

Virginia Tech
Department of Food Science and Technology

***GRADUATE STUDENT
HANDBOOK***

Revised July 2025

Welcome to Virginia Tech and the Department of Food Science and Technology.

*Your decision to study for an advanced degree in Food Science represents a very important benchmark in your academic training. Our Master of Science in Life Sciences (MSLFS) and Ph.D. degree programs are designed to be challenging, intellectually stimulating, and professionally rewarding. The faculty represents an excellent group of scholars who are dedicated to providing you with an outstanding graduate education. However, **the ultimate success of your graduate education depends on you.** You are encouraged to fully apply your intellectual skills to take full advantage of this educational opportunity.*

The Department of Food Science and Technology Graduate Student Handbook provides a description of the Department's graduate degree requirements, rules and regulations, etc. This Handbook is to be used in conjunction with the Graduate School Catalog and the Graduate School Manual of Policies and Procedures. These policies and procedures are discussed during a graduate student departmental orientation session which is held the first week of each Fall Semester. New graduate students also are required to take a one credit course (Graduate Professionalism in Food Science) in the Fall semester of the first year. The course, which uses this handbook as a guide, facilitates understanding of Department expectations and standards for a successful student and future food science professional.

It is the individual responsibility of each student entering the Department of Food Science and Technology's Graduate Program to completely read and understand all policies and procedures outlined in this Handbook, as well as those outlined in the above cited Graduate School documents.

TABLE OF CONTENTS

I. INTRODUCTION	5
II. GENERAL DESCRIPTION OF RESEARCH AREAS	5
A. Food Safety and Microbiology	
B. Food Chemistry and Sensory	
C. Food Packaging and Processing	
D. Food Fermentations and Functional Foods for Health	
III. FACULTY	6
IV. REGISTRATION AND ARRIVAL	8
A. The Major Advisor	
B. Faculty, Staff, and Research Associates Interview Introductions	
C. Graduate Committee – Curriculum Review	
D. Course Enrollment	
E. Motor Vehicles and Parking	
V. GRADUATE TEACHING AND RESEARCH APPOINTMENTS	10
A. GTA.	
B. GRA	
VI. TEACHING ASSIGNMENTS	11
A. Assignment of Teaching Assistants:	
B. General Guidelines for Assigning Graduate Assistants:	
VII. DEGREE REQUIREMENTS	12
A. Graduate School	
B. Departmental - Master of Science in Life Sciences (MSLFS)	13
1. Thesis	
2. Qualifying Examination	
3. Advisory Committee	
4. Course Requirements and Plan of Study	
5. Research Proposal	
6. Seminar	
7. Checklist	
8. Evaluation Reports	
9. Thesis and Final Examination	
10. Publication of Thesis	
11. Final Term Check-Out	
C. Departmental - Doctor of Philosophy	17
1. Dissertation	

2. Qualifying Examination
3. Advisory Committee
4. Procedure to Add an External Member to an Advisory Committee
5. Course Requirements and Plan of Study
6. Research Proposal
7. Seminar
8. Checklist
9. Evaluation Report
10. Preliminary Examination
11. Dissertation and Final Examination
12. Publication of the Dissertation -
13. Final Term Check-Out

VIII. APPEALS AND POLICY EXCLUSIONS 23

- A. Appeals
- B. Policy Exclusions

IX. EQUIPMENT USAGE, OFFICE, AND LAB SPACE 23

- A. Building Keys
- B. Office/Desk Space
- C. Computer Usage
- D. Photocopiers
- E. Conference Phone
- F. Travel and Use of University and Departmental Vehicles
- G. Mailboxes
- H. Supplies for Research
- I. Workspace and Facilities
- J. Safety
- K. Audiovisual Equipment

X. LIBRARIES 26

XI. UNIVERSITY AND PROFESSIONAL GRADUATE STUDENT ORGANIZATIONS 26

- A. Food Science Club
- B. Graduate Student Assembly and Interdisciplinary Research Honor Society
- C. Professional Associations

XII. CHECK-OUT POLICIES 27

XIII. MISCELLANEOUS INFORMATION 27

- A. Graduate Honor System
- B. Financial Support
- C. Reporting Discrimination and/or Harassment

XIV. PRINCIPLES OF COMMUNITY STATEMENT 28

APPENDICES

APPENDIX A: Graduate Student Expectations for Successful Graduate Study

APPENDIX B: Advisor Expectations for Successful Graduate Student Advising

APPENDIX C: Interview Signature Form – Faculty, Staff and Research Associates

APPENDIX D: Course Listing

APPENDIX E: Proposed Graduate Plan of Study Form (MSLFS)

Separate electronic file (.xlsx) accompanies the online version of the Handbook*

APPENDIX F: Proposed Graduate Plan of Study Form (Ph.D.)

Separate electronic file (.xlsx) accompanies the online version of the Handbook*

APPENDIX G: Guidelines for Thesis/Dissertation Research Proposal

APPENDIX H: Seminar Management and Graduate Student Responsibilities

APPENDIX I: Graduate Student Check Lists

APPENDIX J: Graduate Student Progress Evaluation Form

APPENDIX K: Leave Request Form

APPENDIX L: VT FST Departmental Research Training Form

APPENDIX M: VT FST Guidelines for “BS to PhD” Track

APPENDIX N: FST Student Exit Checklist

APPENDIX O: Travel Procedures

I. INTRODUCTION

Food science is the discipline in which biology, chemistry, physical sciences, and engineering are used to study the nature of foods, the causes of their deterioration, and the principles underlying food processing. Food technology is the application of food science to the selection, preservation, processing, packaging, distribution, and use of safe, nutritious, and wholesome food. Therefore, Food Science and Technology is the study and application of related sciences to ultimately improve the quality and safety of foods.

A food scientist studies the physical, microbiological, and chemical makeup of food. Depending on their area of specialization, food scientists may develop ways to process, preserve, package, or store food, according to industry and government specifications and regulations. Consumers seldom think of the vast array of foods and the research and development that has resulted in tasty, nutritious, safe, and convenient foods. In order to guide students who seek to prepare themselves to contribute to the field of food science, the Department of Food Science and Technology at Virginia Tech offers the MSLFS and Ph.D. degree programs. Food Science and Technology students are to develop a scientific understanding of foods and food processing through the application of biochemistry, chemistry, microbiology, physics, and other sciences.

Modern scientific and technological progress demands a multi-disciplinary approach and thorough training in the basic sciences. Therefore, both the graduate and undergraduate curricula are designed to provide a broad program in the basic sciences on which to build technical competence in Food Science and Technology. The food industry has increasingly shown preference for graduates who have been educated in this type of program. Both the MSLFS and Ph.D. degrees require that the student complete an original research project and present the results as part of a thesis or dissertation.

The food industry utilizes the technical training of the food scientist in many ways: research and development, manufacturing and production, technical sales and service, management, quality assurance, regulatory services with state or federal government, technical writing, teaching, and consulting work. Current scientific topics and employment opportunities in the field of food science can be reviewed through the Institute of Food Technologists website (www.ift.org) and the Journal of Food Technology, an IFT publication.

II. GENERAL DESCRIPTION OF RESEARCH AREAS

Food research can be varied and multidisciplinary. Food scientists are involved in research that spans the entire food system from production and processing to consumption. The role of the food scientist can range anywhere from that of a microbiologist, chemist, or technologist to that of an engineer. The Virginia Tech Food Science and Technology Department is involved in a number of different research areas including: Food Safety and Microbiology, Food Chemistry and Sensory, Food Packaging and Processing, Food Fermentations and Functional Foods for Health, and Aquaculture Engineering and Products.

A. Food Safety and Microbiology

Microorganisms are of significance in food systems because they have both adverse and beneficial effects - they can cause spoilage and illness, but they are also used to produce a variety of foods through fermentation. At Virginia Tech, food microbiology research is concerned with basic and applied studies of foodborne pathogens, microbiological spoilage, prevention and

control of contamination during processing, thermal and non-thermal processing, and method development to detect microorganisms and their toxins. Recently, food safety research has focused on control of major foodborne pathogens in primary agriculture production and processing through the application of new and traditional processing technologies, antimicrobials, sanitation, HACCP-based strategies, analytical methodology, and food safety education and Extension.

B. Food Chemistry and Sensory

The food chemistry and sensory research emphasis allows graduate students to focus on interactions of food components at both basic and applied levels. Understanding of molecular reactions, flavor chemistry, food composition, component interactions, and physical properties of food systems is applied to characterizing changes in food quality attributes, such as texture, color, flavor, and nutrition. Analytical and sensory methods are typically used in studying flavor chemistry. Sensory perception and physiological response related to molecular stimulation is essential to understanding the human element in food quality and safety. Sensory research also includes consumer interactions with an emotional response to food and packaging.

C. Food Packaging and Processing

An emphasis in food processing and packaging allows graduate students in food science and technology to use many of the specialized disciplines of food science in practical applied and basic research. Principles of food engineering, food microbiology, and food chemistry are combined in the food processing and packaging program. Students are engaged in such unit operations as thermal processing, aseptic processing, computer data acquisition and control, dehydration, modified atmosphere packaging, filtration, sanitation, and nondestructive evaluation methods. Students can determine how processing and packaging affects the foods we produce and to investigate new methods of food processing and packaging. Process and Product Development is often commodity related. This type of research will, for the most part, be carried out in the pilot plants with equipment that is usually smaller in scale than commercial equipment.

D. Food Fermentations and Functional Foods for Health

Research in food fermentations and functional foods for health (focus on microbiology and chemistry) are expanding areas in our program. This also includes the health-related contributions of gut fermentations. The role of pre- and pro-biotics on food fermentation, pathogen inhibitions, and gut ecology is of value to food industry and public health.

Research in enology includes grape and wine flavor chemistry in addition to evaluation of vineyard management, fermentation management, and processing alternatives on grape chemistry. Analytical assessment of bioactive components and the biological assessment of how those components work emphasizing chemistry and biochemistry.

III. **FACULTY** (that may serve as Major Advisor for Graduate Advisory Committee)

Boyer, Renee R. Ph.D., Virginia Tech (2006). Professor, HABB1 Room 403, Food Science and Technology, 231-4300. Safety of minimally processed fresh fruits and vegetables, attachment characteristics and removal of foodborne pathogenic bacteria to various fresh produce surfaces. Consumer food safety extension. (Food Safety and Microbiology).

Cheng, Rachel Ph.D., Cornell University (2017). Assistant Professor, HABB1 Room 401E, Food Science and Technology, 231-2502. Whole-genome sequencing; genomic analyses; flow cytometry; confocal microscopy; spore-forming bacteria in dairy production environments; bacterial genetics; rapid detection methods for foodborne pathogens. (Food Microbiology; Food Safety; Foodborne Illness Virulence and Disease Severity).

Cheng, Yifan Ph.D., Cornell University (2017). Assistant Professor, HABB1 Room 402B, Food Science and Technology, 231-3236. Food Process Engineering; Antimicrobial Nanostructures for Food Contact Surfaces, Intelligent Packaging (Food Packaging; Food Safety).

