of full-time graduate duties and responsibilities for up to 8 weeks after the birth or adoption of a child.

- Consult the LGS Handbook, Academic Affairs, section 1.3.4.
- Any matriculated doctoral student in good academic standing is eligible.
- Eligible students who are receiving stipend support would continue to receive this support throughout the accommodation period.
- PhD students benefitting from accommodation will remain as full-time students.
- Accommodation is not a leave of absence.

Honor, Conduct and Grievance Policies

All honor, conduct and ethical policies in the Laney Graduate School Handbook are applicable.

If a student has a disagreement related to NHS specific requirements and policies, this concern should be initially discussed with the DGS and Program Director. If the student is not satisfied with this or has a matter that they believe cannot be presented to the DGS or Program Director, the matter should be presented to the LGS grievance committee, following the policies in the LGS handbook.

Appendix A: Teaching Assistantship

All students in the NHS program are required to serve as a Teaching Assistant for one semester during the academic year immediately following participation in the TATTO summer workshop. The NHS core courses (Human Nutrition 1, Human Nutrition 2 and Nutrition Assessment) will receive priority for teaching assignments and all other courses need to be approved by the Program Director. Teaching Assistant duties usually involve preparing and presenting several lectures, serving as laboratory instructor/assistant, supervising lab sessions, organization of course materials, grading, and/or a discussion section leader under the supervision of a faculty member. Teaching Assistants also assist students with problems during scheduled office hours, help with the preparation of hand-outs and/or laboratory materials, help administer and grade exams, etc. Students assigned to laboratory courses assist in setting up the laboratory exercises and help students with the theoretical and practical aspects of the exercise as it progresses. If duties exceed the above, discuss with the supervising faculty member and/or DGS if the experience is better suited for a Teaching Associateship.

The supervising faculty member should supervise the lectures and provide feedback to the student. The “teacher evaluation form” can be used (<http://www.rucharakter.org/file/Microsoft%20Word%20-%20Teacher%20Evaluation%20by%20Students.pdf>; see also: <http://www.pdfdocuments2.com/t/35/teacher-evaluation-forms-for-students.pdf>), or the supervising faculty member may provide feedback on TA performance in the format of their choice. At the end of the semester, the faculty member will submit a written evaluation of the performance of each Teaching Assistant to the DGS.

Appendix B: Teaching Associateship

Students may serve as a Teaching Associate (TA) for at least one semester if there is opportunity and interest. Teaching Associate duties consist of co-teaching a course with a faculty member. The purpose of this stage is to provide graduate students with an apprenticeship teaching experience midway between leading discussion groups and having full course responsibilities. After co-teaching for one or two semesters, the student should be prepared to assume full responsibility for teaching a course.

Students normally serve as TAs in their third or fourth years of graduate study. To be eligible the student must have: 1) participated in the summer teacher training workshop, 2) served as a Teaching Assistant for at least one semester, and 3) be considered by the student's Thesis Advisory Committee and the Director of Graduate Studies to be sufficiently knowledgeable in the area of the course. The Director of Graduate Studies (DGS), in consultation with the student's thesis advisor, will match each participating student with the appropriate course. The co-taught course ideally will be one in the student's developing area of expertise and might reasonably expect to teach after leaving Emory University. The faculty member and student should be teamed well in advance of the co-teaching semester so that they may collaborate on the course planning (i.e. selection of the texts). The co-teaching experience will vary depending upon the nature (large enrollment lecture, small enrollment lecture, or seminar), the level (introductory, advanced or graduate) and the subject matter of the course. However, unless there are significant reasons to the contrary, the following expectations should be met:

1. The TA will attend all class sessions.
2. The TA will work with the faculty member on all aspects of the course. In general, the TA should take primary responsibility for about twenty percent of the teaching tasks. This means that the TA should develop about one-fifth of the examinations, etc. The faculty member will monitor all activities of the TA during his/her tenure at this position.
3. The TA will usually deliver 3-5 lectures in a course. The scheduling of the TA's lectures should be determined at the beginning of the course and should be distributed throughout the semester. The faculty member must attend each of the TA's lectures in order to provide evaluation and guidance for future lectures.
4. If appropriate for the course, the TA will have office hours, either regularly scheduled or prior to each examination or project due date to help students with their course problems.
5. The assignment of final course grades is the responsibility of the faculty member. The final determination of grades, however, should occur during a meeting with the faculty member and the TA in which they discuss each student's performance and the appropriate grading distribution for the course. The faculty member should explain to the TA why s/he is assigning each grade.

