

Nutrition, Dietetics, and Food Science
Brigham Young University

Graduate Student Handbook
Academic Year: 2020-2021

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WELCOME

Welcome to the Department of Nutrition, Dietetics, and Food Science! We look forward to working with you and hope you find your graduate studies in the Department meaningful and productive. This handbook outlines Departmental and University policies, procedures, and expectations for graduate students. These policies and procedures conform to those of the Office of Graduate Studies at BYU as outlined on the following sites: gradstudies.byu.edu/section/current, gradstudies.byu.edu/section/resources, and gradstudies.byu.edu/page/policies-and-procedures. Please refer to these online resources to better understand your responsibilities and the expectations for you during your graduate studies at BYU.

Merrill J. Christensen
Department Chair

James D. LeCheminant
Graduate Coordinator

Judy Stoudt
Graduate Program Manager

GENERAL INFORMATION

Principles of Graduate Education at BYU

A few fundamental principles characterize all strong graduate programs. These principles emerge from and complement the *Mission and Aims of a BYU Education*. These principles are listed below followed by some characteristics that are required to realize these principles.

1. *Mastery of the subject matter.* Graduate education facilitates mastery over the content and skills of the discipline at a level appropriate to the degree sought.
2. *Critical thinking.* Graduate education develops and refines critical thinking skills, including a thorough knowledge of the assumptions of the discipline and an understanding of viable alternative assumptions.
3. *Theoretical understanding.* Graduate education provides an understanding of the theoretical bases of the field of study. It grounds application and performance in theory.
4. *Proficiency in research and/or creative activities.* Graduate education develops proficiencies that advance the knowledge and activities of the discipline. These proficiencies include good writing skills, as well as the ability to present original insights and creative expressions.
5. *Spiritual discernment and moral integrity.* Graduate education facilitates the growth of integrity and wisdom and the integration of faith into the pursuit of knowledge within the discipline.
6. *Service orientation.* Graduate education instills responsibility to return the special benefits of graduate training to the larger community.
7. *Wide representation of perspectives.* Graduate education presents an intellectually and culturally rich encounter with the discipline. Study and inquiry are conducted in a context sensitive to ethnic and cultural diversity.

The Mission of Brigham Young University

The mission of Brigham Young University — founded, supported, and guided by The Church of Jesus Christ of Latter-day Saints — is to assist individuals in their quest for perfection and eternal life. That assistance should provide a period of intensive learning in a stimulating setting where a commitment to excellence is expected and the full realization of human potential is pursued.

Mission of Graduate Studies

Graduate Studies supports BYU's mission "to assist students in their quest for perfection and eternal life" by providing the leadership and services that enable graduate students to pursue high-quality advanced study, independent research, creative works, and professional training. The role of Graduate Studies is to:

- a. establish and maintain policies and procedures that ensure the quality and integrity of BYU's graduate programs;
- b. provide funding resources to graduate departments to support graduate students as they pursue their scholarly aspirations;
- c. monitor the progress of graduate students from admission to graduation;
- d. provide training and support for all graduate programs.

Mission of the Department of Nutrition, Dietetics, and Food Science

The mission of the Brigham Young University Department of Nutrition, Dietetics, and Food Science is to educate students and advance truth and knowledge in the disciplines of nutritional science, dietetics, and food science, thus preparing individuals to make meaningful contributions to their respective professions and to be informed and productive citizens of their family, community, and nation.

Admission Requirements into the NDFS Graduate Programs

Applicants must have at least a 3.2 grade-point average from an accredited university in the United States, or a comprehensive grade-point average of 3.2 from an equivalent university outside of the United States.

Applicants must have taken the Graduate Record Examination (GRE) or another equivalent standardized test (GMAT, for example). The department requires a minimum GRE score of 300 for the combined Quantitative and Verbal Reasoning Tests and a 4.0 on the Analytical Writing Test. If another standardized test is used in place of the GRE, then the applicant should score at or above the 57th percentile for that test. GRE test scores are valid for five years.

In addition to the above requirements, applicants for the Master's and Dietetics internship (MS/DI), or Dietetics emphasis must show completion of Brigham Young University's ACEND (Accreditation Council for Education in Nutrition and Dietetics) accredited Didactic Program in Dietetics with an original "Verification Statement" or Intent to Complete from the Didactic Program Director.

All applicants whose native language is not English and who have not received a four-year bachelor's degree from an accredited university in the United States, or the equivalent from a university in an English-speaking country exempt from the English proficiency test requirement, are required to 1) obtain the required minimum English language proficiency scores for the E3PT, IELTS, or TOEFL tests; or 2) obtain an English language proficiency 'waiver' from their respective Graduate Program, in order to be eligible for graduate admission. Applicants must receive a total band score of at least 7.0 on the IELTS (with a minimum band score of 6.0 on each module); at least 580 on the paper-based TOEFL test; at least 85 on the TOEFL iBT (with a minimum score of 22 in the Speaking section and a minimum score of 21 in other sections); or an overall minimum score of 79 on the E3PT (with minimum speaking, reading, and listening scores of 21, and a minimum writing score of 16).

Completed application forms, English proficiency examination results, letters of recommendation, and all other supporting documents must be submitted to the Office of Graduate Studies by the following deadlines:

Enrollment for

Application Deadline

Spring, Summer, or Fall Semester

March 1 (January 15 eff. 2021/22)

Winter Semester

June 30

MS/DI

January 15

Current status of applications may be verified online. When all forms and supporting materials have been received and the application is complete, the Office of Graduate Studies forwards the application to the Department of Nutrition, Dietetics, and Food Science for consideration by the department graduate faculty. Decisions of the graduate faculty regarding admission are communicated to the Office of Graduate Studies, who formally notifies applicants of their acceptance or denial.

If a student has not met the above minimum GPA or GRE requirements, they might be accepted provisionally. They must meet all department requirements to continue in the program.

Graduate Programs

In the Department of Nutrition, Dietetics, and Food Science students may earn a Master of Science degree in Food Science or a Master of Science degree in Nutritional Science and Dietetics. The Nutritional Science and Dietetics Master has two emphases: nutritional science or dietetics. Prerequisite, required, and elective courses for each degree are listed on the following pages. The Master's in Food Science and the Nutritional Science emphasis programs have a thesis requirement. The Dietetics emphasis (MS/DI) has a project requirement. Theses, projects, and supporting course work are chosen by students in consultation with their graduate committee chair. Programs are tailored by the student and committee chair to emphasize areas of interest to them.

The following pages list the prerequisites and core requirements for each program. Additional courses are selected in consultation with the committee chair to support and complement the student's thesis research or project. For an MS degree in Food Science or the Nutritional Science emphasis a minimum of 30 credit hours is required. The dietetics emphasis has a minimum requirement of 32 credit hours. No more than 6 hours of thesis or project credits (NDFS 699R/698R) may be used in meeting the graduate credit requirements. At least 21 hours must be taken in 500 or 600 level classes. Up to 9 credit hours of 300, 400, or 500 level courses taken during the senior year may be applied to meet graduate requirements if they were not required for the B.S. degree. Justification for a 300 or 400 level course must be compelling. Classes taken at the 100 or 200 level do not apply toward graduate credit hour requirements. Minors in other departments are arranged with those departments and with consent of the committee chair.

Food Science Master's Degree Program

Prerequisite: Incoming students should have an undergraduate degree in food science or closely related field. At BYU, requirements for a B.S. degree in food science include the following:

<u>Taught</u>	<u>Hour</u>	<u>Course Number</u>	<u>Course Title</u>
F, W, Sp	3.0	NDFS 250	Essentials of Food Science
F, W, Sp	1.0	NDFS 251	Essentials of Food Science Lab
W	4.0	NDFS 350	Food Analysis
W	3.0	NDFS 355	Food Process Engineering
F	3.0	NDFS 361	Food Microbiology
F	2.0	NDFS 362	Food Commodity Processing 1
W	2.0	NDFS 363	Food Commodity Processing 2
F	3.0	NDFS 450	Food Chemistry
F	3.0	NDFS 462	Food Regulations and Quality Assurance
W	2.0	NDFS 464	Food Sensory Evaluation
W	3.0	NDFS 465	Food Product Development
F, W, Sp, Su	3.0	Stat 121	Principles of Statistics
F, W, Sp	3.0	Chem 481	Biochemistry

Requirements: The following is the core required course work for an MS in Food Science.

<u>Taught</u>	<u>Hour</u>	<u>Course Number</u>	<u>Course Title</u>
Sp (even)	3.0	NDFS 652	Carbohydrates
Sp (even)	3.0	NDFS 654	Proteins
F (even)	3.0	NDFS 656	Food Lipids
F, W	2.0	NDFS 691R	Graduate Seminar
F, W, Sp, Su	6.0	NDFS 699R	Master's Thesis
F, W	3.0	Stat 511	Statistical Methods for Research 1

Elective Recommendations

The following are examples of electives that may be chosen to support and complement major courses. Elective classes should be selected in consultation with the committee chair. See the course catalog for prerequisites.

<u>Taught</u>	<u>Hour</u>	<u>Course Number</u>	<u>Course Title</u>
F	3.0	Chem 462	Physical Chemistry 1
TBD	3.0	Biol 580	Scanning Electron Microscopy
F, Sp	4.0	NDFS 435	Nutritional Biochemistry
W	3.0	Stat 512	Stat Methods for Research 2
F	2.0	NDFS 650	Graduate Research & Writing

Food Science MS Learning Outcomes

The Food Science Master's Program develops informed and productive advanced scientists who utilize multiple disciplines to study food, allowing them to make meaningful contributions to the food industry and help people throughout the world. Food science addresses the conversion of raw food commodities into nutritious, convenient, and economical products readily available to consumers. Graduates of the Food Science Master's Program are prepared for ample, well-paid employment opportunities in the food industry as well as acceptance into professional schools--including the health professions, business, and law -- and doctoral programs in food science or related fields.

Expected Learning Outcomes

- Food science fundamentals and area specialization
 - Effectively communicate the current state of the discipline in their specific research topic as well as a sound understanding of the general principles of food science.
- Effective literature review and analysis
 - Access information about food science through the internet, scientific journals, and other sources, and evaluate the quality of reported research, drawing conclusions that are scientifically sound.
- Research design and reporting
 - Plan, conduct, and report original research in food science.

Evidence of Learning

Direct Measures

1. Theses, published research article, and abstract at scientific presentations.
2. Prospectus and seminar presentations on research.

Indirect Measures

1. Post graduate alumni survey.
2. Graduating students exit survey.
3. Job placement data for graduates seeking employment.
4. Acceptance into Ph.D. programs and professional schools.

Nutritional Science and Dietetics Master's Degree Program—Nutritional Science Emphasis

Prerequisite: Incoming students should have an undergraduate degree in nutritional science, dietetics, biochemistry, or other closely related field. The following courses are required before beginning graduate level courses. Prerequisite courses do not count towards the 30 credit hours on the study list.

<u>Taught</u>	<u>Hour</u>	<u>Course Number</u>	<u>Course Title</u>
W	2.0	NDFS 424	Nutrition Through the Life Cycle
F, Sp	4.0	NDFS 435	Nutritional Biochemistry
F, W, Sp, Su	3.0	Stats 121	Principles of Statistics
F, W, Sp	3.0	Chem 481	Biochemistry

Requirements: The following is the core required course work for an MS with a Nutritional Science emphasis.

<u>Taught</u>	<u>Hour</u>	<u>Course Number</u>	<u>Course Title</u>
W (even)	3.0	NDFS 601	Advanced Human Nutrition 1
W (odd)	3.0	NDFS 602	Advanced Human Nutrition 2
F, W	2.0	NDFS 691R	Graduate Seminar
F, W, Sp, Su	6.0	NDFS 699R	Master's Thesis
F, W	3.0	Stat 511	Statistical Methods for Research 1

Elective Recommendations (For students who have not completed NDFS 435 or an equivalent, NDFS 435 is required, plus one other elective. For all other graduate students, one elective from the list below is required)

<u>Taught</u>	<u>Hour</u>	<u>Course Number</u>	<u>Course Title</u>
F, Sp	4.0	NDFS 435	Nutritional Biochemistry
W	2.0	NDFS 424	Nutrition Through the Lifecycle
TBD	1-2	NDFS 631R	Selected topics
TBD	2.0	NDFS 632	Diet and Cancer
F	2.0	NDFS 633	Maternal/Child Nutrition and Health
Sp	2.0	NDFS 634	Nutrition Education
Sp (even)	2.0	NDFS 635	Advanced Topics in Human Obesity

Nutritional Science Emphasis Learning Outcomes

The Nutritional Science Master's Program develops informed and productive nutritional scientists who personally and professionally utilize scientifically proven nutrition principles to make meaningful contributions to the discipline, to families, communities, and nations. The human nutrition discipline includes the rigorous, scientifically based study of the processes by which we assimilate nutrients and dietary nutrient factors that influence health and prevent disease. Graduates of the Nutritional Science MS Program will:

1. Gain acceptance into health or other professional schools or PhD programs in nutritional science or related disciplines, or obtain professional employment.
2. Maintain personal and professional growth through advanced skills acquired for continued acquisition of new scientific knowledge;

Expected Learning Outcomes

- Research Design and Methods
 - Develop and conduct scientific research using appropriate design and ethical principles.
- Evaluate Evidence for the Role of Nutrition in Human Health
 - Critically evaluate, summarize, and present evidence for the role of nutrition in optimizing human health and preventing, managing, or treating chronic diseases.

Evidence of Learning

Direct Measures

1. Performance in individual courses emphasizing both advanced applied and experimental nutrition
2. Instructor evaluations of course work, including research papers, written exams, oral presentations, quizzes, homework, IRB, and IACUC
3. Students' written and oral presentations on thesis research and in research meetings

Indirect Measures

1. Applications to and acceptance rates to doctoral and professional programs
2. Job placement data for graduates seeking employment
3. Post-graduation alumni surveys

Nutritional Science and Dietetics Master's Degree Program—Dietetics Emphasis

Prerequisite: Completion of Brigham Young University's ACEND accredited Didactic Program in Dietetics with an original 'Verification Statement' or 'Intent to Complete' from the Didactic Program Director.