Cladis, Dennis P. Ph.D., Purdue University (2020). Assistant Professor, Integrated Life Science Bldg. Room 1013, Food Science and Technology, 231-5208. Polyphenols; Flavonoids; Bioavailability and Metabolism; and Food and Nutritional Toxicology.

Eifert, Joseph D. Ph.D., Virginia Tech (1994). Professor, HABB1 Room 401B, Food Science and Technology, 231-3658. Food Safety; Food Laws and Regulations; Microbiological and Chemical Analysis of Food; Poultry Processing. (Food Safety and Microbiology).

Hamilton, Alexis Ph.D., Washington State University (2021). Assistant Professor, HABB1 Room 402C, Food Science and Technology, 231-1892. Food Safety; Food Processing Microbiology

Huang, Haibo. Ph.D., University of Illinois at Urbana-Champaign (2013). Associate Professor, HABB1 Room 402J, Food Science and Technology, 231-0729. Engineering solutions to improve fermentation, food byproduct valorization, process development and simulation (Food Processing, Food Fermentation)

Kuhn, David D. Ph.D., Virginia Tech (2008). Associate Professor, FST Room 14, Food Science and Technology, 231-8643. Seafood quality, seafood safety, aquaculture research and outreach. (Aquaculture; Food Processing; Food Safety and Microbiology).

Lahne, Jacob, Ph.D., University of Vermont (2014). Associate Professor, HABB1 Room 402F, 231-7428. Sensory evaluations and consumer perceptions, craft and artisan food production, and flavor profiling. (Sensory evaluation, Enology and Brewing Science, Product development).

O'Keefe, Sean F. Ph.D., Iowa State University (1988). Professor, FST Room 119, Food Science and Technology, 231-2075. Food chemistry, lipid and flavor chemistry. (Food Chemistry; Food Fermentations and Functional Foods for Health).

Ponder, Monica A. Ph.D., Michigan State University (2005). Professor. HABB1 Room 401D, 231-5031. Microbial ecology of food commodities. Pathogen detection and characterization of activity using molecular methods. Host-pathogen interaction. (Food Safety and Microbiology; Food Fermentations and Functional Foods for Health).

Stewart, Amanda C. Ph.D., Purdue University (2013). Associate Professor. HABB1 Room 401C, Food Science and Technology, 231-0868. Enology and fermentation of grapes and other food systems (Food Fermentations and Functional Foods for Health).

Strawn, Laura K. Ph.D. Cornell University (2014). Associate Professor. HABB1 Room 401A, Food Science and Technology, 231-6953. Fresh Produce; Food Safety (Food Safety and Microbiology).

Yin, Yun Ph.D., University of Illinois at Urbana (2017). Assistant Professor, HABB1 Room 401J, 231-2029. Aroma and flavor compounds in food systems, flavor analysis and sensory evaluation.

Other Faculty that may serve as co-Chairs or members of Graduate Advisory Committees:

Carneiro, Renata C. V. Ph.D., Virginia Tech (2021). Research Assistant Professor, HABB1 Room 402A, Food Science and Technology, 232-2021. Sensory and Consumer Science, Chemical Analysis of Food; Product Development.

Hurley, E. Kenneth Ph.D., Virginia Tech (2021). Collegiate Assistant Professor, FST Room 115, Food Science and Technology, 231-7447. Food Chemistry, Food Analysis, Food and Beverage Fermentation.

Parraga, Katheryn Ph.D., Louisiana State University (2021). Extension Specialist – Muscle Food Safety. Virginia Seafood AREC, Hampton, VA, (757) 727-4861

Schonberger, H. Lester Ph.D., Virginia Tech (2020). Senior Research Associate, FST Room 124A, Food Science and Technology. Food Safety Education; Food Donation (Food Safety).

Sumner, Susan S. Ph.D., University of Wisconsin-Madison (1987). Associate Dean, Academic Programs, Director, CALS Resident Instruction, Room 1070, Litton Reaves, 231- 5290. Food safety, dairy and fruit and vegetable safety. (Food Safety and Microbiology).

IV. REGISTRATION AND ARRIVAL

Students need to arrive on campus by the start of their assistantship contract (generally August 10th for Fall and January 5 for Spring). Spring semester classes start on the Tuesday after the Martin Luther King Day holiday.

A general orientation session will be held the week classes start in the fall and during the first seminar class in the spring semester. This session will introduce the student to the graduate handbook and provide information relative to safety, facility use, and course registration. The “Graduate Student Expectations for Successful Graduate Study” (Appendix A), as well as the “Advisor Expectations for Successful Graduate Student Advising” (Appendix B) are important documents to review. The student is to be fully aware of and committed to meeting these expectations.

A. The Major Advisor

The Major Advisor should be identified prior to the student's arrival. The Major Advisor serves as the Chair of the student's Graduate Advisory Committee and is to be a faculty member of the Food Science and Technology Department with technical expertise in the student's intended major field of study. If a student is being funded from a research project, in most cases the student's Major Advisor will be the principal investigator of the project.

The student's Major Advisor is the primary point of contact for the student and their progress to degree. The student should work with their Major Advisor to identify a mutually agreed upon date to arrive on campus, work schedule, progress to degree and research expectations in accordance with the expectations provided in this handbook.

B. Faculty, Staff, and Research Associates Interview Introductions

It is important for graduate students to get to know faculty, staff, research associates, and postdoc members and vice versa, thus all graduate students will be required to meet individually with each of the faculty, staff, research associates and postdoc members in the Department. This is completed as a task in the FST 5054 course. Appendix C (Faculty, Staff, and Research Associates Interview Signature Sheet) is a check sheet that must be filled out and returned to the Staff Graduate Coordinator (Donna Eastwood) after the completion of the **first semester**.

C. Graduate Committee – Curriculum Review

The background of students enrolling in the Food Science and Technology Department can be very diverse. Each student may require specific coursework to meet the Departmental requirements for graduation. Students select courses after consultation with their Major Advisor. The courses selected for the Graduate Plan of Study must be approved by the student's Graduate Advisory Committee. A list of FST graduate courses is provided in Appendix D.

D. Course Enrollment

The student will be expected to meet with his/her Major Advisor before the beginning of classes to tentatively outline the courses to be taken throughout his/her degree program. This selection of courses will be based on the student's specific interests and on the recommendation specified in C above. Students may not enroll in more than 15 credit hours without permission from the FST Graduate Committee. Students are responsible for enrolling in classes online through HokieSpa. All new students must enroll in the FST 5054 Graduate Professionalism in Food Science course in the Fall semester of their first year in the FST graduate program. This course will facilitate the student's initial progress toward a degree. For continuing students (MSLFS to Ph.D.), Graduate Professionalism in Food Science is not required a second time.

E. Motor Vehicles and Parking (1-3200)

All students must register their motor vehicles with Virginia Tech Parking Services (located at 505 Beamer Way) or online. Students should register their vehicles during the first week of the semester. To receive a parking tag you must have a motor vehicle registration, valid driver's license, and a student ID card. Students are not allowed to park in the Food Science Building parking lot; ticketing will be strictly enforced. Commuting students must use the designated commuter parking lots.

V. GRADUATE TEACHING AND RESEARCH APPOINTMENTS

Graduate teaching and research appointments are administered both by the Department Head and by individual faculty members. Departmental appointments and fee waivers are awarded by the Department Head on a case-by-case basis based on each student's background and academic achievements. The Graduate Committee will make a recommendation to the Department Head, for each application reviewed, as to whether the applicant should be considered for acceptance and/or financial assistance. All non-U.S. students must provide evidence of financial support for the duration of their Plan of Study (MSLFS degree for 2 years, Ph.D. for 3 years) if they are not awarded an assistantship. Graduate research appointments that are part of a faculty member's sponsored program are the responsibility of the faculty member. All students on assistantship in the Department are expected to aid in the teaching of departmental courses. Whether or not a student is considered appropriate for the teaching of a class is solely the decision of the faculty member in charge of the class and the Department Head.

Students offered a graduate research or teaching assistantship must sign a contract (Graduate Assistantship Agreement) describing the duration, percent appointment, monthly salary rate, and average hours of work time per week. Students receiving a graduate stipend (half-time appointment) are expected to work an average of 20 work hours per week. The specific work assignments will be defined by the Major Advisor and the Department Head. This work effort is in addition to the work toward the thesis or dissertation research. These contracts are typically administered as Graduate Teaching Assistantships (GTA) or Graduate Research Assistantships (GRA): These contracts can be awarded by semester, Academic year (9-month) or Calendar year (12-month).

- A. GTA. Students who receive a graduate teaching assistantship (GTA) will be expected to spend up to 20 hours per week assisting with the teaching mission of the department. These students are typically assigned to be a "Teaching Assistant" for a specific course each semester. Students will be assigned a teaching mentor based on the course they are assigned to. For example, if a GTA is assigned to the course "Food Microbiology" they are expected to provide support for the Food Microbiology lab course at the discretion of the Lab Manager and the Instructor of record for the course.
- B. GRA. Students who receive a graduate research assistantship (GRA) will be expected to spend 20 hours per week assisting in the research mission of the department. The specific assignment is dependent on their advisor's needs. These duties should not exceed more than 20 hours per week unless they are directly related to the student's research.

Unless specified otherwise in the assistantship agreement contract, graduate students on full assistantships are not prohibited from seeking additional employment. Students should consult with their academic advisor and/or assistantship supervisor as applicable regarding the fulfillment of their assistantship and graduate study responsibilities. Students must notify the Graduate School about any additional employment agreement, including the period of employment, name and contact of employer, and job title or short description of duties.

Students on a 12-month assistantship are obligated to work throughout the entire year and may receive 10 workdays per calendar year of vacation (with pre-approval from their advisor and Department Head), plus the State declared holidays listed below (and any additional days/hours

declared as holidays for all state employees by the Governor of Virginia).

- New Year's Day
- Martin Luther King Day
- Memorial Day
- Juneteenth
- Independence Day
- Labor Day
- Thanksgiving
- Day after Thanksgiving
- Christmas Eve
- Christmas Day

Students on a 9-month assistantship are obligated to work throughout the entire duration of their contract (typically August 10 – May 9). These students may receive 10 workdays per calendar year of vacation (with approval from their advisor), plus the above-mentioned state declared holidays that fall within the contractual period.

Students are expected to work during Spring Break week unless prior arrangements have been made with their major advisor.

Summer funding for students is variable. Some students take off-campus internships during the summer months, and others remain on campus and are paid from various sources. Summer funding is not guaranteed and is awarded on a case-by-case basis.

All students, both 9- and 12-month appointments, must submit leave requests (Appendix K) authorized by their major advisor to the Staff Graduate Coordinator.

Assistantships are renewed on an annual basis based on availability of funding and academic progress/performance. The stipend level may change depending on the source of the funding. For example, students beginning study on a 1-year grant which provides a higher level of funding, may drop to the average departmental pay rate in the second year (when the funding from grant is complete).

Students who are not on an assistantship are encouraged to participate in departmental programs and other activities in addition to degree requirements, but they are not obligated to do so. All Graduate students regardless of assistantship status must meet the time commitment needed to reach the research expectations of the student's Advisory Committee.