Because of the limited opportunities for co-teaching in the NHS Program, this phase of a student's teacher training can also be accomplished through a number of other teaching opportunities in their curriculum. These are:

1. Many of the higher-level graduate courses in NHS involve students presenting lectures on special topics. These will be credited toward partial completion of the TATTO requirement when the student works with the course coordinator and this teaching experience is analogous to that of a TA. Because an individual student usually only gives 1-2 lectures in each such course, it will be necessary for the student to combine the participation in several courses (each with the appropriate planning and evaluation) to satisfy the TATTO requirement.

2. In Graduate Seminar classes, students are required to pick lecture topics, conduct extensive literature searches about the topic, and then present it in lecture/seminar format to other students and faculty. This experience is identical to that of preparing a lecture for an advanced, special-topics course. The students are evaluated on their presentations by both faculty and students, and coached on ways to be more effective in conveying new information to a wide audience.

3. As part of the NHS curriculum, students are required to formulate proposals for research projects, and to present them to faculty and students. They are evaluated on their ability to communicate the background of each proposal, its importance to the advancement of science, and the feasibility of the methods they have chosen to study the problem. The students are encouraged to seek advice and guidance in the formulation of their proposals and in the most effective way to present them to others.

4. Students can also make presentations on the progress of their thesis research. In some instances, these are largely technical and would not qualify as a "teaching" experience. However, there are frequent occasions where these presentations involve describing an experimental model, technique or system to a new audience. This requires skills identical to the ones that the student will later use in teaching students, post-docs, and technicians under their supervision. Therefore, when this experience is conducted as a TATTO activity, the student would benefit from having his/her presentation undergo an evaluation (with suggestions for improvement from a "teaching" perspective). In addition, students regularly participate in national conferences and symposia to present their research results. Preparation for these meetings often involves multiple practice sessions with other students and faculty with a critique of the oral presentation (content and delivery), the effective use of AV materials, and handling of questions and unexpected situations.

5. A vital part of the teaching experience of Ph.D. level scientists is the supervision of students' research projects in the laboratory. This involves formulation of an hypothesis, design of the experiment, collection of data, data analysis, and reporting of the findings. (Often, more senior graduate students help newer graduate students in this capacity and, unfortunately, this usually occurs without any formal planning or evaluation.) As part of TATTO, some of the NHS graduate students will perform this function in the capacity of Teaching Associates. In these cases, the activity will be planned-out beforehand with the faculty member and appropriate supervision and follow-up evaluation (of both the senior and more junior graduate students' experiences) will be conducted.

6. There are also occasional teaching opportunities for NHS students outside of the usual undergraduate/graduate courses, and participation in these can be applied toward TATTO if they achieve the goals of the Teaching Associateship. For example, some students may be involved in teaching nutrition to patients who need special nutrition counseling (e.g. as part of the follow-up to cardiovascular surgery). The Director of Graduate Studies will consider each of these opportunities for approval and evaluation on a case-by-case basis.

Appendix C: Assistant Instructorship

Students who demonstrate exceptional ability and dedication in the required phases of TATTO may be eligible for appointment as Assistant Instructor. Assistant Instructors will be responsible for developing and teaching a full course. This course might be on the topic of their dissertations, serve as a companion to another course at Emory, or teach some aspect(s) of nutrition and health sciences to members of the broader Emory community.

To be eligible for such an appointment, the student must also have completed all other Graduate School and NHS Program requirements, except the dissertation, and must have been admitted officially to Ph.D. candidacy. Students will usually be considered for appointment as Assistant Instructors in the fifth year of residence.

Students who are selected to be Assistant Instructors are eligible and can apply for a Dean's Teaching Fellowship from the Graduate School in recognition of their accomplishment. (http://www.gs.emory.edu/financial_support/advanced.html) The application is due the year before the AI and is generally due in mid-December. The number of Assistant Instructorships and the level of financial support for them will depend on Graduate School funds and cannot be considered guaranteed to any student. The Graduate School will determine selection procedures usually by the student submitting a justification and outline for the proposed course, accompanied by supporting letters from the Director of Graduate Studies and other faculty and students.

Appendix D: Proposal Defense- Policy and Guidelines for Implementation

All NHS students are required to develop and defend an original research proposal. Success in this examination is recognized by admission to candidacy.

Implementation: Common Questions & Answers

What are the objectives of the Proposal Defense?

- The pedagogical objective of the Proposal Defense is to ascertain if the student can:
 - Formulate and describe an appropriate method to answer the question
 - Synthesize the thought that goes into items 1 and 2 into a Research Proposal that follows a defined format.

When must the proposal defense take place?

- The Proposal defense should take place on or before December 15, in the Fall semester of the student's 3rd year and is required to be before March 15th of the third year. It is a natural consequence of activities that take place in the second year and early in the third year, namely the identification of a thesis mentor, and development of a research topic.