Requirement 1 Core Dietetics Courses: Complete the following courses (13 credits).

<u>Taught</u>	<u>Hour</u>	<u>Course Number</u>	<u>Course Title</u>
F, W, Sp, Su	4.0	NDFS 620R	Supervised Practice Experience
F	2.0	NDFS 621	Clinical Practice in Dietetics
F, W	2.0	NDFS 622	Food Systems Management
W	2.0	NDFS 637	Advanced Management in Dietetics
W	2.0	NDFS 638	Advanced Clinical Nutrition
F, W	1.0	NDFS 691R	Graduate Seminar

Requirement 2 Core Statistics Course: Complete one of the following courses (3 credits)

F, W	3.0	Stat 511	Statistical Methods for Research 1
F, Sp	3.0	CPSE- IP&T 651	Statistics 1: Foundations
W	3.0	HLTH 604	Principles of Biostatistics

Requirement 3 Project: Complete 6 credit hours

F, W, Sp, Su	6.0	NDFS 698R	Master's Project
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Requirement 4 Electives. Complete 10 credits from the following NDFS courses or other project related university courses

<u>Taught</u>	<u>Hour</u>	<u>Course Number</u>	<u>Course Title</u>
F, Sp	4.0	NDFS 435	Nutritional Biochemistry
W (even)	3.0	NDFS 601	Advanced Human Nutrition 1
W (odd)	3.0	NDFS 602	Advanced Human Nutrition 2
Fall	Variable	NDFS 631R	Special Topics
As needed	2.0	NDFS 631R	Diabetes
As needed	2.0	NDFS 631R	Current Controversies
As needed	2.0	NDFS 631R	International Nutrition
As needed	2.0	NDFS 631R	Protein
As needed	2.0	NDFS 632	Diet and Cancer
F	2.0	NDFS 633	Maternal/Child Nutrition and Health
Sp	2.0	NDFS 634	Nutrition Education
Sp (even)	2.0	NDFS 635	Advanced Topics in Human Obesity
Courses from other departments related to project (credits vary)			

Dietetics Emphasis Learning Outcomes

The mission of the MS/DI is to develop informed and productive citizens of the family, community, and nation who are prepared to make meaningful contributions to the dietetics profession. The goals of the MS/DI are:

1. Prepare graduates to successfully complete the Examination for Registered Dietitian Nutritionist and excel in entry-level dietetics positions.
2. Engender the desire and skills for continuing education and personal growth.
3. Support the development of ethical and moral values in personal and professional life.

Expected Learning Outcomes

1. Identify and solve problems by thinking critically and integrating scientific information and research into practice
2. Demonstrate professionalism by actively participating in teams, using professional communications, acting ethically, following pertinent regulations, and conducting self-assessment.
3. Develop and deliver appropriate information, products, and services to individuals, groups, and populations.
4. Strategically apply principles of management and systems in the provision of services to individuals and organizations.
5. Analyze the application of leadership in the nutrition and dietetics field.

Evidence of Learning

Direct Measures

Direct assessment measures include faculty preceptor and/or instructor evaluations of performance in supervised practice rotations, course assignments, and presentations.

Indirect Measures

Indirect assessment measures include post-completion surveys of interns, surveys of employers, and pass-rate and scores on the Examination for Registered Dietitian Nutritionists (RDN).

Graduate Faculty—Areas of Interest

The following are the members of the graduate faculty of the Department of Nutrition, Dietetics, and Food Science who may serve as committee chairs to graduate students and serve on graduate committees.

Gene J. Ahlborn, PhD, North Carolina State University, 2005.

Office location: S-227 ESC
Telephone: 801-422-4666
Interests: Food Toxicology, Flavor Development

Sarah G. Bellini, PhD, RDN, Utah State University, 2012.

Office location: S-219 ESC
Telephone: 801-422-0015
Interests: Pediatric Nutritional Assessment, Nutrition Education

Merrill J. Christensen, PhD, Massachusetts Institute of Technology, 1982.

Office location: S-235 ESC
Telephone: 801-422-5255
Interests: Molecular Mechanisms of Cancer Risk Reduction by Diet

Michael L. Dunn, PhD, Cornell University, 1996.

Office location: S-129 ESC
Telephone: 801-422-6670
Interests: Product Development; Food Preservation and Storage; Food Industry Management

Susan Fullmer, PhD, RDN, Brigham Young University, 2004.

Office location: 5007 LSB
Telephone: 801-422-3349
Interests: Bone Density; Measurement of Energy Metabolism

Chad R. Hancock, PhD, University of Missouri-Columbia, 2005.

Office location: S-231 ESC
Telephone: 801-422-7588
Interests: Molecular Mechanisms of Insulin Resistance; Diet-Induced Adaptations in Skeletal Muscle

Laura K. Jefferies, PhD, Utah State University, 2011.

Office location: S-127 ESC
Telephone: 801-422-9082
Interests: Food Preservation, Sensory Analysis

Jason Kenealey, PhD, University of Wisconsin-Madison, 2011.

Office location: S-249 ESC
Telephone: 801-422-6671
Interests: Natural Products; Cell Signaling; Cancer Treatments

James D. LeCheminant, PhD, University of Kansas, 2005.

Office location: S-141 ESC
Telephone: 801-422-6874
Interests: Chronic Disease, Obesity, and Weight Management

Emily V. Patten, PhD, RDN, Kansas State University, 2016.

Office location: S-231 ESC
Telephone: 801-422-6672
Interests: Management and Leadership in Dietetics

Oscar A. Pike, PhD, Purdue University, 1986.

Office location: S-129 ESC
Telephone: 801-422-6671
Interests: Food Preservation and Storage; Lipids

Rickelle Richards, PhD, MPH, RDN, University of Minnesota-St. Paul, 2007.

Office location: S-233 ESC
Telephone: 801-422-6855
Interests: Community/Public Health Nutrition; Food Insecurity

Frost M. Steele, PhD, Purdue University, 1990.

Office location: S-131 ESC
Telephone: 801-422-6784
Interests: Food Microbiology; Food Safety; Food Preservation and Storage

Nathan M. Stokes, PhD, Iowa State University, 2014.

Office location: S-235 ESC
Telephone: 801-422-6676
Interests: Food Service Management, School Nutrition Programs; Farm to School; Culinary

Bradley J. Taylor, PhD, Utah State University, 2004.

Office location: S-127 ESC
Telephone: 801-422-6328
Interests: Food Microbiology; Food Processing

Jeffery S. Tessem, PhD, University of Colorado Health Sciences Center, 2007.

Office location: S-243 ESC
Telephone: 801-422-6671
Interests: Biochemistry; Beta Cell Proliferation, Diabetes

D. Pauline Williams, PhD, MPA, RDN, Utah State University, 2011.

Office location: S-215 ESC
Telephone: 801-422-4876
Interests: Nutrition Education, Quality Improvement in Dietetics

Graduate Coordinator

The graduate coordinator is James D. LeCheminant, PhD (S-141 ESC, 422-6874, email: lecheminant@byu.edu). He is responsible for overseeing the graduate programs of the department.

Graduate Program Manager

The graduate program manager is Judy Stoudt. Her office is S-229 ESC, 422-4296, email: judy_stoudt@byu.edu. The graduate program manager is responsible for maintaining files on graduate students and ensuring students complete the appropriate paperwork at each step of the graduate process. She also records online all paperwork with Graduate Studies. She is an important resource for graduate students with regards to department and university graduate program requirements, policies, and procedures.

NDFS Facilities

Nutritional Sciences research laboratories in the Eyring Science Center at BYU total over 4,200 square feet. Facilities for housing and maintaining small animals are included. Studies in cell culture, in animal models, and in humans are conducted using state of the art instrumentation to examine molecular roles of nutrients, study nutritional physiology, and perform nutritional assessment. Other rooms (e.g. large and small conference rooms) are used for the conduct of non-laboratory research in eating behaviors, nutrition education, dietetics management and dietetics education.

Food Science research laboratories total over 10,000 square feet with additional laboratories used for teaching purposes. Facilities include a pilot plant and laboratories for sensory analysis, food quality assurance, new food product development, food microbiology, and long-term food storage research.

Although each laboratory and instrument is set up primarily for use in the research program of a specific professor, they may be available for general use through consultation with the professor or staff members in charge of that laboratory or instrument. In addition, arrangements may be made with other campus departments for special studies that require equipment available there. Arrangement for use of other facilities is coordinated through the student's committee chair. A list of which faculty member is responsible for each lab is located in the back of this handbook.

Study Areas, Keys, Copy Machine

Graduate students are assigned study areas. The committee chair and graduate coordinator assign students to study areas. Please keep study areas clean and organized. The department secretary (Lynette Johnson, S-221 ESC) will give access codes to the copy room and small conference

room. Students are expected to completely clear out and clean their study areas by the time they graduate.

Appropriate keys can be obtained, after approval by the graduate coordinator or committee chair, by contacting the department secretary. You will be given key codes for access to rooms in the department as necessary.

Students will be asked to provide a current local address, phone number, email address and other contact information to the graduate program manager or graduate coordinator and update it whenever there are changes.

Managing Your Graduate Program

In general, most Master's degrees are designed to be completed within two years. Internships or leaves of absence might increase time to completion. University policy requires that all Master's degrees be completed within five years of the first semester of enrollment or from the first course taken, whichever comes first. Departments and colleges may petition for up to a one-year extension by providing reasonable evidence that extenuating circumstances caused an unavoidable delay in the student's progress toward a degree. Part-time students will likely require more than two years but should demonstrate a continual effort towards completion of their graduate degree.

Graduate Student Orientation

You will receive a general orientation on policies, procedures, and expectations at the beginning of your first semester in the graduate program. Additionally, this Handbook (digital copy available at ndfs.byu.edu/graduate-handbooks), the MS/DI handbook (if you are in that program emphasis), and Graduate Studies website are resources for you during your graduate studies. Your committee chair, the graduate coordinator, and the graduate program manager can help answer questions along the way, but ultimately, it is your responsibility to know and conform to all rules and regulations of Brigham Young University and to the requirements of the Department of Nutrition, Dietetics, and Food Science. Graduate students are expected to understand and abide by the BYU Honor Code.

The remainder of this Handbook is a list of key Departmental and University Policies and Procedures to guide NDFS graduate students through their graduate program.

THESIS TRACK for MS in Food Science

or

**Nutritional Science and Dietetics –
Nutritional Science Emphasis**

Graduation Credit Hour Requirements (Thesis track)

Policy

Students should meet with their committee chair to be sure they are completing all credit hour requirements each semester.

Procedure

- A minimum of 30 credit hours (excluding prerequisite courses) is required for graduation. The graduate committee, in consultation with the student, will set the exact number of credit hours required. Each program will be based on adequacy of undergraduate preparation and area of emphasis.
- At least 21 of the minimum 30 credit hours must be at the 500 level or above. No more than 9 credit hours of BYU undergraduate classes (300 and 400) level, including those taken during the senior year, may apply toward a master's degree. Only in rare cases, approved by the graduate coordinator and the student's graduate committee, can 300 level courses in the NDFS Department be applied toward a graduate degree.
- Six credit hours of thesis (NDFS 699R) are required. No more than six hours of thesis credit may count as part of the 30 hour minimum. However, additional hours of thesis may be taken to meet yearly registration hour requirements. These additional credit hours will not count toward the credit hour minimum required for graduation.
- Two credit hours of Graduate Seminar (NDFS 691R) are required. All students should be registered for 0.5 credits every Fall and Winter as graduate students. Students are encouraged to present their prospectus and defend their thesis in 691R during a Fall or Winter semester. However, in consultation with the thesis committee, a student may present during a Spring or Summer term, if needed. If presenting during a Spring or Summer term, the student will not be signed up for 691R credit.
- U.S. graduate students are required to register for at least 2 credit hours during a semester or term in which they use any university facilities, consult with faculty, or take comprehensive or oral examinations. For Spring and Summer terms, students may register for 1 credit hour each term or 2 credit hours Spring or Summer.
- Post-baccalaureate and senior credit, individually or combined, cannot exceed 10 semester hours for a graduate degree program. Post-baccalaureate credit is that taken after the Baccalaureate degree but before admission to a graduate program. Senior credit is that taken while a senior but beyond that required for the baccalaureate degree.
- Transfer credit may not constitute more than 25% of the total hours required in a student's graduate program. Transfer credit must clearly be graduate level, must be completed with a B grade or better, and must not be independent study, correspondence, or extension courses. Application of any such credit to a graduate degree must be

approved by the graduate coordinator and the student's graduate committee when the study list is approved.

- Graduate students whose graduate (program of study) GPA falls below 3.0 (prerequisite and skill courses are exempted) will not be allowed to graduate and may be dismissed from their graduate programs.
- Registering for classes not listed on the study list may be done only with the approval of the thesis committee chair.
- Please refer to the BYU Graduate Studies website (gradstudies.byu.edu), and the BYU Graduate Studies Policies and Procedures (gradstudies.byu.edu/page/policies-and-procedures) for all other credit hour requirements.

Graduate Forms (Thesis track)

Policy

Graduate Students must use the appropriate forms throughout the various stages of the graduate program. Students are expected to retrieve, complete, and submit the forms in a timely manner to the appropriate place as indicated on the form.

Procedure

The following **mandatory** forms are **Department forms**. They are available from the NDFS website (ndfs.byu.edu/graduate-handbooks).

- **Form A** Coursework Oral Examination scheduling (Nutritional Science majors only)
- **Form B** Coursework Oral Examination results (Nutritional Science majors only)
- **Form C1** Thesis Prospectus Presentation Scheduling

The following University forms are **occasionally needed** during your university studies. They are available from the Graduate Studies website: gradstudies.byu.edu/page/form-list.

- **OGS Form 2** Petition for Exception
- **ADV Form 5** Leave of Absence
- **GS Form 6 and 6a** Application to Resume Graduate Studies

The following University forms provide information pertaining to your thesis and graduation:

- **ADV Form 8** Graduation Dates and Deadlines
- **ADV Form 11a** Sample Preliminary Pages
- **ADV Form 11b** Preliminary Pages Template-Thesis

Graduate Committee Chair (Thesis track)

Policy

Each graduate student will be assigned a graduate faculty member at the beginning of their studies to be their direct supervisor and Chair of the student's graduate committee.