VI. TEACHING ASSIGNMENTS

A. Assignment of Teaching Assistants:

The Department of Food Science and Technology at Virginia Tech recognizes that our graduate students can be best prepared for their future professional careers by not only receiving the necessary training in normal research but also by providing the students training in communications through teaching assignments.

Recognizing the importance of training in communications through teaching assignments in preparing future professionals in Food Science, each Ph.D. graduate student graduating from FST, regardless of their funding source, will be required to TA at least

one semester in their graduate program.

Graduate students that are classified as GRA and funded by external grants will not be assigned teaching responsibilities unless these students are 1) PhD level and participating in the GTS program or 2) completing their one semester teaching requirement. Doctoral students on a GRA will be expected to serve as a teaching assistant once in 3 years. We anticipate that MSLFS students paid both semesters by external grants would not have a teaching assignment in that year.

B. General Guidelines for Assigning Graduate Assistants:

- All graduate teaching students shall not be asked to work more than 20 hours per week to assist in teaching. In the case that a student needs to spend much more than 20 hours per week (on average) in his/her teaching assignment duty, the student shall communicate with the course instructor and the FST graduate program director to reduce the teaching assignment load.
- Graduate Teaching Scholar (GTS) students, per the request from the GTS program, will serve as a teaching assistant for one semester only in their first year of the three-year program. GTS students will not serve as a teaching assistant in the second or third year of their studies in the Department of Food Science and Technology.
- Graduate students who are currently conducting research at an AREC will be preferred to assist online courses.
- Graduate students who do not receive an assistantship from the Department will not be asked to teach a course/lab, but they may volunteer.
- Exchange/visiting students who do not receive an assistantship from the department will not be asked to teach a course/lab, but they may volunteer.

It is important to note that the number of graduate students in FST who receive a Graduate Teaching Assistantship, Graduate Research Assistantship, or other types of funding support varies each year, thus the teaching assignment effort for each student could be different each year. Adjustments to teaching assignments will be conducted based on the number of students and the courses offered that year.

VII. DEGREE REQUIREMENTS

A. Graduate School

All degree programs must conform to the requirements of the Graduate School as described in the Graduate Catalog and the Graduate School Policies and Procedures Manual. In addition, candidates for the MSLFS and Ph.D. degrees must meet the following requirements:

The Department offers a M.S. in Life Sciences (research thesis required) and a Ph.D. Students can be admitted directly into the Ph.D. program without a Masters degree, or exceptional students working on our MSLFS degree can transfer to a PhD program after three semesters if they meet the requirements outlined in Appendix M.

B. Departmental - **Master of Science in Life Sciences (MSLFS)**

1. Thesis - An original research project thesis is required.
2. Qualifying Examination - A qualifying examination is not required.
3. Advisory Committee –
 - A 3-person Advisory Committee must be identified by the end of the students first semester.
 - The Committee Chair/Major Advisor must be a full-time Graduate Program faculty member (as described in Virginia Tech Graduate Catalog) in the Department of Food Science and Technology.
 - The student and the Major Advisor will select two additional members of the Committee. One of these additional members will be full-time faculty in the Department of Food Science and Technology.
 - At least one tenured FST faculty on the committee (advisor or committee member) is preferred.
 - A Research Scientist or a Research Associate holding a Ph.D. degree may serve on the Advisory Committee as a fourth member.
 - The student must personally confirm with each Committee member their willingness to serve on the Committee.
 - **The student should actively seek the advice of the Committee members and use this Committee in a truly advisory capacity.**
4. Course Requirements and Plan of Study
 - a. Statistics Course Requirements - The Food Science and Technology Department is one of the 6 Departments in CALS that offers the Masters degree program known as "Master of Science in Life Sciences (MSLFS)". When this was created 20+ years ago, it included a requirement that students in each Department would take 3 shared courses. These include BCHM 5124 (Biochemistry for the Life Sciences) and either STAT 5605 (Biometry I) or STAT 5615 (Statistics in Research I), which are both offered in fall semesters.

STAT 5615 and STAT 5605 both cover many of the same introductory statistical topics including graphical explorations, confidence intervals, hypothesis testing, simple linear regression and ANOVA. STAT 5615 uses a broad variety of examples to teach these topics, while STAT 5605 focuses on biology type examples. Traditionally, STAT 5615 was thought to be taught at a higher level, but really there are not a lot of differences in level between these courses.

Some other differences are:

 - STAT 5615 covers JMP software, however, the student can pick any software they like to complete the class. STAT 5605 has traditionally been taught using R software. However, this could change if the instructors change for the course
 - STAT 5615 is a rather large online course (around 200 students), while STAT 5605 is usually much smaller, less than 50 students.
 - b. Students must take 2 FST 5### courses.

- c. All full-time students must enroll in FST Graduate Seminar each Spring semester (includes resident and non-resident).
- d. A proposed Plan of Study will be developed by the student, Major Advisor, and student's Advisory Committee. The Plan of Study must comply with the requirements listed in the Graduate School Policies and Procedures Manual and with Departmental degree requirements. The Plan of Study should complement the student's research program so the final plan of study should not be submitted before the student's project is selected. The Plan of Study will be drafted during the fall semester as a requirement of FST 5054 Graduate Professionalism in Food Science. If a student begins in study in the spring, then they should begin drafting their POS during that semester with the guidance of their advisor and committee. The POS should be fully completed and submitted to the Graduate Coordinator by the end of the student's **second semester**.

The student is responsible for developing, submitting, and tracking the progress of the approval of their Plan of Study. However, this should be done in consultation with the Major Advisor and Advisory Committee. See Appendix E for the plan of study form.

The student's Advisory Committee will be expected to meet at least once to review the student's proposed Plan of Study. This meeting typically occurs in the first or second semester. The Plan of Study form must be signed by all the members on the student's Advisory Committee before being submitted to the Department Head. Use the following procedure for submitting a Plan of Study for evaluation and approval:

- i. Student should prepare Plan of Study, confirming course numbers, course titles and semester are correct before submitting to the advisory committee.
 - ii. The proposed Plan of Study is submitted to the Advisory Committee for review and signatures. Faculty identification numbers need to be included. A plan of study form for MSLFS students is available in Appendix E.
 - iii. The proposed Plan of Study is submitted to the Staff Graduate Coordinator by the end of the second semester.
 - iv. The Staff Graduate Coordinator will enter the Plan of Study on the Virginia Tech Banner system to be approved by the Graduate School.
5. Research Proposal – A research proposal outline will be drafted during the fall semester as a requirement of FST 5054 Graduate Professionalism in Food Science. If a student begins study in the spring, the student should begin drafting the proposal outline with the guidance of their advisory committee. Prior to the completion of the first calendar year of graduate study, the student will prepare a research proposal (see Appendix G) for evaluation and approval by the student's Advisory Committee. The proposal will be presented in written and oral format at a scheduled meeting of the student's Advisory Committee. **The written research proposal must be submitted to the Advisory Committee at least seven days prior to the Advisory Committee meeting.**

6. Seminar - Every student will enroll in and participate in seminar (FST 5004) each year of residence. For example, an MSLFS student completing degree requirements in two years will present two seminars for credit and one thesis defense seminar. Each full-time MSLFS student is required to enroll in FST 5004 Graduate Seminar each Spring semester (includes resident and non-resident). See Appendix H for a detailed discussion of the Department's seminar policy. The format for FST 5004 may change depending on the number of enrolled students.
7. Checklist - All students should use the checklist (Appendix I1) to ensure important milestones for your first semester and subsequent semesters are completed in a timely fashion.
8. Evaluation Reports - All students will submit a semester evaluation report at the completion of each academic term (January 10 for fall semester activities; May 15 for spring semester) (see Appendix J). Feedback and comments regarding the student's progress should be collected from the advisor and committee members at an Advisory Committee meeting. The completed progress report is to be signed by the Major Advisor (Chair) and at least one committee member and will then be sent to the Staff Graduate Coordinator. The progress report keeps the Department Head informed of the progress of each student. The Graduate Committee will evaluate the student's progress toward their degree annually. If the evaluation report is not submitted on time, the Department Head may request the Graduate School to withdraw that student from active enrollment.

Graduate student summer funding and awards will be decided based on the progress toward degree, service and professional activities noted on the progress reports. If a meeting of the advisory committee cannot be held then comments from major advisor and at least one other committee member should be added.

9. Thesis and Final Examination - The thesis will be written under the supervision of the Major Advisor. The thesis shall be formatted to meet the requirements of the Graduate School. Final Examinations and Preliminary Examinations must be scheduled with and approved by the Graduate School. These examinations must be requested at least two weeks in advance through the electronic scheduling website: <https://ess.graduateschool.vt.edu/pages/login.php>.
 - It is the student's responsibility to understand all dates, ETD format and other requirements of the Graduate School.
 - An attributions page describing the role of each author must be included.
 - The Department recommends that the research portion of the thesis shall be written in manuscript form, following the guidelines of a primary research journal in the area of food science. Examples of appropriate research journals to be considered for manuscript style include Applied and Environmental Microbiology, Journal of Food Science, Journal of Food Protection, Journal of Dairy Science, and Journal of Agriculture and Food Chemistry.
 - Each research manuscript shall be titled as a separate Chapter within the thesis.
 - In general, each manuscript will include an abstract, introduction, materials

and methods, results and discussion, conclusions, and references. The body matter of the thesis document shall be modified to accommodate the research.

- If the research portion is contained within one manuscript, including an introduction, then the abstract should be provided at the beginning of the thesis.
- If two or more research manuscripts are included within the thesis, then an Abstract and Introduction addressing the entire scope of the thesis research should be included before the Review of Literature.
- A Conclusion or Summary of the entire dissertation may also be included if appropriate.
- Graduate students and their advisors are required to verify through the software *iThenticate* that their electronic thesis (ETD) is appropriately written and cited. Students are encouraged to use *iThenticate* to review drafts of their ETDs prior to final submission. See:
<https://vtnews.vt.edu/notices/ithenticate-graduateschool.html> and
<https://graduateschool.vt.edu/faculty-and-staff-resources/ithenticate.html>.
Defense of the thesis will be administered by the student's Examination Committee, which is typically the Advisory Committee.
- Committee members must be given a copy of the final draft of the thesis **at least three weeks before the examination**. At this time, students must also provide a summary report for their thesis review using the *iThenticate* anti-plagiarism software.
- The thesis will be evaluated by the Examination Committee for completion of proposed objectives, scientific merit, clarity of thought, thoroughness of presentation, and grammar. Evaluation of the thesis will be made prior to and during the final examination. Further examination of the thesis can be made after the final examination and prior to submission of the final copy to the Graduate School.
- The final examination will be supervised by the Major Advisor and administered by the student's Examination Committee. It shall include a scheduled public seminar on the thesis work, to be arranged by the student and Major Advisor and presented to the faculty and graduate students of the Department, and visitors from other university departments. The open seminar will be followed by an oral examination with attendance restricted to faculty and the student. The oral examination will include questions on the thesis, course work and general knowledge of food science and related fields. [If the final approved thesis is submitted to the Graduate School more than eight weeks after the final examination then the final examination must be retaken].
- It is the responsibility of the student to ensure that all other degree requirements are met prior to scheduling the final examination. The student is responsible for the costs associated with writing and reproducing the thesis. The student must submit their thesis electronically within 2 weeks of the defense date for final approval by the Graduate School. Directions on how to do this can be found at <http://etd.vt.edu/>, but the submission site is <https://ess.graduateschool.vt.edu/pages/login.php>. Upon submission of the electronic thesis the student claims copyright to the thesis.