How does the proposal defense relate to the thesis research or to submissions for funding?

- The Proposal needs to be the student's own work, as it is the student who is being evaluated, not the mentor. The proposal to be defended must be free of substantial inputs from the mentor. However, the mentor and the committee will contribute to the initial development of the ideas including approval of the objectives, hypotheses, aims and the specific aims page prior to development of the full proposal by the student.
- The proposal may be for work that the student intends to conduct for their thesis, but this is not required.
- There may be specific cases where the proposal and the thesis research should be distinct.
 - Preparation of a proposal for submission for external funding usually requires substantial inputs from the mentor and iterative interactions between the mentor and the student, rendering it difficult to identify the student's work. Scheduling of the proposal defense should take the schedule for submission for funding into account. If the student's contribution cannot be independently evaluated, then the defense must be based on an independent idea.
 - The proposal must represent a new study question. In cases where the student's actual thesis is to be based on ideas proposed in a funded project of the mentor or other faculty member, the defense must be based on an independent idea.

Who serves on the proposal defense committee?

- The Proposal will generally be examined by the student's Defense Committee, which consists of a Committee Chair and at least four other members, as detailed in the NHS Program Handbook. If additional expertise is needed beyond that embodied in the Committee, additional individuals may be invited on an ad hoc basis.

What role do the mentor and the committee have in the development and evaluation of the proposal?

- The mentor will have inputs into the overall scope of the Proposal. The mentor will have regular meetings at which questions of material relevance to the proposal may be discussed. It is not appropriate for the thesis mentor, or any member of faculty, to have extensive inputs into the detailed content of the proposal. It is the responsibility of the mentor to ensure that these distinctions are maintained. The committee will not provide feedback to the student from receipt of the proposal until the oral defense.

What is the sequence of events that takes place?

1. The mentor and the student meet to discuss the scope of the thesis itself and that of the proposal to be defended.
2. The student and thesis mentor develop a list of potential committee members. The student (with mentor assistance if necessary) contacts these individuals and solicits their interest and participation.
3. It is helpful to have an initial committee meeting to receive feedback on the developing objectives, hypothesis, and aims of the project (specific aims page).
4. The student writes the full grant proposal independently.
5. The student schedules the proposal defense date and reconfirms (via email) committee member availability at least three weeks in advance.
6. The committee must receive a copy of the written proposal at least two weeks prior to the date of the defense.

How should a proposal be structured?

- In general, the proposal should follow current PHS-398 guidelines (revised 2009), with a *suggested* 6 page limit for the Research Strategy Section, (3). If the student is developing the proposal for later submission for external funding, the format guidelines of the potential agency may be followed. **However, the proposal must continue to provide adequate detail to permit complete evaluation, even if the potential agency requires only minimal description.**
- Preliminary data can be minimal. Greater emphasis is to be placed on the Specific Aims, and Research Strategy Sections (2 and 3).
- As appropriate, NIH sections 6, Protection of Human Subjects, and/or 10, Vertebrate Animals, must be completed.
- The proposal should have project summary that fits in the box on the NIH Form Page 2.
- A budget is not required.

What scope should a proposal have?

- There should be 2-3 aims.
- The scope of the research should be such that it could be accomplished in 2-3 years.
- The work should result in 2-3 distinct publishable manuscripts. It is appropriate to suggest working titles of these in the text.

What is the structure of the defense?

- The proposal defense consists of a public oral presentation to the Defense Committee followed by an oral examination.

- A typical oral presentation will last 40-45 minutes and consist of 10 minutes devoted to background, development of question and significance of the question; 10 minutes devoted to methodology; 10 minutes devoted to Aim 1; 10 minutes devoted to Aim 2; and 5 minutes devoted to a summary
- There may be a period of public questions to the presenter. The committee members should not ask questions or comment at this time.
- The oral examination is an opportunity for the committee to question the candidate about the content of the proposal, and is conducted in private.
- Following the oral examination the committee will reflect and reach a consensus. This will be done in private, without the candidate being present, and the candidate will be informed of the Committee's decision immediately.

What are possible outcomes of a proposal defense?