Procedure

- Prior to acceptance to the NDFS department, a potential graduate student should have identified a tentative graduate faculty member to direct their graduate program. Upon acceptance into the program, the student will be formally assigned to a graduate committee chair.
- The graduate committee chair and student together determine a study list.
- The committee chair and student will determine a thesis which the student will complete under the direction and control of the committee chair.
- Students should consult regularly and often with their committee chair as they progress through their programs.
- The assignment of a graduate student to a committee chair may be changed if the thesis research or project develops into another area and if another graduate faculty member agrees to serve as the committee chair. However, changing to a different committee chair should be made only under exceptional circumstances.
- The unanticipated departure of a graduate student to another faculty member may leave the original committee chair with no means of completing the project begun by the student. If the project has been supported by external funding, its suspension could jeopardize future collaboration with, and support from the funding source. A student who desires to change their committee chair and project must submit the Petition to Change Advisor form (available on the NDFS website) presenting the reasons and justification for the change. Both the original committee chair and the new committee chair must sign the petition and be in agreement that the change is in the best interests of all parties involved. In the event of a disagreement regarding the desirability of a change, the Graduate Coordinator will seek to mediate the disagreement, and make a final decision. If any of the involved parties is unsatisfied with the decision of the Graduate Coordinator, they may appeal to the entire department graduate faculty. In such a case, each of the parties involved present their position and rationale before the graduate faculty who, after hearing all arguments, discuss the case and vote on the final proposed course of action. A majority vote is sufficient to make the final decision binding. Change of committee chair and thesis project requires presentation of a second thesis prospectus seminar.

Graduate Committee (Thesis track)

Policy

Each graduate student will enroll and formalize a graduate committee by the end of the first semester. The committee will guide their research or project and coursework.

The graduate committee serves the dual purposes of advising the student on his/her thesis research and course work.

Procedure

- Graduate committees consist of a minimum of three members for a Master's program.
- Committee selection should occur during the student's first semester, and prior to submission of the study list.
- The graduate student should discuss possible candidates for the student's committee with their committee chair. Ultimately, the graduate student selects the committee members.
- All members of a committee must be graduate faculty.
- Graduate faculty members from other departments may serve on committees when the graduate work crosses disciplines.
- On occasion experts in the community or at other Universities might provide needed expertise to a student's graduate experience. Approval of these potential committee members is decided by the Graduate Studies Office on a case by case basis.
- All committee members, from the time of their appointment to the committee, share in the responsibility for advising and directing the student concerning course work, degree requirements, and research. The individual contribution of the committee members may vary by kind, effort, and intensity. Students are especially encouraged to consult with them during the research design and data analysis.
- All committee members must be present for the prospectus presentation and the defense. University Policy requires committee members be present in the room for the final examination* (thesis defense).
- Once the committee members and the list of classes have been chosen (by the end of the first semester), the student enters them on the Graduate Progress page (<https://gradprogress.sim.byu.edu/>). See the Graduate Progress page instructions in the Other Recourses and General Information Section.
- In the event it becomes necessary to change committee members, make the changes on the Graduate Progress page.

*Due to social distancing restrictions during the Covid-19 pandemic, the defense may be held remotely until the University returns to normal operating procedures.

Study List (Program of Study) (Thesis track)

Policy

Students are encouraged to submit their Program of Study during the first semester, but must submit no later than the third week of the second semester.

Procedure

- Students are strongly encouraged to choose rigorous classes which will strengthen their knowledge base and/or assist them in their research or project. Graduate courses both inside and, where appropriate, outside of the department are encouraged.
- During the first semester in the program, the student and committee chair should prepare a study list. The student enters the study list under the Program of Study tile on the Graduate Progress page and submits it for committee approval.
- The Program of Study must be approved by each member of the graduate committee. After the Program of Study is approved by all members of the committee, it is reviewed and approved by the department program manager.
- The Program of Study, once it is fully approved and accepted by the university, is equally binding upon the student and his or her graduate committee. In general, students should focus upon completion of the study list courses early in their graduate experience.
- The study list should be submitted by the end of the first semester, but must be submitted no later than the third week of the second semester. Failure to meet this deadline may render the student ineligible to register for subsequent semesters.
- If it becomes necessary during the course of a graduate program to alter the Program of Study, the changes are made on the Graduate Progress page and resubmitted for committee and program manager approval. Classes may be deleted if they are not offered during the course of a student's graduate program. Failure to perform well in a class is not sufficient reason to delete it from the Program of Study. Addition of new classes to the University curriculum may justify addition of a course if the student and graduate committee agree that such addition is in the best interest of the student.

Thesis Prospectus (Thesis track)

Policy

Students are encouraged to present their prospectus in 691R during a Fall or Winter semester. However, in consultation with the thesis committee, a student may present during a Spring or Summer term, if needed. If presenting during a Spring or Summer term, the student will not be signed up for 691R credit.

Procedure for Thesis Prospectus

The selection of a thesis project is a significant decision the student and committee chair make with regard to the student's degree program. Careful consideration should be given to a project's feasibility and its potential contribution to the body of knowledge in the form of a peer-reviewed publication in a professional journal. The student should be genuinely enthusiastic about the project selected and highly motivated to complete it.

- At the beginning of a graduate student's studies, he/she should begin working with their committee chair to identify and refine a research project as part of the fulfillment of a master's degree in the department.
- The thesis prospectus should be presented by the second semester of the student's entrance into the program.
- For students doing research on human subjects, BYU Institutional Review Board (IRB) approval is required prior to use of humans as research subjects.
- For students doing research on laboratory animals, approval from The Institutional Animal Care and Use Committee (IACUC) must be obtained.
- In preparing a prospectus, it may be beneficial to meet with a representative of the Statistics department to establish proper experimental design and sample size. The student should counsel with his/her committee chair on the need for this.
- A well-prepared thesis prospectus will describe in detail the project the student will complete for his or her thesis research. The student is encouraged to include the entire committee during the planning phase so that an appropriate project is defined and planned. The following are essential components of a typical prospectus:
 - Introduction/Background and Significance
 - Statement of the problem. This is a brief summary of the problem, 1-1 ½ pages.
 - Purpose and/or research objective(s) and/or research question(s) (should be bulleted)
 - Hypothesis for each objective, if appropriate

- Please refer to “problem statements, purpose, research questions, objectives/aims, hypotheses” following the next page for examples and definitions of each.
 - Review of the Literature
 - A well written, thorough literature review supports your proposed project. It should be thorough enough to justify the study. It will likely be based on at least 20-30 references.
 - Proposed methods, including a description of the proposed research design and statistical analysis
- An electronic copy of the prospectus should be uploaded on the Graduate Progress page under the Prospectus tile and submitted for approval prior to the seminar presentation.
 - Submit Form C1 Thesis Prospectus Presentation Scheduling to the graduate program manager *at least* two weeks prior to the presentation.
 - Students are encouraged to present their prospectus in 691R during a Fall or Winter semester. However, in consultation with the thesis committee, a student may present during a Spring or Summer term, if needed. If presenting during a Spring or Summer term, the student will not be signed up for 691R credit.
 - Students are expected to dress professionally at the thesis prospectus presentation (NDFS 691R).
 - Students should prepare an abstract with a bibliography for graduate faculty and graduate students for all NDFS 691R presentations.
 - A prospectus should be presented within a minimum of 20 and maximum of 40 minutes, leaving time for questions and suggestions from the audience. On occasion, two graduate students might present their thesis prospecti at the same seminar. Students should expect to divide the time equally, 25 minutes total, per student.
 - Once the prospectus is approved by the committee on the Graduate Progress page, it becomes the “contract” the student must fulfill to complete the requirement for thesis research. The student should work with the committee to get the prospectus approved within 2 weeks after presenting the prospectus seminar.
 - Significant deviations from the experiments outlined in the approved prospectus, or a change to a new thesis project requires submission of a new prospectus following the procedure outlined above.

Problem statements, purpose, research questions, objectives/aims, hypotheses

There are some basic components of a research study that should be well defined prior to conducting the study to guide the research process. Inclusion of each component helps the researcher(s) think through the research process. These components also help reviewers, funding sources, and statisticians understand your study. Some of these components overlap and so some researchers might not include all of them or they might combine them in a prospectus or proposal. Work with your committee chair to determine which elements are most appropriate for your prospectus.

1. Statement of the problem

- a. The purpose of research is to solve a problem. The problem could be an unanswered question, a gap in knowledge, or dealing with a controversy (Walliman, 2011).
- b. The problem statement is the foundation of the study and study design (Chatburn, 2011).
- c. It is a brief 1-2 page overview that explains the problem you want to address. The problem statement is sometimes called the “background and significance” portion of a prospectus.
- d. The problem statement is not likely to be refined until the review of the literature is complete and the research questions are identified and well defined.

2. Purpose of the study

- a. The research purpose is a statement that identifies why you are doing the research. If the problem statement is well written, the purpose of the study statement will be a logical next sentence after the problem statement. It is often stated simply as, “The purpose of this research is to.....”

3. Research questions

- a. Research questions are questions you hope to answer within the purpose of your study. A concise, simple, straightforward statement of the research question focuses the research design process (Monsen, 2008). Good research questions use objective, measurable, operational terms such as identify, compare, differentiate, assess, or describe (Monsen, 2008).
- b. Typically research questions include the following:
 - i. Who or what is being studied. Elderly men living alone, obese elementary school children, home stored flour, fatty acid content in rat muscle fibers, antioxidant potential in blueberries, etc.
 - ii. What will be measured. Food intake, body weight, antioxidant capacity, selenium intake, etc.

4. Research aims and objectives

- a. General aim(s) of a study are first defined and are then subdivided by subheadings called objectives (Holmes, 2011).
- b. A research aim is a general overarching statement about the research (Holmes, 2011).
- c. A research objective is a specific explanatory statement about elements within the research aim (Holmes, 2011).
- d. Study objectives and research questions are very similar and might be the same.
- e. If there is only one research objective, it will not likely be stated; only the research question will be stated.

Example:

The aim of the present study is to examine the food safety and quality of flour that has been stored in consumers' homes longer than 10 years.

Objective 1: To determine the amount of oxidation in flour stored longer than 10 years compared to flour that is < 1 year old.

Objective 2: To determine the levels of vitamins B₁, B₂, B₃, and iron in flour stored longer than 10 years compared to flour that is < 1 year old.

Objective 3: To determine the consumer acceptability of flour stored longer than 10 years compared to flour that is < 1 year old when baked into bread.

5. Hypotheses

- a. In order for a theory to be tested, it must be expressed as a statement called a hypothesis. Hypotheses are statements of, or conjectures about the relationship among two or more variables.
- b. Each objective should have a hypothesis.
- c. Hypotheses must be stated in a way they can be put to a test. They should identify the variables to be measured and propose their association/relationship (either no association/relationship or a directional association/relationship).
- d. Null hypothesis (H₀). Because we can never really prove a hypothesis, it is common to state that there will be no difference between variables, this is a Null hypothesis. In a null hypothesis, we assume up front that there is no difference/relationship until proven otherwise. If a statistical difference is found, then the "null" is determined to be false. When applying statistics to your hypothesis, the null requires a bi-directional statistical test (two-tailed), as you are stating that you don't know if the relationship will be positive or negative. A

statistician will determine which statistics to apply based on the type of hypothesis that is presented.

- e. Alternate/directional hypothesis (H_1). Sometimes researchers might prefer to predict *a priori* the nature of the relationship based on previous research, so a directional hypothesis is stated instead of a null. If a directional hypothesis is chosen, a one directional analysis can be performed (one-tailed test), which can have more statistical power. If statistically significant difference is found, then the hypothesis/theory is advanced. However, if there is no significant difference, then it can only be concluded there was no relationship or difference based on the direction predicted. It cannot be concluded that there is no association/relationship or difference between the variables or that an association exists in the opposite direction than predicted. Hence the null is often the default hypothesis.
- f. No hypothesis. Some research designs such as qualitative research and descriptive studies might not have hypotheses. These study designs often use surveys, focus groups, or interviews. However, these studies should still have clearly stated research objectives or questions.
- g. Well written hypotheses include the following when possible (Monsen, 2008):
 - i. It is measurable
 - ii. Specifies the population/units being studied
 - iii. Identifies a time frame
 - iv. Specifies the type of relationship being examined
 - v. Defines the variables being studied
 - vi. States the level of significance that will be applied

Examples:

Objective 1: To determine the amount of oxidation in flour stored longer than 10 years compared to flour that is < 1 year old.

Hypothesis 1 (H_0): There is no difference in the amount of oxidation in flour stored longer than 10 years compared to flour that is < 1 year old when measured using headspace hexanal $P < 0.05$.

Hypothesis 1 (H_1): Flour that has been stored longer than 10 years will have greater levels of oxidation compared to flour that is < 1 year when measured by headspace hexanal, $P < 0.05$.

Objective 2: To determine the levels of vitamins B₁, B₂, and B₃ in flour stored longer than 10 years compared to the amount stated on the food label, measured by HPLC.

Hypothesis 2 (H_0): There is no difference in the amount of vitamins B₁, B₂, or B₃, in flour stored longer than 10 years compared to the amount stated on the food label when measured by HPLC, $P < 0.05$.

Hypothesis 2 (H_1): There will be a significant loss of vitamins B₁, B₂, or B₃, in flour stored longer than 10 years compared to the amount stated on the food label when measured by HPLC, $P < 0.05$.

Objective 3: To determine the consumer acceptability of flour stored longer than 10 years compared to flour that is < 1 year old when baked into bread.

Hypothesis 3(H₀): There will be no difference in consumer acceptability of baked bread made from flour stored longer than 10 years compared to flour that is < 1 year old when measured by sensory analysis, $P < 0.05$.

Hypothesis 3 H₁): Bread baked from flour that has been stored longer than 10 years compared to flour that is < 1 year old will be significantly less acceptable when measured by sensory analysis, $P < 0.05$.