10. Publication of Thesis – It is expected that the research from the MSLFS thesis is published in a peer reviewed journal. Students are expected to have all papers

from their thesis prepared for submission to appropriate journals prior to final acceptance of the thesis.

11. Final Term Check-Out - As part of completion of the student's program and departure from the Department, the student will have an exit interview with the department head, or another representative from the department. They must also return any university department keys, clean out their desk and lab space, and turn in all laboratory notebooks and electronic documentation related to research or other activities advised by their Major Advisor. The Major Advisor is to verify that all has been completed. (See Appendix N – FST Student Exit Checklist)

C. Departmental - **Doctor of Philosophy**

1. Dissertation - An original research project dissertation is required.
2. Qualifying Examination - A qualifying examination is not required for students who have an M.S. degree, but may be required for students who have only a Bachelor's degree. In the latter case, the research proposal submission seminar and research proposal may be evaluated in lieu of a qualifying exam.
3. Advisory Committee
 - A 4-person Advisory Committee must be identified by the end of the students first semester.
 - The Committee Chairman/Major Advisor must be a full-time Graduate Program faculty member (as described in Virginia Tech Graduate Catalog) in the Department of Food Science and Technology.
 - The student and the Major Advisor will select at least one additional member of the Committee from full-time faculty in the Department of Food Science and Technology.
 - At least one additional Committee member will be selected from another academic department or from outside of Virginia Tech. (Note: External members need to be approved by the Graduate School.)
 - At least one of the FST faculty (advisor or committee member) must be tenured. Exceptions should be approved by the FST Graduate Committee.
 - Adjunct faculty and other professional scientists from outside the university may serve as regular committee members with the approval of the Department Head and Graduate School. A Research Scientist or a Research Associate holding a Ph.D. degree may serve on the Advisory Committee as a fifth member.
 - The student must personally confirm with each Committee member their willingness to serve on the Committee.
 - The student should actively seek the advice of the Committee members and use this Committee in a truly advisory capacity.
4. Procedure to Add an External Member to an Advisory Committee

Doctoral students must have at least one Advisory Committee member who is not in the FST Department. That member could be in another Virginia Tech department or from outside the University. These external committee members need to be approved by the Graduate School. The Graduate School policies for Advisory Committees are found here: <https://catalog.vt.edu/graduate/graduate->

[policies/#degreecertificaterequirementstext](#)

The following procedure applies to Doctoral or Masters students who may need to add an external advisory committee member. The Graduate School requires submission of a **Graduate Committee Service Approval Form** for all committee members regardless of if they are tenure or non-tenure track or outside the university. This form

(https://docs.google.com/forms/d/e/1FAIpQLSdmnzEYr6e48l2kspRNp-j76l7q9N5KQmgs-sRJNlc7ZNfXw/viewform?edit_requested=true) must be submitted for any Committee members who have not been previously approved by the Graduate School. On pages 1 - 3 of the form, you provide information for a current VT faculty member who may be in or outside of the FST Department. On pages 4 - 6, similar information is requested for a Non-Virginia Tech Employee / Non-faculty Virginia Tech Employee / Retired VT Faculty Member. You should get a copy of the CV or resume for the proposed committee member. This will contain most of the information needed to complete the form. Students should complete a draft copy of the form, and send this and the CV or resume to the FST Graduate Program Coordinator who can then submit the request to the Graduate School.

5. Course Requirements and Plan of Study

- a. Statistics Course Requirements - Typically, the FST Department requires doctoral students to take 2 graduate level statistics courses:
 - 1) STAT 5605 (Biometry I) or STAT 5615 (Statistics in Research I), and
 - 2) STAT 5616 (Statistics in Research II) or one graduate-level statistics course chosen by the student and their advisor. This course could be FST 5734 (Data Analytics for Food and Agricultural Sciences) or other courses from the Department of Statistics(<https://www.stat.vt.edu/academics/courses/campus-wide-courses.html>) or courses from other departments if appropriate.
- b. Students must take 3 FST 5### courses.
- c. All full-time students must enroll in FST Graduate Seminar each Spring semester (includes resident and non-resident).
- d. A proposed Plan of Study will be developed by the student, Major Advisor, and student's Advisory Committee. The Plan of Study must comply with the requirements listed in the Graduate School Policies and Procedures Manual and with Departmental degree requirements. The Plan of Study should complement the student's research program so the final plan of study should not be submitted before the student's project is selected. The Plan of Study will be drafted during the fall semester as a requirement of FST 5054 Graduate Professionalism in Food Science. If a student begins in study in the spring, then they should begin drafting their POS during that semester with the guidance of their advisor and committee. The POS should be fully completed and submitted to the Graduate Coordinator by the end of the student's **second semester**.
The student is responsible for developing, submitting, and tracking the progress of the approval of their Plan of Study. However, this should be

done in consultation with the Major Advisor and Advisory Committee. See Appendix F for the plan of study form.

The student's Advisory Committee will be expected to meet at least once to review the student's proposed Plan of Study. This meeting typically occurs in the first or second semester. The Plan of Study form must be signed by all the members on the student's Advisory Committee before being submitted to the Department Head. Use the following procedure for submitting a Plan of Study for evaluation and approval:

- i. Student should prepare Plan of Study, confirming course numbers, course titles and semester are correct before submitting to the advisory committee.
 - ii. The proposed Plan of Study is submitted to the Advisory Committee for review and signatures. Faculty identification numbers need to be included. A plan of study form is available in Appendix F.
 - iii. The proposed Plan of Study is submitted to the Staff Graduate Coordinator by the end of the second semester.
 - iv. The Staff Graduate Coordinator will enter the Plan of Study on the Virginia Tech Banner system to be approved by the Graduate School.
6. Research Proposal - A research proposal draft outline will be drafted during the fall semester as a requirement of FST 5054 Graduate Professionalism in Food Science. If a student begins study in the spring, the student should begin drafting the proposal outline with the guidance of their advisory committee. Prior to the completion of the first year of graduate study, the student will prepare a research proposal (see Appendix G) for evaluation and approval by the student's Advisory Committee. The student should work with their Major Advisor to develop a written proposal that contains a detailed Introduction, Literature review, Research questions, methods, potential problems and justification sections.
 - **The research proposal must be submitted to the Advisory Committee at least seven days prior to the Advisory Committee meeting.**
 - The proposal will be presented as a PowerPoint or keynote seminar at a scheduled meeting of the student's Advisory Committee.
 - Students should be prepared to answer questions about methodology, hypotheses and general knowledge relating to the students proposal.
 - Ph.D. students will incorporate revisions from each Committee member for approval prior to proceeding with the project. This revised version serves as your contract with your Committee.
7. Seminar - Every student will enroll and participate in seminar (FST 5004) each year of residence. For example, a Ph.D. student completing degree requirements in three years will present three seminars for credit, one proposal defense seminar and one dissertation defense seminar. Each full-time Ph.D. student is required to enroll in FST 5004 Graduate Seminar each Spring semester (includes resident and non- resident). See Appendix H for a detailed discussion of the Department's seminar policy. The format for FST 5004 may change depending on the number of enrolled students.

NOTE: Doctoral students only need to enroll for a maximum of 4 semesters of FST 5004 over the course of their doctoral or doctoral plus master's degree

programs. If they are still a full-time student after 4 years, then they should attend FST 5004, but not enroll. Note that the Graduate School only permits a maximum of 4 credits of seminar (5004) on a plan of study. FST graduate students often include the 1-credit Graduate Teaching Workshop (GRAD 5004) as one of these 5004 credits.

8. Checklist - All students should use the checklist (Appendix I) to ensure important milestones for your first semester and first year are completed.
9. Evaluation Report - All students will submit a semester evaluation report at the completion of each academic term (January 10 for fall semester activities; May 15 for spring semester) (see Appendix J). Feedback and comments regarding the student's progress should be collected from the advisor and committee members at an Advisory Committee meeting. The completed progress report is to be signed by the Major Advisor (Chair) and at least one committee member and will then be sent to the Staff Graduate Coordinator. The progress report keeps the Department Head informed of the progress of each student. If the evaluation report is not submitted on time, the Department Head may request the Graduate School to withdraw that student from active enrollment. Graduate student summer funding and awards will be decided based on the progress toward degree, service and professional activities noted on the progress reports. Reports are also useful for organizing professional activities for inclusion on a CV or resume.
10. Preliminary Examination - The preliminary examination consists of a written examination followed by an oral examination (typically one week afterwards). The date and time of the examination will be arranged by the student in consultation with his/her Major Advisor and Advisory Committee. The preliminary examination cannot be scheduled before the student's Plan of Study has been approved by the Graduate School and must be scheduled during a semester when the student is enrolled.
 - Preliminary Examinations must be scheduled with and approved by the Graduate School. These examinations must be requested at least two weeks in advance through the electronic scheduling website:
<https://ess.graduateschool.vt.edu/pages/login.php>.
 - The preliminary examination is given to all Ph.D. students after most of their course work is completed. Masters → to PhD students should take the exam in their fourth semester. BS → to PhD students should take the exam in their fifth or sixth semester.
 - The exam must be taken at least 6 months before the defense of the dissertation.
 - The examination will be administered and evaluated by the student's Advisory Committee.
 - The title of Ph.D. Candidate will be reserved for those individuals accepted into the doctorate program who have successfully completed their preliminary examination. An individual that has been accepted into the doctorate program but has not completed his/her preliminary examination will be considered a Ph.D. Student.
 - Goal of the preliminary exam:
To assess the student's depth and breadth of knowledge in food science and technology principles, and to assess the student's ability to critically think

through and find solutions for real-world problems related to food science and technology, including other specific aspects of the student's research program. Questions for this examination will be on course work, and on general knowledge and understanding basic principles of food science and technology and related fields. The student will also be evaluated on his/her research ability.

- Written preliminary examination guidelines:
The specific examination protocol is up to the discretion of the student's Major Advisor and Advisory Committee except that the following formats may not be the sole methods of administering the written preliminary exam:
 - *Writing one grant proposal and defending it in lieu of all other written questions.*
 - *Writing one systematic, critical, or narrative review in lieu of all other written questions.*

While these are worthwhile exercises for a graduate student, the department feels that these exercises do not *by themselves* fit the goals of the preliminary examination because they do not allow the student to demonstrate depth and breadth of knowledge in food science and technology principles.

11. Dissertation and Final Examination - The dissertation will be written under the supervision of the Major Advisor. Final Examinations must be scheduled with and approved by the Graduate School. These examinations must be requested at least two weeks in advance through the electronic scheduling website:
<https://ess.graduateschool.vt.edu/pages/login.php>.