- The possible outcomes from a proposal defense are:
 1. Determination that the student has met the objectives in full.
 - a. The student has met the oral defense requirement for admittance into candidacy as of the date of the proposal defense.
 2. Determination that the student has substantially met the objectives, and that only minor edits (grammar, spelling, a few fact checks) are required
 - a. The committee members will provide lists of required corrections to the student. These must be completed within two weeks.
 - b. The Mentor would then certify that these have been completed.
 - c. The student has met the oral defense requirement for admittance into candidacy as of the date that the revised version is submitted
 3. Determination that the overall theme of the research is sound, but that the proposal needs substantial revision
 - a. The committee members would be expected to make explicit recommendations, and would be expected to review a revised, written proposal within 6 weeks.
 - b. The student has met the oral defense requirement for admittance into candidacy after all committee members approve the revisions
 4. Determination that the student has not built a case for the originality or significance of the research question, or has proposed a research design that is fundamentally flawed in major aspects, and that is therefore not feasible as proposed, or if conducted as proposed will not answer the question posed
 - a. The committee may instruct the student to reformulate her/his research project, and the committee would need to reconvene to consider a revision. This must be done within 8 weeks.
 - b. The committee may also recommend that the student not be permitted to continue in the program. In such circumstances, the student will be encouraged to develop a terminal master's thesis project under the guidance of the mentor, and will be given a limited time window (typically one semester) in which to accomplish this

Can the student appeal the decision of the committee?

- The student may appeal the decision of the Committee to the DGS.

- If the DGS is the student's mentor or is on the committee, then the student may appeal to the Program director.
- If both the DGS and the Program director are on the committee, or the student desires consideration from outside the program, the decision may be appealed to the Laney Graduate School Dean.

Appendix E: Useful Websites, Fellowship and Grant Information

WEB SITES

Laney Graduate School Handbook:

<http://gs.emory.edu/handbook/>

NIH Forms and Applications

<https://grants.nih.gov/grants/forms.html>

American Society for Nutritional Sciences

founded in 1928 as the American Institute of Nutrition

<http://www.asns.org/>



<http://www.faseb.org/>

FELLOWSHIP AND GRANT INFORMATION

Summer is a great time to encourage students, **ESPECIALLY NEW ARRIVALS**, to seek outside fellowship funding. **NSF, Hughes, and NIH NRSA** predoctoral fellowships are what our students typically apply for and receive. Please remind the students whom you contact that they will receive a \$2,000/year stipend supplement for the term of the outside award provided that the fellowship amount covers more than 75% of their stipend.

Below is a list of potential fellowship award sources. Please distribute this information to as many of the students in your Program as you believe would take advantage of the opportunity to apply for an outside fellowship.

American Association of University Women

<http://www.aauw.org/>

American Indian Graduate Center

<http://www.aigc.com/>

American Society for Microbiology

<http://www.asm.org/>

Association for Women in Science

<http://www.awis.org/>

Howard Hughes Medical Institute

<http://www.hhmi.org/>

Leakey Foundation

<http://www.leakeyfoundation.org/>

National Defense Science and Engineering Graduate Fellowships

<http://ndseg.asee.org/>

National Institutes of Health

www.nih.gov

NIH: National Institutes of Mental Health

www.nimh.nih.gov

National Science Foundation

www.nsf.gov

Oakridge Associated Universities

<http://www.orau.org/>

UNCF-Merck Science Initiative

<http://www.uncf.org/merck/>

Other Useful Search Sites

Office of Sponsored Programs (OSP): OSP maintains web links with federal funding agencies and with select private sources. OSP's NIH Essentials and NSF Essential pages are especially helpful. The Research and Funding Guide, a bi-monthly compilation of funding opportunities for faculty research, is available at the OSP website.

<http://www.osp.emory.edu/>

Community of Science (COS): Like IRIS, COS is a searchable database with links to programs in the sciences, social sciences and humanities. Access COS directly or through Emory's Office of Sponsored Programs webpage.

<http://fundingopps2.cos.com/>

GrantsNet: GrantsNet is sponsored by the American Association for the Advancement of Science and the Howard Hughes Medical Institute. Researchers can register for electronic notification of funding opportunities

<http://www.grantsnet.org/>

Illinois Researcher Information Service (IRIS): Use IRIS to conduct individual searches for funding opportunities. IRIS provides up-to-date information about grants in all academic disciplines and has links to web pages where researchers will find additional information about specific programs and electronic forms when available. Sign up for the IRIS Alert Service to receive automatic notice of funding opportunities in your areas of interest.

<http://carousel.lis.uiuc.edu/~iris/search.html>

University Fund for Internationalization: The Graduate School of Arts and Sciences also awards dissertation research grants on a competitive basis to support research outside of the United States through the **University Fund for Internationalization (pdf format)**.

<http://www.emory.edu/GSOAS/PDF/Invest.pdf>

Upcoming deadlines for funding opportunities of interest to students in the Graduate School are listed in the **Investigator**, which is distributed to all students at the beginning of fall, spring, and summer semesters. This information was gleaned from the Grants and Fellowship site of the Graduate School as a reminder of funding opportunities for your students.