Qualitative Research

Qualitative research uses systematic techniques to obtain in-depth information about individuals' perceptions, thoughts, or opinions about complex topics. Methods for collecting data include focus groups, interviews, observation, and media documents (newspaper, Internet, photographs). Health-related qualitative research often uses a health behavior theory as an underlying framework for question development. Because data collected is descriptive in nature, it is inappropriate to state specific hypotheses for anticipated outcomes. Rather, research questions and/or objectives more appropriately outline the focus of the research project. However, it is important to note that results from qualitative research are exploratory and can aid in developing theories that can then be validated through quantitative methods.

Examples:

Research Questions:

1. How does the homeless environment impact homeless children's food choices? What factors influence shopping behaviors among low-income families over a one-month period of time?
2. What do members of dinner groups see as the benefits and drawbacks of participation?

Research Objectives:

1. To determine the impact of the homeless environment on the food choices of homeless children.
2. To evaluate changes in shopping behaviors among low-income families over a one-month period of time.
3. To identify benefits and drawbacks of dinner groups.

References

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Holmes, D, Mood, P, Dine, D. Research methods for the biosciences. 2nd ed. Oxford, NY: Oxford University Press; 2011.

Chatburn, RL. Handbook for Health Care Research. 2nd ed. Sudbury, MA: Jones and Bartlett; 2011.

Harris JE, Gleason PM, Sheean PM, Boushey C, Beto JA, Bruemmer B. An introduction to qualitative research for food and nutrition professionals. *J Am Diet Assoc.* 2009;109:80-90.

Coursework Oral Examination (Thesis track: Nutritional Science majors only)

Policy

All Nutritional Science thesis track graduate students are required to successfully pass a coursework oral examination in front of their graduate committee.

Procedure

The coursework oral exam is an opportunity for the graduate student to demonstrate his/her understanding of nutritional science. Questions in coursework exams are designed to test both the breadth and depth of the graduate student's knowledge and comprehension of subject matter. Coursework oral questions typically come from courses completed on the student's study list. Understanding of core principles from the undergraduate prerequisite coursework will be assumed and may be part of the coursework oral exam.

- The course work oral examination must be taken at least one semester or term prior to the final thesis defense.
- The coursework oral exam is scheduled by completing Form A and submitting it to the graduate program manager at least one week prior to the date of the examination. The student and his or her committee chair are responsible to arrange the time, place, and participation of all graduate committee members.
- The student is responsible for organizing and setting the date. The student should also schedule a conference room. Two hours should be scheduled.
- The graduate committee will serve as the examining committee. All members of the committee must be present for the examination.
- Each member of the graduate committee asks the student questions that relate to course work the student has taken.
- The student need not have completed all study list classes before taking the course work oral examination; however, the majority of courses should be completed.
- At the conclusion of the examination the committee may "Pass", "Pass with Deficiencies to be Corrected", or "Fail" the student. The student may retake the examination once in the event of failure. A second failure terminates the student's program. If the committee feels that deficiencies need to be corrected, they specify what the deficiencies are and what the student must do to correct those deficiencies.
- The Coursework Oral Examination Report Form (Form B) is completed and kept in the student's department file. The examination chair (the student's committee chair) indicates when deficiencies are corrected by signing the Examination Report Form. Results of the Coursework Oral Exam will be reported to the University by the Graduate program manager.

- A typical coursework question may begin with a simple question on a subject that the student should be able to answer at a 100 or 200 level. The depth of the student's understanding will be explored as the examiner continues to question the student by asking him/her higher level questions on the topic up to the graduate level, including questions from the most recent coursework.
- Another approach to examine the student's breadth is to ask a diversity of questions on a broad range of topics. The breadth of a student's comprehension may be assessed by asking the student to apply a concept to other settings not previously discussed in class. Since the goal is to assess the student's breadth and depth of understanding, eventually the student may be asked questions they can no longer answer. This does not mean that the student has failed the exam, rather it indicates the point at which the student's understanding of a concept is exhausted.
- Students should dress professionally for their coursework oral exam.

Graduate Seminar, NDFS 691R (Thesis track)

Policy

Graduate students in NDFS are expected to participate in weekly Graduate Seminar.

Procedure

- NDFS 691R, Graduate Seminar, is held most Fridays at 1:00 pm during Fall and Winter Semester.
- NDFS 691R is a 0.5 credit pass/fail requirement.
- Students are expected to enroll in NDFS 691R every Fall/Winter semester that they are in the program; however, only up to 2 credits can count toward master's degree credit requirements.
- If a student presents their prospectus or defense during spring or summer, they are not required to enroll in NDFS 691R.
- Seminars are scheduled through Dr. Jeffery Tessem, Graduate Seminar Coordinator.
- All graduate students are expected to attend the weekly department graduate seminars every semester they are enrolled in the graduate program.
- Professional dress is expected of students when they present their prospectus and thesis defense.
- Students in the audience are encouraged to listen attentively to speakers and ask pertinent questions of the speakers during the questioning period, usually at the end of the presentation.
- Questions and comments should be courteous and respectful.
- Graduate students and faculty should complete an evaluation on graduate student presenters.

Final Thesis Defense (Thesis track)

Policy

Graduate students present the findings of their research to the department and to their graduate committee in a thesis defense. Students are encouraged to defend their thesis in 691R during a Fall or Winter semester. However, in consultation with the thesis committee, a student may present during a Spring or Summer term, if needed.

Procedure for Thesis Defense

- Students must be enrolled in a minimum of 2 credit hours the semester they have their final seminar and thesis defense. Students must be enrolled in 0.5 credits of NDFS 691R (unless they are defending during Spring and Summer term). Students may not defend during breaks between semesters or terms.
- When the committee chair and graduate student are satisfied that an acceptable draft of the thesis is ready, a thesis presentation in graduate Seminar and thesis defense should be scheduled.
- The graduate seminar is scheduled with Dr. Jeffery Tessem, Graduate Seminar Coordinator.
- The student uploads their draft thesis under the Ready to Defend tile on the Graduate Progress page. When the committee is satisfied, they certify the student is ready to defend in the system. Then the defense date, time, and location must be entered on the Graduate Progress page under the Thesis Defense tile by the committee chair or graduate program manager. This must be done at least one day prior to the defense. Announcements of Thesis Defenses are posted by Graduate Studies to the entire University.
- The thesis presentation and the thesis defense should normally occur on the same day and during the same meeting. Any exceptions must be approved by the committee and graduate coordinator.
- The thesis should be presented in NDFS 691R and should include a presentation of the entire study including methods, results, analysis and discussion of the thesis. Students are encouraged to present their thesis in 691R during a Fall or Winter semester. However, in consultation with the thesis committee, a student may present during a Spring or Summer term, if needed.
- The thesis presentation is open to all who desire to attend (faculty, students, family, campus community, friends, etc.). Anyone may ask questions of the student during the seminar.
- The thesis defense follows the thesis presentation. At the thesis defense, members of the graduate committee conduct a rigorous and detailed final examination of the student's

thesis. The defense is open to the public, but generally, only the student and committee attend this meeting. Only members of the committee may ask questions of the student.

- It is a policy of BYU Graduate Studies that all members of the committee be physically present at the thesis defense.*
- At the conclusion of the examination the committee may vote to “Pass,” “Pass with Qualification,” “Recess,” or “Fail” the student. If two or more examiners vote to “Fail,” the examination is failed and the graduate program of the student is terminated. “Recess” is appropriate when the committee feels that the examination should be repeated at a later time. “Pass with Qualification” is appropriate when revisions of written work are necessary or other deficiencies are evident. The decision is reported on the Graduate Progress page under the thesis defense tile. Most students who “Pass” are still required to make minor modifications in the thesis before the committee chair will approve it for ETD submission. Students must allow a reasonable amount of time after the examination to make required changes.
- Professional dress is expected at the thesis presentation and defense.
- All theses must conform to Brigham Young University Office of Graduate Studies approved format (please see ADV Forms 11a, 11b, and 11c found at gradstudies.byu.edu/page/form-list).
- The final thesis should be a source for future graduate students or faculty members to have a detailed record of exactly how the research was conducted and a complete record of the research findings.
- In general, a final thesis should be assembled as follows:
 1. Preliminary pages including thesis abstract (ADV Form 11a, 11b, and 11c)
 2. Manuscript (formatted per requirements of proposed peer-reviewed journal. Do not include the manuscript abstract in the ETD Submission, just include the University required abstract in the preliminary pages for the entire thesis)
 3. Appendix
 - a. The approved prospectus modified as appropriate with an updated introduction, review of the literature if necessary, and a complete description of the actual methods used, now written in past tense
 - b. Other results/data not found in the manuscript
 - c. Forms, including IRB/IACUC approvals, surveys, etc.
 - d. Other as necessary

*Due to social distancing restrictions during the Covid-19 pandemic, the defense may be held remotely until the University returns to normal operating procedures.

Thesis Submission to the University (Thesis track)

Policy

All theses must be submitted to the University electronically (ETD). Theses must be formatted according to University standards.

Procedure

- Following the defense and after all corrections to the thesis required by the student's graduate committee (if any) have been made, the student emails a copy of the thesis in MS Word to the graduate program manager for review of the formatting. This should be done at least two weeks before the University submission deadline.
- Once the graduate program manager approves the thesis, the student converts it to pdf according to the instructions found at gradstudies.byu.edu/page/etd-instructions. Instructions and tutorials for conversion can be found at etd.lib.byu.edu/start/prepare.html. The student then emails the pdf file to the graduate program manager for review. When the graduate program manager approves the pdf file, the student submits the ETD on the Graduate Progress page under the ETD tile. This should be done at least one week before the University submission deadline.
- The ETD will be reviewed and approved by Graduate Studies, then the graduate program manager, then the college, then again by Graduate Studies.
- Students MUST use full Adobe for the conversion, select "High Quality Print," and verify the "Embed All Fonts" box is checked when converting to PDF (see ETD Font Embedding at <https://gradstudies.byu.edu/page/etd-instruction-packet>). Failing to do so results in many errors in the ETD and the printed copy.
- Committee names on the title page must match those listed on the Graduate Progress page. Students may check committee names on that page. Students, the graduate program manager, and ETD reviewers are each responsible for assuring these names are correct.
- Students must use the proper format on the title and abstract pages: Mixed case in the title, inverted pyramid style, copyright with only "Copyright © graduate year student name". Using the templates available on the Graduate Studies websites linked above is recommended.

Common ETD Title Page and Abstract Errors

- The title must follow the inverted pyramid style on the title page and the abstract.
- The University Style requires prepositions of five letters or more to be capitalized in the title.

- When words are hyphenated in the title, both words are capitalized.
- The spacing on the title page should be even from top to bottom (see template ADV Form 11b).
- Do not use titles in front of committee member names. For example, do not use Dr. George T. Brown. Use George T. Brown.
- The year the diploma is awarded is the year entered at the bottom of the title page.
- All fonts must be embedded in all theses and dissertations.

**PROJECT TRACK for MS in Nutritional
Science and Dietetics – Dietetics emphasis**

Graduation Credit Hour Requirements (MS/DI track)

Policy

Students should meet with their committee chair to be sure they are completing all credit hour requirements each semester.

Procedure

- A minimum of 32 credit hours (excluding prerequisite courses) is required for graduation. The graduate committee, in consultation with the student, will set the exact number of credit hours required. Each program will be based on adequacy of undergraduate preparation and area of emphasis.
- At least 23 of the minimum 32 credit hours must be at the 500 level or above. No more than 9 credit hours of BYU undergraduate classes (300 and 400) level, including those taken during the senior year, may apply toward a master's degree. Only in rare cases, approved by the graduate coordinator and the student's graduate committee, can 300 level courses in the NDFS Department be applied toward a graduate degree.
- Post-baccalaureate and senior credit, individually or combined, cannot exceed 10 semester hours for a graduate degree program. Post-baccalaureate credit is that taken after the Baccalaureate degree but before admission to a graduate program. Senior credit is that taken while a senior but beyond that required for the baccalaureate degree.
- Six credit hours of NDFS/698R are required. No more than six hours of project credit may count as part of the 32 hour minimum. However, additional project credit hours may be taken to meet yearly registration credit hour requirements. These additional credit hours will not count toward the credit hour minimum.
- One credit hour of NDFS 691R, Graduate Seminar is required. MS/DI students should register for 0.5 credit Winter semester of their first year in the program and then Fall of the second year or Fall and Winter of the second year.
- U.S. graduate students are required to register for at least 2 credit hours during a semester or term in which they use any university facilities, consult with faculty, or take comprehensive or oral examinations. For Spring and Summer terms, students may register for 1 credit hour each term or 2 credit hours Spring or Summer.
- Transfer credit may not constitute more than 25% of the total hours required in a student's graduate program. Transfer credit must clearly be graduate level, must be completed with a B grade or better, and must not be independent study, correspondence, or extension courses. Application of any such credit to a graduate degree must be approved by the graduate coordinator and the student's graduate committee when the study list is approved.

- Graduate students whose graduate (program of study) GPA falls below 3.0 (prerequisite and skill courses are exempted) will not be allowed to graduate and may be dismissed from their graduate programs. Students whose course scores and assessments result in final grades below a B should consult with their committee chair. No D credit may apply toward a graduate degree.
- Registering for classes not listed on the study list may be done only with the approval of the committee chair.
- Please refer to the BYU Graduate Studies website (gradstudies.byu.edu), and the BYU Graduate Studies Policies and Procedures (gradstudies.byu.edu/page/policies-and-procedures) for all other credit hour requirements.

Graduate Forms (MS/DI track)

Policy

Graduate Students must use the appropriate forms throughout the various stages of the graduate program. Students are expected to retrieve, complete, and submit the forms in a timely manner to the appropriate place as indicated on the form.

Procedure

The following **mandatory** form is a **Department form**. It is available from the NDFS website (ndfs.byu.edu/graduate-handbooks).

- **Form C2** Project Proposal Presentation Scheduling

The following University forms are **occasionally needed** during your university studies. They are available from the Graduate Studies website: gradstudies.byu.edu/page/form-list.

- **OGS Form 2** Petition for Exception
- **ADV Form 5** Leave of Absence

Graduate Committee Chair (MS/DI track)

Policy

Each graduate student will be assigned a graduate faculty member at the beginning of their studies to be the Chair of the student's graduate committee.