- a. The dissertation shall be formatted to meet the requirements of the Graduate School.
- b. The Department recommends that the research portion of the dissertation shall be written in manuscript form, following the guidelines of a primary research journal in the area of food science. Examples of appropriate research journals to be considered for manuscript style include Applied and Environmental Microbiology, Journal of Food Science, Journal of Food Protection, Journal of Dairy Science, and Journal of Agriculture and Food Chemistry.
- c. Each research manuscript shall be titled as a separate Chapter within the dissertation.
- d. In general, each manuscript will include an abstract, introduction, materials and methods, results and discussion, conclusions, and references. The body matter of the dissertation shall be modified to accommodate the research. It is expected that a dissertation will include two or more research manuscripts within the body matter. Therefore, an abstract and introduction addressing the entire scope of the dissertation research should be included before the review of literature. A conclusion or summary of the entire dissertation may also be included if appropriate.
- e. Graduate students and their advisors are required to verify through the software *iThenticate* that their electronic dissertation (ETD) is appropriately written and cited. Students are encouraged to use *iThenticate* to review drafts of their ETDs prior to final submission. See:
<https://vtnews.vt.edu/notices/ithenticate-graduateschool.html>
and <https://graduateschool.vt.edu/faculty-and-staff-resources/ithenticate.html>.

- f. Defense of the dissertation will be administered by the student's Examination Committee. This committee is typically the Advisory Committee.
- g. Committee members must be given a typed copy of the final draft of the dissertation **at least three weeks before the examination**. At this time, students must also provide a summary report for their dissertation review using the *iThenticate* anti-plagiarism software.
- h. At least one chapter of a dissertation must be published or accepted for publication **before** a defense can be scheduled.
- i. The dissertation will be evaluated by the Examination Committee for completion of proposed objectives, scientific merit, clarity of thought, thoroughness of presentation, and grammar. Evaluation of the dissertation will be made prior to and during the final examination. Further examination of the dissertation can be made after the final examination and prior to submission of the final copy to the Graduate School. Defense of the dissertation will be administered by the student's Examination Committee.
- j. Evaluation of the dissertation will be made prior to and during the final examination. Further evaluation of the dissertation can be made after the final examination and prior to submission of the final copy to the Graduate School.
- k. The final examination will be supervised by the Major Advisor and administered by the student's Examination Committee. It shall consist of a scheduled public seminar on the dissertation work arranged by the student and Major Advisor and presented to the faculty and graduate students of the department. The open seminar will be followed by an oral examination with attendance restricted to faculty and the student. The oral examination will consist primarily of questions on the subject of the dissertation but it may also include questions on the student's general knowledge of food science and related fields. [If the final approved dissertation is submitted to the Graduate School more than eight weeks after the final examination then the final examination must be retaken].
- l. It is the responsibility of the student to ensure that all other degree requirements are met prior to scheduling the final examination. The student is responsible for the costs associated with writing and reproducing the thesis. The student must submit their dissertation electronically within 2 weeks of the defense date for final approval by the Graduate School. Directions on how to do this can be found at <http://etd.vt.edu/>, but the submission site is <https://ess.graduateschool.vt.edu/pages/login.php>. Upon submission of the electronic dissertation the student claims copyright to the dissertation.

12. Publication of the Dissertation - The research from the Ph.D. dissertation will be published in refereed scientific journals. Students are expected to have all papers from their dissertation prepared for submission to appropriate journals prior to final acceptance of the dissertation. To help maintain quality control for a Ph.D. degree, at least one journal article must be peer reviewed, i.e. one article must be accepted for publication prior to the dissertation defense. Target: at least 3 manuscripts with at least one accepted for publication before dissertation defense.

13. Final Term Check-Out - As part of completion of the student's program and departure from the Department, the student will have an exit interview with the department head, or another representative from the department. They must also return any university department keys, clean out their desk and lab space, and turn in all laboratory notebooks and electronic documentation related to research or other activities advised by their Major Advisor. The Major Advisor is to verify that all has been completed. (See Appendix N – FST Student Exit Checklist)

VIII. APPEALS AND POLICY EXCLUSIONS

A. Appeals

All appeals are to be submitted in writing to the Department Head. The Department Head will submit the appeal to the Graduate Committee for further consideration and recommendation. The final decision on appeals is the responsibility of the Department Head.

Items requiring appeal to the Graduate Committee include but are not limited to:

- Enrollment in more than 15 hours of course credit
- Change from BS → MSLFS to BS → Ph.D. track
- Substitutions of alternate seminar opportunities

B. Policy Exclusions

Policy exclusions can be made by written request to the Department Head. The Department Head will submit requests to the Graduate Committee for recommended action. The final decision for policy exclusion is the responsibility of the Department Head.

IX. EQUIPMENT USAGE, OFFICE, AND LAB SPACE

A. Building Keys

Doors to both the FST building and HABB1 are locked after hours and on weekends. Keys for the building and laboratories are obtained from the Departmental Key Coordinator on approval of the Major Advisor and the Department Head. All doors are to be locked if the room is not in use during off-hours. All keys **MUST** be returned to the department **PRIOR** to your departure from the department or there will be a **HOLD** placed on your account (please see checkout sheet). If you lose your keys there will be a \$200 replacement fee.

Alex Hood (1-6805; Room 25B FST) manages the key requests and returns for the FST Building and Chris Coltman (1-1864; Room 135 HABB1) manages the key requests and returns for HABB1. **Students must have completed the FST training requirements for Lab Safety as stipulated by the Department and Major Advisor before keys will be issued** (Appendix L).

B. Office/Desk Space

All graduate students will be assigned a desk/office space. The desk/office location is selected to maximize convenience of the graduate student to their research laboratory, advisor and/or interaction with fellow graduate students. If the student or their advisor

wishes the student to change desk location, the Graduate Program Director must be notified and give approval prior to any change of desk location.

C. Computer Usage

Each student is responsible for providing and/or accessing computing equipment (e.g., a PC) and software to meet any requirements for courses, teaching assignments, and the expectations of their Advisory Committee. However, equipment may be loaned to a student by their Major Advisor or by the Department. Departmental PCs are not to be used by the graduate students without the permission of the faculty or staff member in charge of the machine. The FST Department makes an effort to provide a monitor for each graduate student desk space to facilitate writing and other work; these monitors are the property of individual faculty and/or the FST Department and are not to be moved or exchanged without first notifying and receiving approval from the owner. Computer assistance can be obtained from Ann Sandbrook (amdicken@vt.edu). University software use policies should be followed by all students at all times.

D. Photocopiers

The photocopier in the copy/mailroom in FST 21 and HABB1 403 can be used by graduate students for FST related copying/printing with prior approval from the student's major advisor. Instructions on how to configure your computer to print to the photocopier will be in the copy rooms. If you have problems/questions, contact Ann Sandbrook by email amdicken@vt.edu. Larger print jobs (between 100-200 pages) should be printed outside of normal work hours. All personal copies are 10 cents per copy and funds should be paid to the bookkeeper in FST 26.

E. Conference Phone

There is access to a telephone for conference calling in team room 401G in HABB1.

F. Travel and Use of University and Departmental Vehicles

Requests for use of University vehicles (from Fleet Services) require permission of the student's Major Advisor. All drivers of state vehicles must be approved and registered with fleet services (<https://parking.vt.edu/fleet-services.html>). University vehicles are not for personal use. Before any travel, contact Stephanie (sslocum@vt.edu) on what forms are needed to be completed prior to traveling. Specific travel requirements and paperwork are provided in Appendix O.

The Department also has a utility van which can be checked out. All requests must go to Brett Driver (FST 25A, bwd@vt.edu) Major Advisor's authorization must be obtained before this vehicle can be used. A Departmental charge account number is to be indicated on the vehicle log when it is signed out.

G. Mailboxes

All students will be assigned a mailbox in either the copy/mailroom in FST 21 or HABB1 403. This mailbox will be used by the department and the University for communication purposes. Students are requested to check their mailboxes at least three times a week.

H. Supplies for Research

All supplies are ordered through our HokieMart ordering system (www.hokiemarket.vt.edu). Students wishing to order supplies must have prior approval from the Major Advisor to be granted responsibility for ordering and must be trained and registered in the HokieMart system. The Major Advisor should be consulted on all current procedures for

ordering supplies and equipment.

When ordered and supplies are received, the packing slip is to be checked to ensure the materials ordered are included in the shipment. Packing slips must be uploaded to HokieMart by the purchaser or receiver. Only individuals with approved access to HokieMart ordering system may place and receive orders. Each Major Advisor has different procedures for how they process ordering, please ensure that you are following those procedures.

I. Workspace and Facilities

Workspace for a research project is to be arranged through the Major Advisor. Most department research facilities are available to graduate students. Also, there are several different laboratories at the University that may be available for different types of analyses. However, before a student uses research facilities for the first time, the student must complete all related laboratory safety training. Additionally, the individual in charge of the facility must be contacted to assure availability of these resources. If the student is unfamiliar with the equipment, it will be necessary for the student to obtain this training before the equipment can be used. Care, safety, and the utmost consideration for other individuals and the facilities is to be used at all times. In most cases, arrangements will have to be made beforehand to make sure that the equipment to be used is available. Most labs have a sign-out sheet to reserve their use for a given date and time. There are several research support facilities (electron microscope, ultracentrifuge, GC-Mass Spectrometer, gene splicer, glass blowing shop, etc.) that are available for use University-wide. Students should contact their Major Advisor about the availability of these facilities.

All students must have completed the Research Training Form and all laboratory safety training required by the Department and Major Advisor as well as special training needed for specific laboratory spaces before they can use the labs.

J. Safety

Before using any facilities, students must become familiar with the safety procedures that apply to the area. During their first fall semester of study, a 1-credit hour course (FST 5054 Graduate Professionalism in Food Science) will be required for incoming students from the fall and previous spring. One of the topics this orientation will cover are safety procedures and protocols relative to our facility (Appendix L). As part of this, students will complete health and safety training, IRB training and/or IACUC certifications. Students should provide certificates of completion or the appropriate documentation for each of these trainings to the course instructor and to Kim Waterman (microbiology) (1-8678; kwater@vt.edu) or Ann Sandbrook (chemistry) (1-5165; amdicken@vt.edu).

The faculty member in charge of specific research spaces is responsible for monitoring all individuals using the laboratory facilities. All accidents are to be reported to the student's Major Advisor and to the faculty member responsible for the designated area.

The University Health and Safety Policy is intended to help prevent accidents, illnesses and injuries; increase safety awareness; meet requirements of environmental, occupational health, and safety laws and regulations; reduce institutional liability; and establish safety responsibilities for members of the university community and visitors to university-owned property, including state- owned property associated with Virginia Tech. The University Health and Safety Policy (No. 1005) can be found on the web at:

<http://www.policies.vt.edu/1005.pdf>

Student responsibilities include:

- Compliance with all university health and safety programs
- Attendance at mandatory Department health and safety training programs
- Informing your supervisor and Department Safety Committee Head of any safety hazards in the classroom, laboratory or other workplace

K. Audiovisual Equipment

Classrooms FST 27 and FST 132 are equipped with computer projection units. The seminar room (#108) in HABB1 and its projection equipment may be used when the room is unscheduled. Most FST faculty and staff can reserve HABB1 108, and the HABB1 conference rooms #106 and #208 upon request.

X. **LIBRARIES**

The University Libraries consist of a main collection in the Carol M. Newman Library, an Architecture branch, a Geology branch, and the Veterinary library. The Newman Library is organized by broad subject disciplines. The Science and Technology section is located on floors 4 and 5. All students are encouraged to become acquainted with University Libraries.

Inga Haugen is the College of Agriculture and Life Sciences (CALS) librarian. Her contact information is ihaugen@vt.edu.

XI. **UNIVERSITY AND PROFESSIONAL GRADUATE STUDENT ORGANIZATIONS**

A. Food Science Club

The Virginia Tech Food Science Club (<http://www.fst.vt.edu/fsclub/index.html>) is the local chapter of the Institute of Food Technologists Student Association (<http://www.ift.org/iftsa.index.php>) and is based in the Food Science and Technology Department. It is a non-profit student organization dedicated to promoting food science and technology through education and service. The mission of the Virginia Tech Food Science Club is to foster a close relationship among students and faculty at Virginia Tech, to encourage leadership, and to acquaint students with the scope of Food Science and Technology. The Club promotes the professional growth of students in Food Science and Technology through involvement in the Institute of Food Technologists. Membership in the Food Science Club is an excellent opportunity for the exchange of ideas and development of common professional and other interests. The Food Science Club is supported through Club-driven fund raising activities throughout the year. The Food Science Club welcomes the participation of undergraduate and graduate students in Food Science and Technology and related disciplines.

B. Graduate Student Assembly and Interdisciplinary Research Honor Society

All graduate students are members of the Graduate Student Assembly (GSA), which is the only University-wide organization for graduate students. The GSA provides representation of graduate student opinions to policy forming bodies within the Virginia Tech governance system. In addition, it is the responsibility of the GSA to respond to the suggestions and needs of its members. The GSA meets each month. The Department has two delegates who represent the needs of the graduate students within the

Department. These delegates are elected by the Departmental graduate student body at the beginning of each academic year. Another graduate organization of value is the Interdisciplinary Research Honor Society, Iota Delta Rho (IDR) (www.idrsociety.org).

C. Professional Associations

Students are strongly encouraged to become student members of national/international professional associations for food science related disciplines including The Institute of Food Technologists (IFT), the International Association for Food Protection, American Meat Science Association, the American Chemical Society, the American Society for Microbiology and many others. Students are also encouraged to join **Phi Tau Sigma**, the National Honor Society of IFT. Nomination into the Virginia Tech Chapter is a recognition of high professional standards.

XII. CHECK-OUT POLICIES

The final graduation certification will depend on the student's completion of all Departmental requirements. All keys must be returned, all assigned office and research space must be cleaned and made ready for the next student, all borrowed books must be returned to the owner, copies of the thesis or dissertation must be given to all those requiring one, and a forwarding address must be left with the Staff Graduate Coordinator. Copies of all laboratory data, notebooks, etc. should be provided to the Major Advisor. See Appendix N – FST Student Exit Checklist for a complete list of check-out procedures.

XIII. MISCELLANEOUS INFORMATION

A. Graduate Honor System

All students are expected to abide by the University Honor System. The Graduate Honor Code establishes a standard of academic integrity. The code demands a firm adherence to a set of values and is founded on the concept of honesty with respect to the intellectual efforts of oneself and others.

Compliance with the Graduate Honor Code requires that all graduate students exercise honesty and ethical behavior in all their academic pursuits here at Virginia Tech, whether these undertakings pertain to study, course work, research, extension, or teaching. For more information, visit: <http://ghs.grads.vt.edu/>.

Graduate students interested can volunteer for membership and can serve as student members on honor code violations panels and examine cases.

B. Financial Support

Assistantships are offered to students on a competitive basis. Tuition will be paid for all students on full-time assistantships. Students will still be responsible for paying most of the student fees. All graduate students receiving an assistantship are required to sign an agreement that outlines expectations, amount of assistantship and dates of support.

C. Reporting Discrimination and/or Harassment

Virginia Tech's Policy 1025 on Harassment, Discrimination, and Sexual Assault, provides that: "Virginia Tech does not discriminate against employees, students, or applicants on the basis of age, color, disability, sex (including pregnancy), gender,

gender identity, gender expression, genetic information, ethnic or national origin, political affiliation, race, religion, sexual orientation, or military status, or otherwise discriminate against employees or applicants who inquire about, discuss, or disclose their compensation or the compensation of other employees or applicants, or on any other basis protected by law". Such behavior is inconsistent with the university's commitment to excellence and to a community in which mutual respect is a core value as articulated in the Virginia Tech Principles of Community (see Part XIV). The prohibition against discrimination and harassment applies to all levels and areas of university operations and programs, to undergraduate and graduate students, administrators, faculty, staff, volunteers, vendors and contractors. The complete text of Policy 1025 may be viewed at: <http://www.policies.vt.edu/1025.pdf>.

The university is subject to Titles VI and VII of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, Sections 503 and 504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act of 1990, the Age Discrimination in Employment Act, the Vietnam Era Veterans' Readjustment Assistance Act of 1974, the Federal Executive Order 11246, Virginia's State Executive Order Number Two, and all other rules and regulations that are applicable.

An individual whose having questions, concerns, or complaints about harassment or discrimination, about Policy 1025, any of these regulations, or related issues should contact the Associate Dean for Academic Affairs (ADAA), Virginia Tech Judicial Affairs, <http://www.studentprograms.vt.edu/judicial> or the Office for Equity and Inclusion at 540/231-7500 TTY: (540) 231-9460.

XIV. PRINCIPLES OF COMMUNITY STATEMENT

Virginia Tech is a public land-grant university, committed to teaching and learning, research, and outreach to the Commonwealth of Virginia, the nation, and the world community. Learning from the experiences that shape Virginia Tech as an institution, we acknowledge those aspects of our legacy that reflected bias and exclusion. Therefore, we adopt and practice the following principles as fundamental to our on-going efforts to increase access and inclusion and to create a community that nurtures learning and growth for all its members:

- **We affirm** the inherent dignity and value of every person and strive to maintain a climate for work and learning based on mutual respect and understanding.
- **We affirm** the right of each person to express thoughts and opinions freely. We encourage open expression within a climate of civility, sensitivity, and mutual respect.
- **We affirm** the value of human diversity because it enriches our lives and the University. We acknowledge and respect our differences while affirming our common humanity.
- **We reject** all forms of prejudice and discrimination, including those based on age, color, disability, gender, gender identity, gender expression, national origin, political affiliation, race, religion, sexual orientation, and veteran status. We take individual and collective responsibility for helping to eliminate bias and discrimination and for increasing our own understanding of these issues through education, training, and interaction with others.
- **We pledge** our collective commitment to these principles in the spirit of the Virginia Tech motto of *Ut Prosim (That I May Serve)*.

Page intentionally left blank

APPENDICES

Appendix A

Graduate Student Expectations for Successful Graduate Study

Graduate Students are required to:

1. Adhere to the Graduate School's expectations of graduate study available at <https://graduateschool.vt.edu/academics/expectations.html>
2. Conduct themselves in a mature, professional, courteous manner toward students, staff and faculty regardless of their race, gender, religion, sexual orientation, or national origin. Graduate assistants should act in accordance with the standards outlined by the Virginia Tech Principles of Community and Graduate Honor System (<https://www.inclusive.vt.edu/about/vtpoc.html> and <https://graduateschool.vt.edu/academics/expectations/graduate-honor-system.html>).
3. Take primary responsibility to inform themselves about specific regulations and policies governing their graduate studies at the department and Graduate School levels, including ensuring that they meet departmental and graduate school deadlines and laboratory safety.
4. Manage time effectively for maximum professional development as well as personal health and wellbeing, balance competing demands such as being a student, a graduate assistant, a parent, a spouse, a caregiver, etc.
5. Approve all leave (vacation, absences, etc.) through the major professor prior to planning. (Students will not be granted leave during crucial parts of laboratory projects or when it conflicts with assistantship responsibilities.)

One month minimum notice must be provided for vacation time. Typically, vacation time will not be granted during crucial times of your project (i.e. growing season). Vacation time will not exceed 10 work days per calendar year. Additional vacation days may be provided at the discretion of your major professor in acknowledgment of exemplary performance. Graduate assistants are expected to be available on all class holidays (fall and spring break, in between semesters) unless they are using vacation time.

Graduate assistants on assistantships receive the following holidays without prior approval (these do not count as part of your 10 days of vacation):

- New Year's Day - January 1
- Martin Luther King Day
- Memorial Day - Last Monday in May
- Juneteenth – June 19
- Independence Day - July 4
- Labor Day – First Monday in September
- Thanksgiving Day - Fourth Thursday in November
- The day after Thanksgiving
- Christmas Eve - December 24
- Christmas Day – December 25
- Any additional days declared as holidays for all state employees by the Governor of Virginia

6. Take opportunities to attend professional meetings and meetings in which they are representing the Department or University. These meetings will not be counted as student vacation time. All students should discuss attendance of these meetings with their advisor and receive approval prior to planning to attend. However, money to attend professional meetings is not guaranteed to any student from the department or their advisor.
7. Make adequate progress towards degree.

Assistantships (teaching, research and Extension) are awarded based on performance (academic and research), funding availability and qualifications.

Funding for research or teaching will not exceed 4 semesters B.S. to MSLFS, 6 semesters MSLFS to Ph.D. and 8 semesters B.S. to Ph.D. Consideration for continued funding after that time period will occur only after receipt of a written proposal requesting an extension.

To be **eligible** for an assistantship, graduate students must:

- i. Maintain at least a 3.0 grade point average
 - ii. Have "regular" admission status
 - iii. Satisfy enrollment requirements (12 hrs.) during the academic year
 - iv. Make satisfactory progress toward degree as defined by academic department and graduate school
 - v. Meet regularly with major professor. All meetings should be scheduled and every effort maintained to keep the appointment.
 - vi. Attend all laboratory and FST graduate student meetings as designated by your major professor. You must be excused from meetings in advance, only one excuse per semester will be allowed, regardless of situation.
 - vii. All students on a full assistantship are expected to spend 20 hours per week on assigned teaching, research or extension work that is likely separate from their thesis or dissertation research (unless directed to do so by your major professor). This effort may include:
 - Assisting other students and faculty with research and teaching demonstrations.
 - Maintaining cleanliness of your lab and desk space and participate in regularly cleaning of the lab.
 - Assisting major professor with literature searches and proposal development.
 - Laboratory duties do not include assignments or exam preparation for courses in which you are enrolled.
 - Any alterations in lab duties must be approved by your major professor in writing. This includes alterations due to illness and personal situations.
 - Students should plan for 20 hours a week for laboratory duties and a minimum of 20 hours toward research.
8. Complete a teaching assignment as assigned. For successful completion the student must be engaged in the experience and attend all required meetings and classes associated with the teaching assignment. Details of each teaching assignment vary and are managed by the course instructor.
 9. Complete performance evaluation (Appendix J) for fall and spring semester which are turned into the major professor at the end of each semester. The graduate assistant will

receive written notification of any infractions that jeopardize continuation of assistantship from the department. The graduate assistant will be expected to work with the major professor to ensure that eligibility may continue. If the student loses an assistantship due to lack of productivity, then the student can be eligible for funding again after one semester once satisfactory work is demonstrated.