Procedure

- Upon acceptance into the program, the student will be formally assigned to a graduate committee chair.
- The graduate committee chair and student together determine a study list.
- The graduate committee chair and student will determine a project which the student will complete under the direction of the committee chair.
- Students should consult regularly and often with their committee chair as they progress through their programs.
- The assignment of a graduate student to a committee chair may be changed if the project develops into another area and if another graduate faculty member agrees to serve as the committee chair. However, changing to a different committee chair should be made only under exceptional circumstances.
- The unanticipated departure of a graduate student to another faculty member may leave the original committee chair with no means of completing the project begun by the student. If the project has been supported by external funding, its suspension could jeopardize future collaboration with, and support from the funding source. A student who desires to change their committee chair and project must submit the Petition to Change Advisor form (available on the NDFS website) presenting the reasons and justification for the change. Both the original committee chair and the new committee chair must sign the petition and be in agreement that the change is in the best interests of all parties involved. In the event of a disagreement regarding the desirability of a change, the Graduate Coordinator will seek to mediate the disagreement, and make a final decision. If any of the involved parties is unsatisfied with the decision of the Graduate Coordinator, they may appeal to the entire department graduate faculty. In such a case, each of the parties involved present their position and rationale before the graduate faculty who, after hearing all arguments, discuss the case and vote on the final proposed course of action. A majority vote is sufficient to make the final decision binding. Change of committee chair and project requires presentation of a second project proposal seminar.

Graduate Committee (MS/DI Track)

Policy

Each graduate student will choose a graduate committee by the end of the first semester. The committee will guide their research project and coursework.

The graduate committee serves the dual purposes of advising the student on his/her project and course work.

Procedure

- Graduate committees consist of a minimum of three members for a Master's program.
- Committee selection should occur during the student's first semester, prior to the submission of the study list.
- The graduate student should discuss possible candidates for the student's committee with their committee chair. Ultimately, the graduate student selects the committee members.
- All members of a committee must be graduate faculty.
- Graduate faculty members from other departments may serve on committees when the graduate work crosses disciplines.
- On occasion experts in the community or at other Universities might provide needed expertise to a student's graduate experience. Approval of these potential committee members is decided by the Graduate Studies Office on a case by case basis.
- All committee members, from the time of their appointment to the committee, share in the responsibility for advising and directing the student concerning course work, degree requirements, and research. The individual contribution of the committee members may vary by kind, effort, and intensity. Students are especially encouraged to consult with them during the project design and analysis.
- All committee members must be present for the project proposal presentation and the final project defense. University Policy requires committee members be present in the room for the final examination* (aka project report/defense).
- Once the committee members and the list of classes have been chosen (by the end of the first semester) the student enters them on the Graduate Progress page (<https://gradprogress.sim.byu.edu/>). See the Graduate Progress page instructions in the Other Recourses and General Information Section.
- In the event it becomes necessary to change committee members, make the changes on the Graduate Progress page.

*Due to social distancing restrictions during the Covid-19 pandemic, the defense may be held remotely until the University returns to normal operating procedures.

Study List (Program of Study) (MS/DI Track)

Policy

Students should submit their Program of Study during the first semester, but no later than the third week of the second semester.

Procedure

- Students are strongly encouraged to choose rigorous classes which will strengthen their knowledge base and/or assist them in their project. Graduate courses outside of the department are encouraged.
- During the first semester in the program, the student and committee chair should prepare a study list. The student enters the study list under the Program of Study tile on the Graduate Progress page and submits it for committee approval.
- The Program of Study must be approved by each member of the graduate committee. After the Program of Study is approved by all members of the committee, it is reviewed and approved by the department program manager.
- The Program of Study, once it is fully approved and accepted by the university, is equally binding upon the student and his or her graduate committee.
- The study list should be submitted by the end of the first semester, and must be submitted no later than the third week of the second semester. Failure to meet this deadline may render the student ineligible to register for subsequent semesters.
- If it becomes necessary during the course of a graduate program to alter the Program of Study, the changes are made on the Graduate Progress page and resubmitted for committee and program manager approval. Classes may be deleted if they are not offered during the course of a student's graduate program. Failure to perform well in a class is not sufficient reason to delete it from the Program of Study. Addition of new classes to the University curriculum may justify addition of a course if the student and graduate committee agree that such addition is in the best interest of the student.

Project Proposal (MS/DI Track)

Policy

Every project track graduate student in NDFS is required to present their proposed project, called a project proposal or prospectus, to their committee.

Procedure for Project Proposal

- MS/DI students will be required to present their project proposal to their committee. All graduate faculty and graduate students will be invited, but not expected to attend. MS/DI students can present in NDFS 691R if possible or at alternative times.
- Submit Form C2 Project Proposal Presentation Scheduling to the graduate program manager at least two weeks prior to the presentation.
- Students are expected to dress professionally at the project proposal presentation.
- Students should prepare an abstract with a bibliography for graduate faculty and graduate students.
- A proposal should be presented within a minimum of 20 and maximum of 40 minutes, leaving time for questions and suggestions from the audience. On occasion, two graduate students might present their proposal at the same time. Students should expect to divide the time equally, 25 minutes total, per student.
- In preparing a proposal, it may be beneficial to meet with a representative of the Statistics department to establish proper experimental design and sample size. A student should counsel with his/her committee chair on the need for this.
- For students doing research on human subjects, BYU Institutional Review Board (IRB) approval is required prior to use of humans as research subjects. .
- An electronic copy of the proposal should be uploaded on the Graduate Progress page under the Prospectus tile and submitted for approval prior to the presentation.
- Once the proposal is approved by the committee on the Graduate Progress page, it becomes the “contract” the student must fulfill to complete the requirement for the project. The student should work with the committee to get the proposal approved within 2 weeks after presenting.
- Significant deviations from the procedures approved in the proposal, or a change to a new project requires submission of a new proposal following the procedure outlined above.
- The project proposal will typically include the following:
 - Introduction: Describe the purpose, relevance, and/or rationale of the project. This may include:
 - Background supporting project
 - Needs statement narrative
 - Definition of problem or need

- Justification for the project
- Literature review
- Project Description. This may include:
 - Project goals/objectives, outputs, and outcomes.
 - Project materials, methods, procedures, activities, inputs, such as
 - Evidence-based techniques
 - Participant selection, sample size
 - Educational principles or tools
 - Social marketing plans
 - Management principles
 - Project management procedures
 - Measurement tools
 - Survey techniques
 - Data collection techniques
 - Relevant scientific literature supporting the approach
 - Stage of project development (conceptualizing, data collection, analysis, etc.)
 - Sustainability plans
 - Logic Model
- Evaluation Plan describing how you will monitor and evaluate your project. This may include:
 - Plan for data collection and measurement tools (i.e. interviews, surveys, biometric data, records)
 - Data analysis and interpretation plan,
 - Process evaluation (assess project activities and progress),
 - Indicators of performance measures
 - Outcome evaluation
 - Formative evaluation plans
 - Summative evaluation plans Project timeline.

Problem statements, purpose, research questions, objectives/aims, hypotheses

There are some basic components of a research study that should be well defined prior to conducting the study to guide the research process. Inclusion of each component helps the researcher(s) think through the research process. These components also help reviewers, funding sources, and statisticians understand your study. Some of these components overlap and so some researchers might not include all of them or they might combine them in a prospectus or proposal. Work with your committee chair to determine which elements are most appropriate for your prospectus.

1. Statement of the problem

- a. The purpose of research is to solve a problem. The problem could be an unanswered question, a gap in knowledge, or dealing with a controversy (Walliman, 2011).
- b. The problem statement is the foundation of the study and study design (Chatburn, 2011).
- c. It is a brief 1-2 page overview that explains the problem you want to address. The problem statement is sometimes called the “background and significance” portion of a prospectus.
- d. The problem statement is not likely to be refined until the review of the literature is complete and the research questions are identified and well defined.

2. Purpose of the study

- a. The research purpose is a statement that identifies why you are doing the research. If the problem statement is well written, the purpose of the study statement will be a logical next sentence after the problem statement. It is often stated simply as, “The purpose of this research is to.....”

3. Research questions

- a. Research questions are questions you hope to answer within the purpose of your study. A concise, simple, straightforward statement of the research question focuses the research design process (Monsen, 2008). Good research questions use objective, measurable, operational terms such as identify, compare, differentiate, assess, or describe (Monsen, 2008).
- b. Typically research questions include the following:
 - i. Who or what is being studied. Elderly men living alone, obese elementary school children, home stored flour, fatty acid content in rat muscle fibers, antioxidant potential in blueberries, etc.
 - ii. What will be measured. Food intake, body weight, antioxidant capacity, selenium intake, etc.

4. Research aims and objectives

- a. General aim(s) of a study are first defined and are then subdivided by subheadings called objectives (Holmes, 2011).
- b. A research aim is a general overarching statement about the research (Holmes, 2011).
- c. A research objective is a specific explanatory statement about elements within the research aim (Holmes, 2011).
- d. Study objectives and research questions are very similar and might be the same.
- e. If there is only one research objective, it will not likely be stated; only the research question will be stated.

Example:

The aim of the present study is to examine the food safety and quality of flour that has been stored in consumers' homes longer than 10 years.

Objective 1: To determine the amount of oxidation in flour stored longer than 10 years compared to flour that is < 1 year old.

Objective 2: To determine the levels of vitamins B₁, B₂, B₃, and iron in flour stored longer than 10 years compared to flour that is < 1 year old.

Objective 3: To determine the consumer acceptability of flour stored longer than 10 years compared to flour that is < 1 year old when baked into bread.

5. Hypotheses

- a. In order for a theory to be tested, it must be expressed as a statement called a hypothesis. Hypotheses are statements of, or conjectures about the relationship among two or more variables.
- b. Each objective should have a hypothesis.
- c. Hypotheses must be stated in a way they can be put to a test. They should identify the variables to be measured and propose their association/relationship (either no association/relationship or a directional association/relationship).
- d. Null hypothesis (H₀). Because we can never really prove a hypothesis, it is common to state that there will be no difference between variables, this is a Null hypothesis. In a null hypothesis, we assume up front that there is no difference/relationship until proven otherwise. If a statistical difference is found, then the "null" is determined to be false. When applying statistics to your hypothesis, the null requires a bi-directional statistical test (two-tailed), as you are stating that you don't know if the relationship will be positive or negative. A

statistician will determine which statistics to apply based on the type of hypothesis that is presented.

- e. Alternate/directional hypothesis (H_1). Sometimes researchers might prefer to predict *a priori* the nature of the relationship based on previous research, so a directional hypothesis is stated instead of a null. If a directional hypothesis is chosen, a one directional analysis can be performed (one-tailed test), which can have more statistical power. If statistically significant difference is found, then the hypothesis/theory is advanced. However, if there is no significant difference, then it can only be concluded there was no relationship or difference based on the direction predicted. It cannot be concluded that there is no association/relationship or difference between the variables or that an association exists in the opposite direction than predicted. Hence the null is often the default hypothesis.
- f. No hypothesis. Some research designs such as qualitative research and descriptive studies might not have hypotheses. These study designs often use surveys, focus groups, or interviews. However, these studies should still have clearly stated research objectives or questions.
- g. Well written hypotheses include the following when possible (Monsen, 2008):
 - i. It is measurable
 - ii. Specifies the population/units being studied
 - iii. Identifies a time frame
 - iv. Specifies the type of relationship being examined
 - v. Defines the variables being studied
 - vi. States the level of significance that will be applied

Examples:

Objective 1: To determine the amount of oxidation in flour stored longer than 10 years compared to flour that is < 1 year old.

Hypothesis 1 (H_0): There is no difference in the amount of oxidation in flour stored longer than 10 years compared to flour that is < 1 year old when measured using headspace hexanal $P < 0.05$.

Hypothesis 1 (H_1): Flour that has been stored longer than 10 years will have greater levels of oxidation compared to flour that is < 1 year when measured by headspace hexanal, $P < 0.05$.

Objective 2: To determine the levels of vitamins B₁, B₂, and B₃ in flour stored longer than 10 years compared to the amount stated on the food label, measured by HPLC.

Hypothesis 2 (H_0): There is no difference in the amount of vitamins B₁, B₂, or B₃, in flour stored longer than 10 years compared to the amount stated on the food label when measured by HPLC, $P < 0.05$.

Hypothesis 2 (H_1): There will be a significant loss of vitamins B₁, B₂, or B₃, in flour stored longer than 10 years compared to the amount stated on the food label when measured by HPLC, $P < 0.05$.

Objective 3: To determine the consumer acceptability of flour stored longer than 10 years compared to flour that is < 1 year old when baked into bread.

Hypothesis 3(H₀): There will be no difference in consumer acceptability of baked bread made from flour stored longer than 10 years compared to flour that is < 1 year old when measured by sensory analysis, $P < 0.05$.

Hypothesis 3 H₁): Bread baked from flour that has been stored longer than 10 years compared to flour that is < 1 year old will be significantly less acceptable when measured by sensory analysis, $P < 0.05$.

Qualitative Research

Qualitative research uses systematic techniques to obtain in-depth information about individuals' perceptions, thoughts, or opinions about complex topics. Methods for collecting data include focus groups, interviews, observation, and media documents (newspaper, Internet, photographs). Health-related qualitative research often uses a health behavior theory as an underlying framework for question development. Because data collected is descriptive in nature, it is inappropriate to state specific hypotheses for anticipated outcomes. Rather, research questions and/or objectives more appropriately outline the focus of the research project. However, it is important to note that results from qualitative research are exploratory and can aid in developing theories that can then be validated through quantitative methods.

Examples:

Research Questions:

1. How does the homeless environment impact homeless children's food choices? What factors influence shopping behaviors among low-income families over a one-month period of time?
2. What do members of dinner groups see as the benefits and drawbacks of participation?

Research Objectives:

1. To determine the impact of the homeless environment on the food choices of homeless children.
2. To evaluate changes in shopping behaviors among low-income families over a one-month period of time.
3. To identify benefits and drawbacks of dinner groups.

References

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Harris JE, Gleason PM, Sheean PM, Boushey C, Beto JA, Bruemmer B. An introduction to qualitative research for food and nutrition professionals. *J Am Diet Assoc.* 2009;109:80-90.