10. Produce a written proposal in following guidelines outlined in Appendix G at the end of the second semester. Students will receive written approval of each committee member. This will serve as a contract with your committee.

11. Present a proposal in an oral form.

Failure to produce an acceptable proposal or presentation will lead to probationary status. Students will receive feedback from committee members. Students will have 2 months to resubmit a proposal and presentation for consideration. Students failing to produce an acceptable proposal after such time will be reassigned to terminal MSLFS status.

12. Complete a comprehensive preliminary exam (Ph.D. only) that consists of an oral and written component.

13. Complete degree to acceptable standards:

An acceptable MSLFS thesis must contain at least one publishable journal article.

An acceptable Ph.D. dissertation must contain at least one published journal article. Stated goal in lieu of requirement: At least three manuscripts with at least one accepted for publication before dissertation defense.

Appendix B

Advisor Expectations for Successful Graduate Student Advising

(as adapted from Guidelines for Good Practice in Graduate Education, University of Washington)

The faculty advisor is expected to:

1. Interact with students in a professional, civil, and collegial manner in accordance with University policies and relevant laws
2. Impartially evaluate student performance regardless of the student's religion, race, gender, sexual orientation, nationality, or other criteria that are not germane to academic evaluation
3. Promise a reasonable degree of confidentiality in communication with students, taking care not to discuss a student's performance, research results, or behavior with other students
4. Serve on graduate student committees without regard to the race, gender, sexual orientation, or national origin of the graduate student candidate
5. Discuss laboratory, and departmental authorship policy with graduate students in advance of entering into collaborative projects
6. Acknowledge student contributions to research presented at conferences, in professional publications, or in applications for copyrights and patents.
7. Ensure that a student's experience as a teaching, or research, assistant contributes to his/her professional development and does not impede the student's progress toward the degree
8. Create in the lab, supervisory relations with students that stimulate and encourage students to learn creatively and independently while respecting the academic freedom for students to express opinions that may differ from those of faculty
9. Refrain from requesting students to do tasks not closely related to their academic or professional development for the personal advantage of a faculty member.
10. Familiarize themselves with policies that affect graduate students
11. Respect students' need to allocate their time among competing demands, while maintaining timely progress towards degree.

APPENDIX C

INTERVIEW SIGNATURE FORM Faculty, Staff and Research Associates Department of Food Science and Technology

Student Name: _____ Arrival Date: _____

Major Advisor: _____

*Return completed form to the Graduate Program Coordinator and provide a copy to your advisor.
This form should be completed by the end of your first semester.*

FOOD SCIENCE AND TECHNOLOGY BUILDING:

Faculty / Staff Member	Signature	Date
Dr. Dave Kuhn	_____	_____
Dr. Herbert Bruce	_____	_____
Dr. Joe Eifert	_____	_____
Dr. Ken Hurley	_____	_____
Dr. Lester Schonberger	_____	_____
Dr. Sean F. O'Keefe	_____	_____
Mr. Brett Driver	_____	_____
Mr. Spencer Hayes	_____	_____
Ms. Christie Dalton	_____	_____
Ms. Courtney Vondracek	_____	_____
Ms. Mellissa Breen	_____	_____
Ms. Tina Keesee	_____	_____

INTEGRATED LIFE SCIENCES BUILDING (Corporate Research Center):

Faculty / Staff Member	Signature	Date
Dr. Dennis Cladis	_____	_____

HUMAN & AGRICULTURAL BIOSCIENCES BUILDING 1 (HABB1):

Faculty / Staff Member	Signature	Date
Dr. Alexis Hamilton		
Dr. Amanda C. Stewart		
Dr. Cyril Ayuk Etaka		
Dr. Haibo Huang		
Dr. Hongchen Shen		
Dr. Jacob Lahne		
Dr. Kemble Han		
Dr. Laura Strawn		
Dr. Monica A. Ponder		
Dr. Rachel Cheng		
Dr. Renata Carneiro		
Dr. Virell To		
Dr. Xuanbo Liu		
Dr. Yifan Cheng		
Dr. Yilin Li		
Dr. Yun Yin		
Mr. Brian Wiersema		
Ms. Ann Sandbrook		
Ms. Jeri Smith		
Ms. Kim Waterman		
Ms. Melissa Wright		
Ms. Stephanie Slocum		

Ms. Wenxing Liu

Off-Campus (AREC Appointment—consider using videocalls)

Faculty / Staff Member

Signature

Date

Dr. Demi Perry

Dr. Mengyi Dong

Dr. Taozhu Sun

APPENDIX D

Graduate Course Listings

FST 5000 level courses	Cred. hours	Fall Sem.	Spr. Sem.	Every year	Even # year	Odd # year	Note
FST 5054 Graduate Professionalism in Food Science	1	x		x			required during first year (MSLFS or PhD)
FST/CHEM/BMVS 5094 Grant Writing and Ethics	3	x		x			
FST 5634 Adv. Epidemiology of Food and Waterborne Disease (online)	3	x		x			May become biannual
FST 5734 Data Analytics for Food Science and Agriculture	3	x		x			
FST 5044 Global Food Laws and Regulations (online)	3	x			x		
FST 5984 Advanced Food Chemistry	4	x			x		May become yearly
FST 5984 Food Packaging	3	x			x		
FST 5624 Applied Food Microbiology and Sanitation (online)	3	x				x	
FST 5004 Graduate Seminar	1		x	x			required
FST 5604 Advances in Food Microbiology	3		x	x			For students with no previous FM course
FST 5034 Good Agricultural Practices and Good Manufact. Practices (online)	3		x		x		
FST 5014 Sensory Evaluation of Foods	3		x			x	Frequency may vary
FST 5614 Food Safety and Security (online)	3		x			x	
FST 5984 Advanced Data Analytics for Food Science and Agriculture	3		x			x	
FST 5664 Flavor Chemistry	3		x		x		
Other graduate courses that may be required							
BCHM 5124 Biochemistry for the Life Sciences	3	x		x			required for MSLFS & PhD students
STAT 5605 Biometry or STAT 5615 Statistics in Research I	3	x		x			required for MS & PhD students
ALS 5024 Building Multicultural Competence in Agriculture & Life Science	1	x	x	x			required during first year (MSLFS or PhD)
STAT 5616 Statistics in Research II	3		x				or alternate required for PhD students

Courses in other departments taken by FST graduate students during 2014 – 2021

Courses selected by 6-12 students during 2014-2021:

Course #	Course Title	Credit Hours
ALS 5115	Nutrition	3
FST/BIOL/CHEM 5094	Grant Writing and Ethics	3
GRAD 5104	Preparing Future Professoriate	3
GRAD 5114	Contemporary Pedagogy	3
GRAD 5134	Topics Interdisciplinary Research	3
GRAD 5414	Water for Health Seminar	1
STAT 5204G	Experimental Design: Concepts & Application	3

Courses selected by 2-5 students during 2014-2021:

Course #	Course Title	Credit Hours
ALCE 5204	Evaluation of Extension & Outreach Programs	3
BIOL 5674	Adv Pathogenic Bacteriology	3
BMVS 5764	Aq Medicine & Fish Health	2
CEE 5804	Engr Ethics and the Public	3
CHEM 5424G	Adv Polysaccharide Chemistry	3
EDRE 6504	Qualitative Res I	3
GRAD 5144	Communicating Science	2
HNFE 5144	Molecular Aspects of Nutrition & Disease	3
HORT 5764G	Advanced Vegetable Crops	3
PHS 5025	Epidemiology and Quant. Methods in Public Health	3
PPWS 6004	Advanced Topics PPWS	1
SBIO 5424G	Advanced Polysaccharide Chemistry	3

Listed courses do not include:

FST undergraduate or graduate courses BCHM 5124 (required)

STAT 5605, 5606, 5615, 5616 (1 or 2 are required) GRAD 5004 (GTA Workshop)

APPENDIX E
PROPOSED GRADUATE PLAN OF STUDY FORM (MSLFS)

Do not use this form directly—use the .xlsx version available as a separate attachment

DEPARTMENT OF FOOD SCIENCE AND TECHNOLOGY
Master of Science in Life Sciences Plan of Study – Thesis Option

Name _____ ID# _____ Date _____

Semester, Year	Subject	Course Number	Course Title	Credit Hrs
	FST	5994	Research and Thesis	
	FST	5994	Research and Thesis	
	FST	5994	Research and Thesis	
	FST	5994	Research and Thesis	
	FST	5994	Research and Thesis	
Total Research Credit Hours				0

5000 Level (or higher) Courses VIRGINIA TECH: Minimum of 14 credit hours

• BS/MS Students - Do not include 5000 level courses taken during your senior year. These courses should be listed in the transfer section below.

- BCHM 5124 or equivalent required by FST • STAT 5605 or 5615 required by FST
- FST 5### (6+ credit hours) required by FST • FST 5974 and 5984 total hours maximum = 6

Semester, Year	Subject	Course Number	Course Title	Credit Hrs
Fall, first year	FST	5054	Graduate Professionalism	1
Total 5000 (or higher) Level Credit Hours				1

Seminar courses (5004): Min. 2, Max. 3

Semester, Year	Subject	Course Number	Course Title	Credit Hrs
Fall or Spring	GRAD	5004	GTA Workshop	1
Spring	FST	5004	Graduate Seminar	1
Spring	FST	5004	Graduate Seminar	1
Total Seminar (5004) Credit Hours				3

4000 Level Courses VIRGINIA TECH: Maximum of 6 credit hours

- *BS/MS Students - Do not include 4000 level courses taken during your senior year. These courses should be listed in the transfer section below.*
- *Masters and Ph.D. students, without an undergraduate degree in Food Science, are required to take three of our senior undergraduate courses: 1 - Food Chemistry (FST 4504, fall); 2 - Food Microbiology (FST 5604, spring); 3 - Food Processing (FST 4304, fall) or Food Safety & Quality Assurance (FST 4524, spring)*

Semester, Year	Subject	Course Number	Course Title	Credit Hrs
Total 4000 Level Credit Hours				0

Supporting courses VIRGINIA TECH

Semester, Year	Subject	Course Number	Course Title	Credit Hrs
Total Supporting Course Credit Hours				0

Transfer 5000 (or higher) Level Courses:

No research credit hours can be included. BS/MS students - please include the 5000 level courses taken at VT during your senior year.

Semester, Year	Subject	Course Number	Course Title / School / Grade	Credit Hrs
Total 5000 (or higher) Level Transfer Credit Hours				0

A maximum of 50% of graded graduate coursework can transfer from another university. You can only transfer courses in which you earned a grade of 'B' or better. Attach a copy of your transcript for each course transferred. All courses on the Plan of Study which are more than 5 years old at the time the POS is submitted must be revalidated. Please provide a Course Justification Request form with the Plan of Study.

Transfer 4000 Level Courses:

No research credit hours can be included. BS/MS students - please include the 4000 level courses taken at VT during your senior year.