Graduate Seminar, NDFS 691R (MS/DI Track)

Policy

Graduate students in NDFS are expected to participate in weekly Graduate Seminar when possible.

Procedure

- NDFS 691R, Graduate Seminar, is held most Fridays at 1:00 pm during Fall and Winter Semester.
- NDFS 691R is a 0.5 credit pass/fail requirement.
- MS/DI students will typically enroll in NDFS 691R the winter of the first year and fall of the second year or fall and winter of second year.
- MS/DI students need to complete 1 credit hour (enrolled twice) of NDFS 691R.
- Students in the audience are encouraged to listen attentively to speakers and ask pertinent questions of the speakers during the questioning period, usually at the end of the presentation.
- Questions and comments should be courteous and respectful.
- Graduate students and faculty should complete an evaluation on graduate student presenters.

Final Project Report (MS/DI Track)

Policy

MS/DI students present their project to their graduate committee in a project report presentation (defense). All graduate faculty and graduate students should be invited to attend.

Procedure for Final Project Report Presentation

- MS/DI students are responsible for scheduling the date, time, and location of their final project report presentation (defense) with the department.
- The student uploads their draft project report under the Ready to Defend tile on the Graduate Progress page. When the committee is satisfied, they certify the student is ready to defend in the system. Then the project presentation date, time, and location must be entered on the Graduate Progress page under the Project Defense tile by the committee chair or graduate program manager. This must be done at least one day prior to the presentation.

Final Written Project Report

Submit a final written description of the project to the committee chair. The following are acceptable forms of the final written project.

Journal Manuscript

- Include title page with name, committee members names, title of project, name of journal for submission, and date of report.
- Format remainder of report/manuscript according to chosen journal guidelines.
- Supplementary information as appropriate (i.e. copies of surveys, intervention tools, etc.).
- Submit electronic copy to committee chair.

Project Report Research Based

- Include title page with name, committee members' names, title of project, and date of report.
- Include the following components:
 - Abstract: may be structured or unstructured
 - Introduction: Describe the purpose, relevance, and/or rationale of the project
 - Objectives

- Material/Methods/Procedures: may include criteria for participant selection, sample size, measurement tools (including reliability/validity measures, if applicable), statistical methods, etc.
- Results/Outputs/Outcomes (i.e. survey piloted, cognitive interviews conducted, data collected, data analyzed, etc.)
- Discussion (as appropriate): compare findings/outputs with other published related literature, implications for future application or research, strengths and limitations of project
- Conclusion (as appropriate): describe conclusion from reported results, description of contributions of outputs, how project sets up next steps in research, etc. Depending on the project the discussion and conclusion may be combined
- References
- Supplementary information as appropriate (i.e. copies of surveys, intervention tools, etc.)
- Submit electronic copy to committee chair.

Project Report Deliverable Based

- Include title page with name, committee members names, title of project, and date of report
- Include the following components as appropriate to project
 - Abstract (as appropriate)
 - Introduction background: Describe the purpose, relevance, and/or rationale of the project
 - Needs assessment/statement of challenge: describe the process, methodologies (i.e. focus groups, surveys, etc.) and results of assessment
 - Objectives/Goals
 - Outputs: may include description of activities conducted, implementation of project, solution to resolve issue, intervention conducted, participation, and engagement of stakeholders/client/constituents, number of people trained, number of events held, etc.
 - Outcomes: may include description of evaluation plan, results of evaluation (short-, medium-, long-term), changes in conditions (civic, financial, social, etc.), etc.
 - Plan for sustainability of project as appropriate
 - References
 - Supplementary information as appropriate (i.e. logic model, material/resources used, etc.)

MS/DI projects are not submitted to the University, however a final copy must be submitted to the committee chair.

POLICIES FOR ALL GRADUATE STUDENTS

Registration Requirements (MS/DI and Thesis Track)

Policy

Students must stay current with all registration requirements detailed in the Brigham Young University Graduate Studies Policies and Procedures (gradstudies.byu.edu/page/policies-and-procedures).

Procedure

- Once admitted to a degree program, the student should work continuously and register in that program each semester/term (see details in Graduate Studies matriculation policies) until all requirements are completed.
- Minimum requirements include:
 - New students must register for at least 2 credit hours in the first semester/term for which they have been admitted, or their acceptance is forfeited.
 - Graduate students are required to pay a minimum of the equivalent of two full-time semesters of graduate tuition. Graduate tuition is calculated from the semester of acceptance into the graduate program. Full time is 8.5 credit hours per semester.
 - International students must register for at least 9 credits each Fall and Winter Semester until their coursework is completed. Then they may obtain a waiver from the International Student Services office that will reduce the minimum to 2 credits each semester or 1 credit per term they are using University facilities. Exceptions to the 9 credits each fall and winter may be made when MS/DI students are doing supervised practice. International students may discuss this option with the Dietetic Internship Director and the International student office. Final approval must be obtained from the Internship office.
 - Graduate students should not register for more than 12 hours in a semester or 6 hours in a term.
 - Students must be registered for at least 2 semester hours of approved credit in any semester in which they use any university facilities, consult with faculty, or take comprehensive or oral examinations.
 - Students must complete and receive acceptable grades (no D, E, W, NS, or I) in at least 6 semester hours during each academic year.
 - Students who do not fulfill this yearly requirement are dropped from their graduate programs by the University and must apply for readmission if they wish to continue. When a student is dropped from BYU graduate studies for not maintaining minimum registration requirements, he/she has two options to return to the program:
 - Apply to resume graduate studies

- Complete the graduate studies form “Application to Resume Graduate Study” (GS Form 6)
- Receive approval from the department
- Pay a non-refundable processing fee. International students will also need to submit new bank statements or sponsor contract (GS Form I-2).
- Enroll in at least 2 credit hours the semester they return, and receive acceptable grades within the first semester.
- Obtain an Ecclesiastical Endorsement (endorse.byu.edu).
- Students should expect their previous work to be re-evaluated and their degree requirements to reflect current expectations of the program.
- Readmission does not extend the 5 year time limit to graduation for MS degrees
- Reapply to the BYU Graduate Studies and the NDFS department graduate program
 - Students can reapply to BYU Graduate Studies and the NDFS program
 - Previously completed graduate courses will not be considered
- Please refer to the Brigham Young University Graduate Studies website (gradstudies.byu.edu/) and to the Brigham Young University Graduate Studies Policies and Procedures (gradstudies.byu.edu/page/policies-and-procedures) for all other registration requirements.

Application for Graduation (MS/DI and Thesis Track)

Policy

Electronic application for graduation must be completed and submitted in a timely manner.

Procedure

- Students must apply online by the deadline published on the Graduate Studies website (gradstudies.byu.edu/page/graduation). The application link is found on the Graduate Progress page under the Tools heading.
- Application to graduation generally occurs in the semester the student defends their thesis or presents their project except for students who expect to graduate in June or August and wish to walk in the April Commencement.
- Deadlines for the 2020-2021 academic year are listed here: gradstudies.byu.edu/page/graduation.
- If students do not meet all of the graduation deadlines (please see website above), their graduation will be extended and they must pay two credit hours of tuition (preferably thesis or project hours) for the following semester. gradstudies.byu.edu/page/policies-and-procedures

Grievances (MS/DI and Thesis Track)

Policy

When a student feels that his or her work has been unfairly or inadequately evaluated, they have a right to voice their concerns through appropriate channels. The department follows Brigham Young University's Graduate Studies "Graduate Academic Grievance Policy" (gradstudies.byu.edu/page/policies-and-procedures-b#grad_grievance_policy) to resolve any grievances.

Procedure

Below is a brief overview of the Graduate Studies grievance policy. A full copy is available online (see link above) or upon request from the graduate coordinator.

- The grievance must be initiated by the graduate student no later than four months from the last day of the examination period of the semester in which the alleged unfair or inadequate evaluation occurred.
- The graduate student should first address the grievance to the involved faculty member for review and resolution.
- If the graduate student feels that is not possible, or that the matter was not properly resolved, he or she should submit a written request for review to the Department Chair.
- If the matter is not resolved satisfactorily by the Department Chair, the student should submit their grievance in writing to the College Dean.
- The final step if the matter is still unresolved and it involves terminating the student from the graduate program is to submit a written request for review by the Dean of Graduate Studies who will convene a formal administrative review. This decision is final and may not be appealed.

Termination of Graduate Status (MS/DI and Thesis Track)

Policy

Students may be terminated from the program under specific circumstances.

Procedure

Termination of graduate status may result if a student:

- Fails to satisfactorily complete the conditions of acceptance and continuation (study list submission, minimum GPA, etc.).
- Fails to fulfill the university's minimum registration requirement of 6 credit hours per year.
- Makes a request to withdraw (with the intent to pursue a degree at another university, for personal reasons, or in response to department recommendation).
- Receives a Marginal or Unsatisfactory rating in a periodic review by the academic department and is unable or unwilling to comply with conditions for continuance outlined by the department.
- Receives more than one rating of Marginal or Unsatisfactory.
- Fails to make what the department or the university deems to be satisfactory progress toward a graduate degree.
- Fails the final oral examination (Thesis or Project Defense).
- Violates the university's standards of conduct or Honor Code.
- Exceeds the five year time limit.

Graduate Student Assistantships (MS/DI and Thesis Track)

Policy

It is the policy of NDFS to assist graduate students financially when possible either by providing funding from department funds, external research funds, or making students aware of other financial resources.

Procedure

- Students are encouraged to apply for grant money. The student and committee chair will identify appropriate funding sources.
- All students who desire departmental assistantships will be considered for graduate funding annually. Criteria for funding include:
 - **Departmental Assistantships (stipend contracts or hourly employment)**
 - Students are notified if they have received a stipend separately, after the time of acceptance.
 - Assistantships may be awarded for a maximum of 6 semesters (2 years).
 - Hourly positions are usually awarded for a maximum of 6 semesters (2 years)
 - Students risk losing a stipend contract or hourly position if they receive a “marginal” or “unsatisfactory” performance review and do not improve in a subsequent review.
 - Students receiving full stipends from department funds are expected to work a **minimum of 20 hours a week** in teaching assistant and/or research assistant responsibilities, as outlined by the committee chair; however, students usually need to work much more than this to make sufficient progress in their program.
 - Students who are awarded hourly wages are strongly encouraged to work the maximum of 20 hours/week. Research hours and teaching assistant hours are eligible for work hours. Other activities need to be approved by the committee chair. Department policy limits work hours to 20/week.
 - Graduate student wages and stipends are confidential. It is inappropriate to discuss your contract or wage with other students. By signing a contract for an assistantship, you agree to keep your wages confidential.
- Because of the demands of finishing a master’s program in two years, having jobs outside of the University is discouraged.
- Vacation time should be coordinated with the committee chair.
- Students are expected to pay for their own tuition, health insurance, books, living expenses, etc.
- During spring and summer terms, students should register for at least 1 credit each term to avoid paying FICA tax.

- **Scholarships**
 - College and Departmental Grants/Scholarships; February 1st application deadline. Apply at lsscholarships.byu.edu/.
 - Institute of Food Technologists (IFT) Scholarships (Food Science): www.ift.org; February deadline.
 - Academy of Nutrition and Dietetics Foundation: <http://www.eatrightfoundation.org/Foundation/> February deadline; must be a member of the Academy of Nutrition and Dietetics.
- **Professional Presentation Awards** (gradstudies.byu.edu/page/professional-presentation-award)
 - Funding to assist students in presenting research at meetings.
 - Apply at beginning of Winter Semester if presentation is between January 1st and June 30th.
 - Apply at beginning of Fall Semester if presentation is between July 1st and December 31st.
- **Graduate Mentoring Awards**
 - Submitted by faculty as invited by college deans.
 - To supplement financial support packages.
 - For graduate students who are mentored by faculty and also act as mentors to undergraduates.
 - If funded, both the faculty mentor as well as the graduate student must submit a 1-page report at the end of the academic year.
- **Student Loans**
 - [BYU Short-term Loans](#)
 - [Federal Unsubsidized Loans](#)
 - Must be enrolled at least half-time (4.5 credits for graduate students)
 - Financial need is not required
 - Must apply through the FAFSA
- **Additional Sources of Funding**
 - Contact the [BYU Financial Aid Office](#), D-155 ASB, 801-422-4104

Performance Reviews (MS/DI and Thesis Track)

Policy

Graduate students will have two performance reviews each academic year.

Procedure

- Twice a year (end of Fall and end of Winter) the student's performance will be reviewed by the committee chair.
- Each student will be rated "Satisfactory," "Marginal," or "Unsatisfactory" on individual items and on "overall performance" which represents an overall summary of the student's performance (an example form follows).
- One "unsatisfactory" in any area is a warning.
- Two consecutive "unsatisfactory" ratings in any individual area may result in forfeiture of graduate funding (department stipend). Two successive "overall unsatisfactory" ratings or an "unsatisfactory" rating and a "marginal" rating results in termination from the program and BYU (per University policy).
- Students cannot have two "marginal" ratings in consecutive semesters. If a student does not correct a marginal rating in the next semester, the student must receive an unsatisfactory rating.
- Both the committee chair and graduate student will sign and date the evaluation form at the time of the performance review. The signed evaluation will be given to the student and a copy will be given to the graduate program manager for the student's file.
- The "overall" rating is forwarded to the Office of Graduate Studies by the program manager.
- Students receiving "Marginal" and "Unsatisfactory" ratings in any area will be notified in writing regarding the corrective actions the student needs to take and the time frame for meeting those expectations, in order to return to "Satisfactory" status.

The academic performance review can include the following University criteria:

Satisfactory progress is evidenced by:

- Degree of excellence demonstrated in course work completed to date.
- Demonstrated progress in planning and implementation of the research project.
- Intellectual inquiry and exploration of issues related to but not formally a part of the student's academic training, such as departmental, college, and university seminars, etc.
- Demonstrated potential and commitment to the performance of graduate work; e.g., conscientious management of the graduate program, including establishment of a graduate

committee, submission of the study list and thesis prospectus, preparation of a research project or proposal, etc.

- Adherence to the BYU Honor Code and Dress and Grooming standards.

Marginal progress may include the following:

- Failure to submit program of study.
- Failure to establish a graduate committee.
- Registering for thesis hours when little or no work has been done.
- Failure to submit an approved thesis prospectus (thesis track) or project proposal (project track).
- Minimal contact with chair or committee members.
- Prospectus or thesis draft not approved.
- Limited progress in completion of courses on the program of study.
- Poor performance in clinical/externship/internship.
- Poor performance in research.

Unsatisfactory progress may include the following:

- Grade in a course falling below B is of concern (no D credit may apply toward degree).
- Failure to submit program of study.
- Failure to establish a graduate committee.
- Registering for thesis hours when little or no work has been done.
- Failure to submit an approved thesis prospectus.
- Minimal contact with chair or committee members.
- Prospectus or thesis draft not approved.
- No progress in completion of courses on the Program of Study.
- Poor performance in clinical/externship/internship.
- Concerns about ethical or professional behavior.
- Poor performance in research.
- Failure to resolve any problems or fulfill any requirements indicated in a previous Marginal or Unsatisfactory review.

Evaluation of Graduate Student Progress
Nutrition, Dietetics, and Food Science

Year/Term _____

Student _____

Chair _____

Previous Evaluation _____

Criteria	Unsatisfactory	Marginal	Satisfactory
Graduate GPA	<3.0 <input type="checkbox"/>	3.01-3.29 <input type="checkbox"/>	>3.3 <input type="checkbox"/>
Deliverables (prospectus or project proposal, publications, projects, presentations, grant applications or awards, IRB/IACUC)			
Fulfills TA/RA responsibilities			
Positive attitude			
Overall evaluation			

Comments _____

Chair: _____ Date: _____

Graduate Student: _____ Date: _____

Laboratory Safety and Etiquette

Policy

All graduate students will become aware of and conform to University and Department laboratory safety and etiquette

Procedure

- Dr. Gene Ahlborn chairs the Department Safety Committee. Questions about safety and appropriate laboratory procedures should be directed to your committee chair or to Dr. Ahlborn.
- Students will be notified by Dr. Ahlborn at Orientation of which laboratory safety classes he/she must complete. The student should provide a copy of the Lab-Specific Training Record to their committee chair when the training is successfully completed.
- All accidents/incidents must be reported to risk management, your committee chair, and Dr. Ahlborn.
- Graduate students are guests in the laboratories maintained by their professors. Chemicals, glassware, and equipment used in graduate research are to be provided by the committee chair.
- Please help keep labs organized and orderly by returning equipment to its proper place when you are done using it.
- Students may not use laboratory supplies or equipment located in other laboratories nor move equipment or glassware from one laboratory to another without permission.
- Students should not disturb chemicals or glassware on bench tops that may be in current use by others.
- All faculty, undergraduate, and graduate students are required to maintain clean work spaces on bench tops in all laboratory areas. When experiments are completed, they are expected to clean up the area.
- Specific information on laboratory safety, hazardous chemicals, and hazardous waste disposal is found in the resource section of this Handbook. Students will receive additional safety training specific to their laboratories from their committee chairs. Failure to comply with safety policies may result in dismissal.
- Students using radioactivity must attend the university Radiation Safety course and complete the required examination.
- A notebook or electronic documentation (stored on laboratory computers) containing the Hazard Communication Program (HAZCOM) and the Materials Safety Data Sheets (MSDS) is located in each laboratory. Each student should know the location of this notebook or electronic documents in the laboratory in which they are working, review the notebook or electronic documents thoroughly, and attest to that reading by signature.

OTHER RESOURCES AND GENERAL INFORMATION

Graduate Progress Page Instructions

Welcome to the online graduation tracking website! This page will allow you to request committee members, create programs of study, and manage additional graduation requirements without having to get physical signatures. All approvals and notifications are done online and by email. Additionally, you will have access to Resources you will need as you complete your program.

Graduate Committee

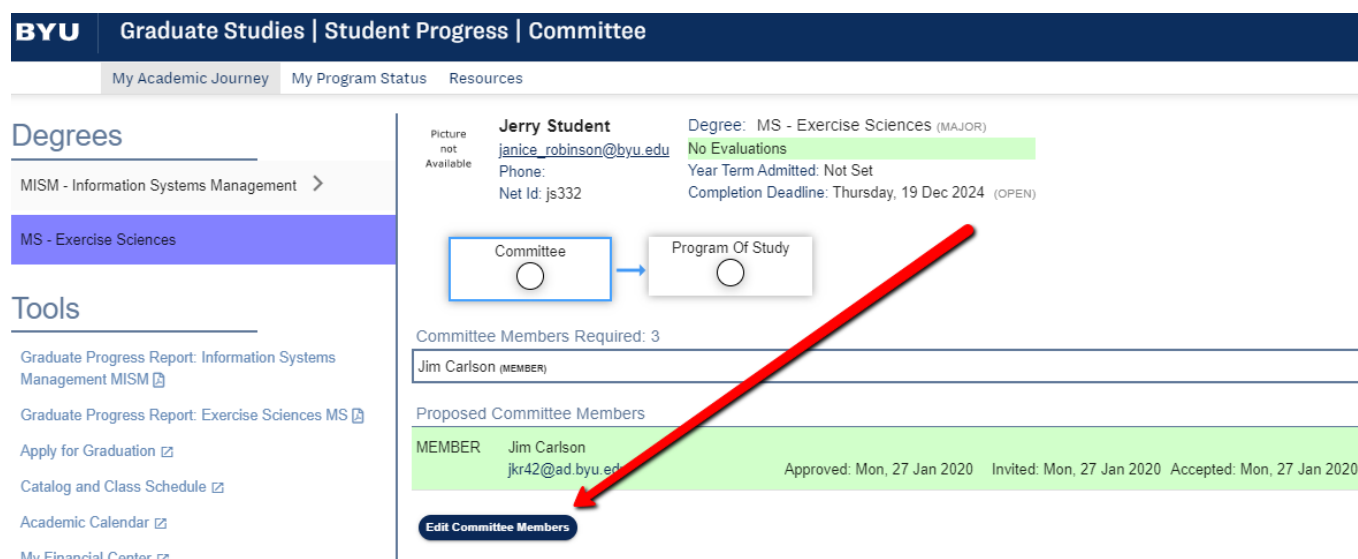
Step 1: Go to <https://gradprogress.sim.byu.edu/>, or from myBYU, type “gradprog” in the Quick URL (found in the Campus Links box).

Step 2: Click the “Sign In” link at the top right of the screen and enter your BYU Net ID and password.



These services are designed to assist University, College and Department administrators, Faculty, and Students track a students progress in his/her graduate degree.

Step 3: Select the members of your graduate committee by clicking on the “Edit Committee Members” button.



Step 4: Use the small dropdown arrow on the right of each field to select the names of your committee chair and members. A master's degree requires a minimum of a chair and two members. The default dropdown options list faculty in your department only. If you would like a committee member from another department on campus, click the “search all graduate faculty” box. The dropdown arrow displays all graduate faculty alphabetically by last name. When you are finished, click the “Submit” button.

Edit Committee Assignment

Some of the Committee may be uneditable because they are already approved or declined

CHAIR

Name
▼

⇅ MEMBER

Name
▼
☐ search all graduate faculty

⇅ MEMBER

Name
▼
☐ search all graduate faculty

ADD MEMBER

SUBMIT
CLOSE

Step 5: Once your committee has been selected and submitted, the next step is to invite them to serve on your committee. This is done by clicking the “Send Invite” button beside each name (or you can send to all who have not accepted). Once the invitation has been sent, the date will appear to the right of the name. If you don’t see confirmation, you may click the “Resend Invite” button beside the names. You will use this page to edit the committee members as well. Faculty receive an email and they can accept by clicking a link in the email.

Committee
○

→

Program Of Study
○

Committee Members Required: 3

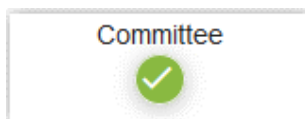
No Committee Members have been approved and have accepted position.

Proposed Committee Members

CHAIR	<div style="display: flex; justify-content: space-between; align-items: center;"> Send Invite Captain Nemo </div>	
MEMBER	<div style="display: flex; justify-content: space-between; align-items: center;"> Send Invite Pierre Aronnax </div>	
MEMBER	<div style="display: flex; justify-content: space-between; align-items: center;"> Resend Invite Ned Land </div>	Invited: Today

Send Invite to those who have not accepted
Edit Committee Members

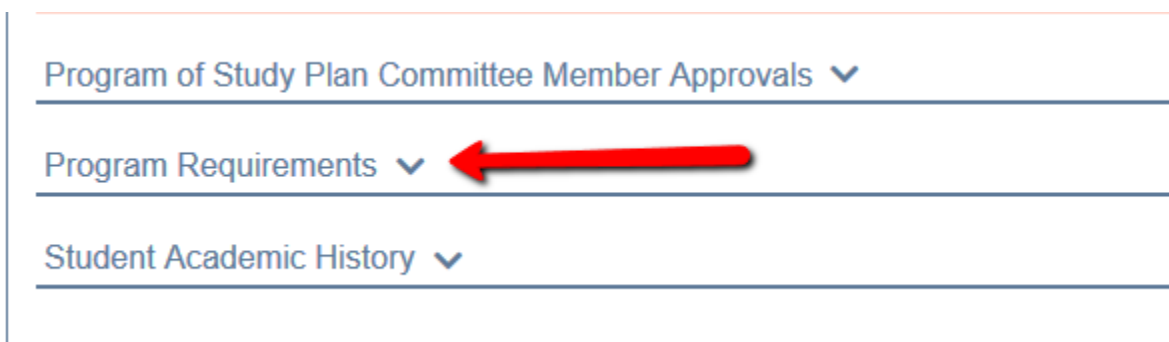
Once everyone has accepted the request to be on your committee, and the committee has been approved by the program manager, the “Committee” block will indicate the approval and display a checkmark.



Program of Study

You may proceed to create a Program of Study while you are waiting for committee acceptance and approval.

Step 6: Click on the Program of Study (POS) box to open a new subsection of the page. Some required courses may already be populated if your program has specific courses that everyone must take. Select the second line to add more courses:



Use these buttons to add and remove courses while you are in the Planning stage.



Once you are satisfied with your POS, submit it to your committee for approvals using this button near the top of this progress milestone:



Step 7. Once your committee has approved your POS, the graduate program manager will be notified to do a final check and give final approval. Some adjustments may be needed and can be entered by the program manager. You will be notified by email when your POS is approved.

Prospectus & Project proposal:

Once you have a prospectus or project proposal ready for review, you upload it on the Graduate Progress page. Click on the Prospectus box, then scroll down (note: the system does not differentiate between a prospectus and a project proposal). Read the instructions and upload the document by clicking the Upload Prospectus button. You must convert it to PDF before upload and may enter a title. Your committee will be notified by email that they can view your prospectus. They may make comments and ask for edits.

You will be notified by email of necessary changes and be required to upload a new version. All versions are kept, but only the last one will appear in the viewing box. Previous versions can be accessed on the left side date links.

Once all committee members are satisfied, you will be notified of their approvals by email.

Thesis Title

B <i>I</i> <u>U</u> \times_2 \times^2 Ω



1 of 9

Ready for Defense:

After you have completed your research or project, you upload your written work into the progress milestone called “Ready for Defense” (again, both thesis and project tracks use thesis terminology in this system). It looks just like the Prospectus progress milestone. This is where

you will share your written work with your committee to read and make comments for edits needed. Read the Resource page for requirements and samples and FAQs about your written work formatting.

Defense:

Once all committee members have certified you are ready to defend, you will work with your committee and the department secretary to schedule a time for your defense or project presentation, then see the program manager to put the date in the system (your committee chair may also do this if they prefer). This will be displayed on the page, and all committee members will be notified. After your defense or project presentation you may be asked to make further edits in your work and your defense status will be listed as Qualifications.

All edits or revised versions should be uploaded in the 'Ready for Defense' progress milestone. Your committee chair will submit the "Pass" status once he/she is satisfied. This is the final step for project track students.

ETD:

If you are on a Thesis track, you will continue to upload your ETD in this progress milestone. Before doing so, send a Word copy of your thesis to the program manager. She will check for the formatting requirements and work with you to get the formatting corrected before submitting the ETD. This will enable a smoother approval process.

You are entering publication details that will be searchable and used to catalog your work in the digital library. You will enter your name again in the correct fields (first, middle, last) which are used for the library catalog search functions.

You have to enter some items like Key words, Abstract, Availability, and check some agreements.

Required Fields *

Author Name*
 This is how your name should appear on the title page and after the copyright and on the abstract page. Punctuation may be added where needed.



First Name

Middle Name

Last name

Please verify names are in the correct field.

Availability*

- ☐ Release the scholarly work **immediately** for worldwide access. Please select immediate release unless there is a patent, copyright or publication issue.
- ☐ Delay the release of the entire work for one year, for **publication** purposes. After the one year delay, automatically release the work for worldwide access. [The student author or the student's committee chair may request the work be released sooner than one year by submitting a request to Graduate Studies.]
- ☐ Secure the entire work for export control or patent purposes; please select the appropriate box below. During the secured period, the copyright owner agrees to not exercise his/her ownership rights, including public use in works, without prior authorization from BYU. This secure option requires approval from Graduate Studies. The secured work will be released to the digital library after Graduate Studies has been given permission to do so.
- ☐ ☐ **Export Control** - My work has export control restrictions
- ☐ **Patent** - My work involves a patent
- ☐ Creative Work to be held under Embargo until I notify Graduate Studies that it should be released to the digital library.

Language

Orcid ID

Key Words*

Each key word should be separated by a comma. Example: chemical, computer, music, Joseph Smith, DNA, values

Abstract*

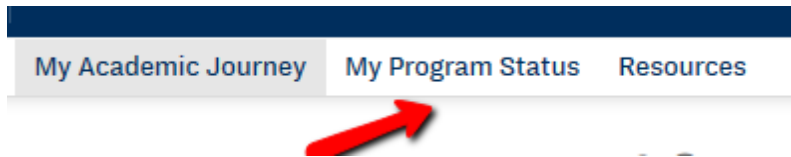
In the **Document subsection**, you will upload a PDF document. It must have all fonts embedded as well as bookmarks for each heading in the table of contents.

This document must be approved by Graduate Studies (preliminary pages), department, college, and then final approval by Graduate Studies for publishing to the digital library. You can receive comments at any stage requiring you to make edits so pay attention to your emails.

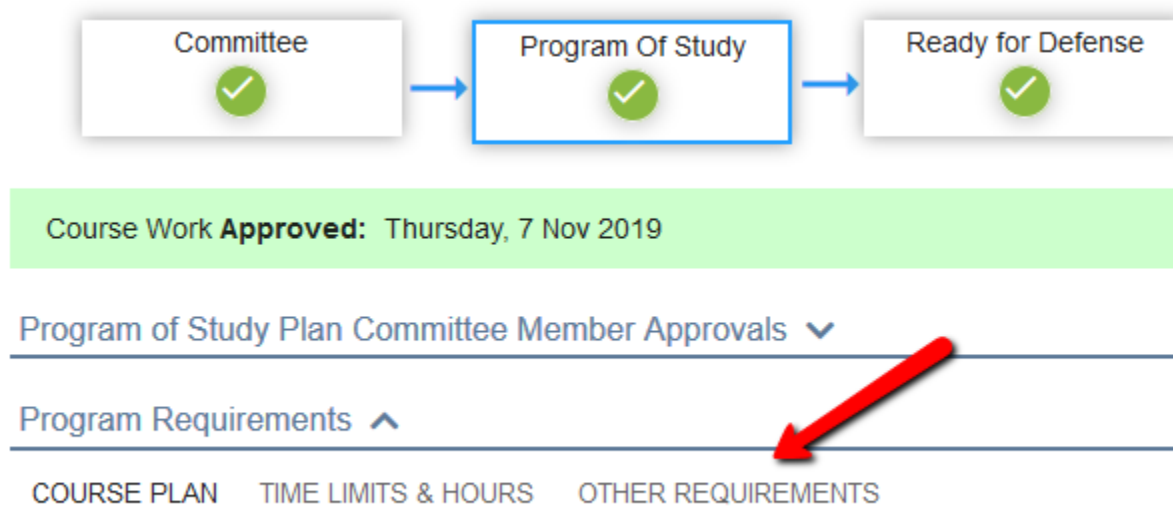
Once you receive the final approval from Graduate Studies, the ETD requirement is met.

Other Requirements:

In some programs, you will have other requirements to meet before graduating. You can check these on the tab that says “My Program Status” report,



or under the POS progress milestone you can click the link for Other Requirements.



Make sure to check your program status often. You are on your way!

Thesis Track Graduate Student Checklist

Action item to be completed	Date completed
Select Graduate Committee: Should be completed by the end of the first semester.	
Submit Program of Study: Should be submitted by the end of the first semester.	
Prospectus Seminar: Should be completed by the end of the second semester.	
Prospectus Approved: on Graduate Progress page within two weeks of the prospectus seminar.	
Apply for Graduation: by the appropriate deadline (see link on Graduate Progress page).	
Thesis Defense: Usually scheduled for immediately following the thesis seminar. Must be scheduled on the Graduate Progress page at least one day prior to the defense. You must be registered for two credit hours the semester you defend.	
ETD Submission: After graduate program manager approves. Should be done at least one week prior to the graduation deadline.	

Project Track Graduate Student Checklist

Action item to be completed	Date completed
Select Graduate Committee: Should be completed by the end of the first semester.	
Submit Program of Study: Should be submitted by the end of the first semester.	
Project Proposal Presentation	
Project Proposal Approved: on Graduate Progress page within two weeks of the presentation.	
Apply for Graduation: by the appropriate deadline (see link on Graduate Progress page).	
Project Report Presentation (defense): Usually scheduled for immediately following the project seminar. Must be scheduled on Graduate Progress page at least one day prior to the presentation. You must be registered for two 2 credit hours the semester you present your report.	
Submit final project report to your committee chair (hard copy or electronic according to the chair's preference).	

Guidelines for use of Department Laboratory and Research Facilities

Laboratory and computer facilities are provided by the University to the Department to achieve teaching and research objectives as approved by the College of Life Sciences. Equipment and supplies are purchased from University funds and private grants, and the Department is accountable to these agencies for prudent and efficient use of these facilities. Therefore, it seems appropriate to establish guidelines for research, laboratory, and computer protocols in order that all who use these properties will be able to more effectively complete their teaching and research assignments.

Laboratories

1. Use of laboratory space, supplies, and equipment is under the direction of a faculty supervisor or committee chair.
2. Laboratory facilities are for Department approved projects and not for personal use.
3. Do not borrow anything without permission from the person responsible.
4. If it gets dirty, clean it up. Each person is responsible for cleaning up after an experiment is completed (and during the course of an experiment).
5. Put back supplies that are not used.
6. If it gets broken, get it fixed. Do not leave it for the next person. Electronic equipment can be repaired by the Instrument Shop (285 NICB).
7. Obtain proper training before using equipment. To help prevent breakage of expensive equipment learn how to run it before starting. Untrained experimentation is dangerous and costly.
8. Learn and practice safe laboratory procedures. The College of Life Sciences laboratory training must be taken before starting work in a lab (refer to "Laboratory Safety Policies"). Committee chairs will give additional safety training as needed in their individual laboratories. If additional training is given, the signed lab specific training record will be kept by your committee chair. Get Material Data Safety Sheets (MSDS) on any new chemical that is acquired and place it in the binder or save it electronically on a lab computer. Hazard waste disposal must conform to departmental policies.
9. Use proper maintenance procedures and techniques on all equipment. This will help avoid much frustration on the part of the student as well as the part of the faculty member who is in charge
10. Do not loan equipment out without authority.
11. Lock all doors anytime you leave the laboratory. Be cautious with items that have a high theft risk. The cost of replacement is just too high for carelessness to exist.
12. University regulations do not allow children in laboratories at any time.
13. Bicycles may not be stored in laboratories or in the building.
14. Help those around you follow these guidelines.

Laboratory Safety Policies

July 2020 Revision

1. General Laboratory Safety

- Faculty responsible for each laboratory will provide instructors, graduate students and others involved in laboratory work with the booklet “Safety in the Academic Chemistry Laboratories” (American Chemical Society, 1985). Know the chemicals you are working with and where the Material Safety Data Sheets (MSDS) are located in the lab.
- Know the location of the nearest first aid kit, eye wash, shower, and fire extinguisher and how to use them. Review this on an annual basis.
- Doors must be locked behind you as you leave a lab (unless someone else is in the lab).
- Remember to wear appropriate clothing for your lab (i.e. closed-toe shoes, long pants) and personal protective equipment (i.e. lab coats, safety glasses, gloves). Remove personal protective equipment before leaving the laboratory. This is for your safety and the safety of others.
- Know what to do in the case of an emergency:
 - University police, fire, and ambulance: Dial 911.
 - ESC building marshals are located in C-186 ESC (2-9276)
- If a minor injury occurs, use the first aid kit in your lab or if you feel the injury needs attention or if you get a blister, go to the BYU Health Center (after hours, go to Utah Valley Hospital). Paid employees must fill out the Online Worker’s Compensation form within 24 hours of the incident (risk.byu.edu > Workers’ Compensation Injury in “Quick Links” list).

2. Hazardous Chemicals

- Faculty responsible for each laboratory will insure that instructors, graduate students, and others involved in laboratory work:
 - receive the College of Life Sciences General Lab Safety Training (refer to the training instructions under Part 5),
 - receive specific training regarding hazardous chemicals as outlined in the HAZCOM program, and
 - know where the HAZCOM booklet and Material Safety Data Sheets (MSDS) are kept.
- If the lab involves exposure to human blood, faculty will also provide blood borne pathogen training. Lab specific training records are kept on file by the committee chair in the HAZCOM binder.
- Insure that all samples, reagents, and waste are labeled with substance name, the date, and the person responsible. Ensure all chemical labels are intact.

- Insure that the list of chemicals in the HAZCOM booklet is continually updated and the MSDS's procured.
- A maximum of 10 gallons of solvent is allowed in each laboratory, unless stored in a flammable solvent storage cabinet. No chromic acid will be used.

The list below identifies which faculty member is responsible for HAZCOM safety for the following laboratories in the Eyring Science Center

<u>Room</u>	<u>Individual</u>
C-284	Ana Mitchell/Julie Duncan
S-103, 115	Laura Jefferies
S-126	Mike Dunn, Brad Taylor
S-128	Mike Dunn
S-145	Oscar Pike, Frost Steele
S-161	Oscar Pike, Mike Dunn
S-169	Gene Ahlborn, Oscar Pike
S-185	Frost Steele, Brad Taylor
S-188	Jiping Zou
S-197	Mike Dunn
S-253, 261	Merrill Christensen/Jason Kenealey
S-260A	Jeff Tessem/Chad Hancock
S-269	Jeff Tessem
S-277	Jason Kenealey
S-285	Chad Hancock
S-288	Susan Fullmer

3. Hazardous waste disposal

- Animal wastes, fluids, parts, and carcasses should be disposed of as per the Waste Regulations Summary below.
- Each instructional and research laboratory has a container for disposal of needles, scalpels, broken glass, and other sharp objects. These objects are not placed directly in regular waste receptacles. Needles are broken prior to disposal. When full, the container is closed and disposed of in the normal waste receptacles.
- Disposal of hazardous chemicals is handled through Environmental Management, ext. 2-6395. A Waste Information Tag must be filled out identifying the contents. Hazardous chemicals, including ethanol, must not be disposed of in drains. Waste chemicals must not accumulate in the laboratory. The Risk Management website (<https://risk.byu.edu/environmental/unwantedmaterial.php>) further outlines the steps to be followed.
- Radioisotope disposal conforms to federal, state, and university policies.
- Solid biohazardous waste only needs to be autoclaved before pickup if it is level 3 waste. Level 1 and 2 waste does not need to be autoclaved before pickup. Environmental Management has asked that you do not use the biohazard autoclave

bags for level 1 and 2 waste. Please use standard red biohazard bag that is not marked for autoclave use. These bags can be purchased in the Life Sciences Stockroom.

- Environmental Management will now process liquid biohazardous waste if it is in a solid plastic jar or bucket. The bucket will be destroyed along with the liquid waste and will not be returned to you. For liquid biohazardous waste pickups, mark the plastic container as liquid biohazardous waste. If your liquid waste requires more than heat to deactivate the organism special arrangements can be made.
- To schedule a pickup of waste material you may visit:
<https://risk.byu.edu/environmental/HazWasteMgmt.php>. You will also be required to have your advising faculty's authorization code prior to scheduling.

4. Other Safety Information

- No bikes allowed inside the building (against BYU Policy & Provo City Fire Code)
- If we have a fire drill, take all of your personal belongings with you. The Fire Marshall may not allow you to reenter the building in the case of a fire.

5. Lab Safety Training Instructions

- The College of Life Science Laboratory Training must be taken prior to working in a research lab and renewed each fall. To access the General Lab Safety Training Course go to ytrain.byu.edu and select "Catalogs" - > "Life Sciences" - > "Life Sciences General Lab Safety Training." Enroll for the course. Click on "Go to Knowledge Center."
- You need to complete two items under the "Active and Completed Courses" list: 1) "Life Sciences Safety Training Information Form" and 2) "Life Sciences General Lab Safety Training." You must complete the "Life Sciences Safety Training Information Form" first, before you can access the "Life Sciences General Lab Safety Training." *(Note: After you submit the "Life Sciences Safety Training Information Form," it may not take you directly back to the correct Ytrain screen. If this happens, just click on "Home" - > "Current enrollments" and you should see the "Life Sciences General Lab Safety Training" listed.)*
- Talk with your faculty mentor about any specialty lab safety training you need for the specific project you will be working on.
- After completion of each lab safety training procedure, have your faculty mentor sign and date the "Lab-Specific Training Record." Once all required safety training is completed, you and your mentor will sign this document certifying your completion and it will go on file with your faculty mentor.
- You need to complete a refresher safety training course at the beginning of each new academic year (ytrain.byu.edu)

Waste Regulations Summary

- The laboratory must remain "under the control of the operator" (i.e., when nobody is in the lab the door must be closed and locked).
- Incompatible wastes and waste types must be segregated.
- Waste containers must be closed or tied off before pickup. Do not fill any container more than 2/3rds full



Biohazard

Waste

Solids → Biohazard Container (provided by Environmental Management)

All potentially infectious material that will not puncture the skin (e.g., fixed tissues, solid cultures, contaminated plastic and gloves, and petri dishes).

- **All petri dishes and cell culture bottles, regardless of the contamination status, should be disposed of in the biohazard container. This includes any clean or broken plates.**
- Plastic tips and other objects capable of puncturing the bag should be placed into smaller red bags before being put in the biohazard container.
- Only fixed tissue, no unfixed tissues.
- **NO LIQUIDS, NO SHARPS, NO METAL, NO GLASS**

Contact Environmental Management for pickup. The container will be replaced.

Liquids → Own Container (Lab-supplied) filled 50% with bleach

BSL 1 and 2 cultures, blood, blood products, etc.

- Add 5.25% sodium hypochlorite (household bleach) to the 50% fill mark on the container.
- Add liquid biohazard materials until full mark. Do not overfill
- For liquid biohazard materials mixed with chemicals contact the College Safety Coordinator: (801) 422-6875

Mix liquid waste material with bleach and allow to sit for 30 minutes before disposing down the drain.

BSL3 liquid waste – contact the College Safety Coordinator: (801) 422-6875.

Contaminated Sharps → Sharps Container Only (Lab-supplied)

Any potentially infectious objects capable of puncturing the skin or collection bag (e.g., needles, scalpel blades, glass slides, glass test tubes, etc.).

- Place in sharps container (available from the Life Sciences Stockroom, 1100 LSB). Do not use glass bottles or cardboard boxes as a sharps container.
- Large items and/or volumes: 10 gallon sharps containers are available for purchase from Life Sciences stockroom, 1100 LSB.
- Close sharps container lid when container is 2/3rds full before pickup.

Contact Environmental Management for pickup. The container will not be returned.