Semester, Year	Subject	Course Number	Course Title / School / Grade	Credit Hrs
Total 4000 Level Transfer Credit Hours				0

Scholarly Ethics and Integrity Requirement (CGSP Resolution 2012-13B)

As described in the Department of Food Science and Technology Scholarly Ethics and Integrity Training Plan for Graduate Students (April 2014), the student has a) completed the Graduate Professionalism in Food Science course (FST 5054); b) completed all specified modules for the CITI online training on Responsible Conduct of Research; and c) been notified that they can meet with any of the FST Graduate Committee members to report research ethics concerns, issues, and misconduct.

Advisor Initials*	TOTAL POS CREDIT HOURS (30 min)	4
	Total Graded credits (20 min.)	4
	Research Credits (6 min., 10 max.)	0
	5000 level course credits (14 min.)	1
	Graduate Seminar (2 min., 3 max.)	3
	Ethics and integrity	
	Total of 12 - 18 credits per semester	

*Advisors please initial that you have confirmed these totals

Proposed Thesis Title:	
-------------------------------	--

Note: Minimum of 3 Committee Members (including advisor) is required. Two Members must be FST faculty.

Note: Committee members outside Virginia Tech must be approved by the Graduate School using the "Graduate Committee Service Approval Form". A current curriculum vitae will also need to be submitted.

	Printed Name and Department	Signature	VT ID # (Required)
<i>Committee Chair:</i>			
<i>Committee Member:</i>			
<i>Committee Member:</i>			
<i>Committee Member:</i>			
<i>Department Head:</i>			

APPENDIX F
PROPOSED GRADUATE PLAN OF STUDY FORM (Ph.D.)

Do not use this form directly—use the .xlsx version available as a separate attachment

DEPARTMENT OF FOOD SCIENCE AND TECHNOLOGY
 Doctor of Philosophy (Life Science, Food Science) Plan of Study

Name _____ ID# _____ Date _____

Semester, Year	Subject	Course Number	Course Title	Credit Hrs
	FST	7994	Research and Dissertation	
	FST	7994	Research and Dissertation	
	FST	7994	Research and Dissertation	
	FST	7994	Research and Dissertation	
	FST	7994	Research and Dissertation	
	FST	7994	Research and Dissertation	
	FST	7994	Research and Dissertation	
	FST	7994	Research and Dissertation	
Total Research Credit Hours				0

5000 Level (or higher) Courses VIRGINIA TECH: Minimum of 27 credit hours

- BCHM 5124 or equivalent required by FST
- STAT 5605, 5615 or equivalent required by FST
- FST 5#### (9+ credit hours) required by FST
- FST 5054 required in first year, if no MSLFS from VT
- STAT 5616 or FST 5734 or STAT 5#### required by FST
- FST 5974 and 5984 total hours maximum = 18

Semester, Year	Subject	Course Number	Course Title	Credit Hrs
Fall, first year	FST	5054	Graduate Professionalism	1
Total 5000 (or higher) Level Credit Hours				1

Seminar courses (5004): Min. 3, Max. 4

Semester, Year	Subject	Course Number	Course Title	Credit Hrs
Fall or Spring	GRAD	5004	GTA Workshop	1
Spring	FST	5004	Graduate Seminar	1
Spring	FST	5004	Graduate Seminar	1
Spring	FST	5004	Graduate Seminar	1
Total Seminar (5004) Credit Hours				4

4000 Level Courses VIRGINIA TECH: Maximum of 6 credit hours

Masters and Ph.D. students, without an undergraduate degree in Food Science, are required to take three of our senior undergraduate courses: 1 - Food Chemistry (FST 4504, fall); 2 - Food Microbiology (FST 5604, spring); 3 - Food Processing (FST 4304, fall) or Food Safety & Quality Assurance (FST 4524, spring)

Semester, Year	Subject	Course Number	Course Title	Credit Hrs
Total 4000 Level Credit Hours				0

Supporting courses VIRGINIA TECH

Semester, Year	Subject	Course Number	Course Title	Credit Hrs
Total Supporting Course Credit Hours				0

Transfer 5000 (or higher) Level Courses:

No research credit hours can be included. BS/MS students - please include the 5000 level courses taken at VT during your senior year.

Semester, Year	Subject	Course Number	Course Title / School / Grade	Credit Hrs
Total 5000 (or higher) Level Transfer Credit Hours				0

A maximum of 50% of graded graduate coursework can transfer from another university. You can only transfer courses in which you earned a grade of 'B' or better. Attach a copy of your transcript for each course transferred. All courses on the Plan of Study which are more than 5 years old at the time the POS is submitted must be revalidated. Please provide a Course Justification Request form with the Plan of Study.

Transfer 4000 Level Courses:

No research credit hours can be included. BS/MS students - please include the 4000 level courses taken at VT during your senior year.

Semester, Year	Subject	Course Number	Course Title / School / Grade	Credit Hrs
Total 4000 Level Transfer Credit Hours				0

Scholarly Ethics and Integrity Requirement (CGSP Resolution 2012-13B)

As described in the Department of Food Science and Technology Scholarly Ethics and Integrity Training Plan for Graduate Students (April 2014), the student has a) completed the Graduate Professionalism in Food Science course (FST 5054); b) completed all specified modules for the CITI online training on Responsible Conduct of Research; and c) been notified that they can meet with any of the FST Graduate Committee members to report research ethics concerns, issues, and misconduct.

Advisor Initials*	TOTAL POS CREDIT HOURS (90 min)	5
--------------------------	--	----------

	Total Graded credits (30 min.)	5
	Research Credits (30 min., 60 max.)	0
	5000 level course credits (27 min.)	1
	Graduate Seminar (3 min., 4 max.)	4
	Ethics and integrity	
	Total # credits per semester are between 12-18	

*Advisors please initial that you have confirmed these totals

Proposed Diss. Title:	
----------------------------------	--

Note: Minimum of 4 Committee Members (including advisor) is required. Minimum of 2 FST faculty on Committee. One Committee Member required to be from outside of FST.

Note: Committee members outside Virginia Tech must be approved by the Graduate School using the "Graduate Committee Service Approval Form". A current curriculum vitae will also need to be submitted.

	Printed Name and Department	Signature	VT ID # (Required)
<i>Committee Chair:</i>			
<i>Committee Member:</i>			
<i>Committee Member:</i>			
<i>Committee Member:</i>			
<i>Committee Member:</i>			
<i>Committee Member:</i>			
<i>Department Head:</i>			

APPENDIX G

Guidelines for Thesis/Dissertation Research Proposal

The purpose of the proposal is to present a suggested research plan, based on scientific literature, for the thesis/dissertation. Each student must write a formal proposal (minimum of 10 pages) for presentation to the Advisory Committee followed by discussion and suggestions to improve the proposal. The committee may approve the proposal at that initial meeting or may request a subsequent meeting to provide final approval to the proposal. The proposal must be revised accordingly and final, approved copies should be provided to each committee member and to the Staff Graduate Coordinator to include in the student's file. The research proposal must be completed within the first year of graduate study.

Components of the proposal include:

I. Title Page

- ☐ Meaningful title
- ☐ Author
- ☐ Degree, Major
- ☐ Date of proposal defense and final approval by the Advisory Committee.
- ☐ "Approved by" statement with typed names for the major professor and each committee member and lines for signatures.

II. Introduction and Justification

- ☐ Brief history of the problem and justification for the project based on literature search.
- ☐ Objective(s) and null and alternative hypotheses stated.

III. Literature Review

- ☐ Review of current literature related to the proposal objectives.
- ☐ The purpose is to demonstrate that the student is knowledgeable about the published research related to the research objectives as well as bringing a synopsis of the literature to the committee for assisting them in understanding the scope of the research area.
- ☐ Suggested minimum page length is 5.

IV. Materials and Methods

- ☐ The objective of this section is to provide enough information that the committee can determine if the adequate experimental design, analytical procedures and statistical methods are in place to meet the objectives of the study.
- ☐ Identifying control treatments, and the dependent variables is important.
- ☐ Listing of materials and supplies, essential equipment needed, special considerations or space needs should be clearly identified.

V. Time Table

VI. References

- ☐ Should be sufficient in number and quality to represent the current literature (at least the past 5-10 years).
- ☐ Should be presented in style format representative of one of the major food science journals such as Journal of Food Science, Journal of Food Protection, or others as identified by your major professor.

☐ Writing Quality

- ☐ Follow journal style throughout proposal
- ☐ Typed, double-spaced, 8 1/2" x 11" paper, 1" margins.
- ☐ Numbered pages consecutively (page 1 - Title Page).
- ☐ Cited references properly in the text and reference list.

- ☐ Defined acronyms the first time that they were used.
- ☐ Put each table and figure on separate pages with proper titles.
- ☐ Made proper reference to tables and figures in the text.
- ☐ Keep proposal concise and focused

APPENDIX H

SEMINAR MANAGEMENT AND GRADUATE STUDENT RESPONSIBILITIES

Department of Food Science and Technology

Objectives of Seminar

The primary objectives of the Department Graduate Seminar are:

- (A) To serve as a means for graduate students to gain experience in presenting scientific data either their own research or summarizing a scientific paper or technical report.
- (B) To widen students' knowledge of recent developments in Food Science and Technology and allied disciplines.

Administration of Seminar

Seminar programs will be administered by a faculty member appointed by the Department Head.

Responsibility for seminar may rotate annually among different faculty members. The assigned faculty member will be responsible for determining seminar topics and approve all presentations by graduate students. The faculty member in charge of the seminar will evaluate all student presentation seminars for performance, knowledge of subject matter, clarity of speech, clarity of presentation materials, and overall style.

Seminar Structure

- (A) Each full-time MSLFS and Ph.D. student is required to enroll in FST 5004 Graduate Seminar (Spring only) in each year of residence on campus and meet the requirements for the course. Students should not enroll in FST 5004 more than 4 times during their degree program(s). If they are a graduate student for more than 4 years, then they should attend seminars, but not enroll for credit. Only rarely will graduate students be excused from seminar attendance, and then with good reasons such as attendance of professional meetings, or important personal reasons. Students should discuss this absence in advance with instructor. Typically, the primary requirement is to deliver a scientific seminar presentation on the subject of his/her thesis or dissertation when the research work is completed, or near completion, preferably during the last semester of residence on campus.
- (B) A faculty member will assist in selecting topics and schedule seminars each academic year, in consultation with each student and his/her Major Professor. Scheduling for seminars will begin when the pre-registration period starts for each semester.
- (C) Evaluation of seminars are intended to make seminars a better learning experience for all participating students and to help students improve delivery of oral technical reports. Faculty members and graduate students will be asked to evaluate the seminar presentation using a seminar evaluation form. These evaluations will be reviewed by the faculty member in charge of the seminar who will provide this feedback to students and meet with the student if the student desires.
- (D) Each student seminar speaker will prepare a 250 to 350-word abstract of his/her seminar, and a list of associated literature references in accordance with the Journal of Food Science guidelines. The content of the abstract should closely conform with IFT's recommendations for preparation of abstracts:
 - "An abstract should contain a concise statement of: (A) the problem under investigation;
 - (B) the experimental method used; (C) the essential results obtained including quantitative data for representative experiments, or summary data; and (D) conclusions. Do not state, 'the results will be discussed'."

APPENDIX I-1
Graduate Student Check List: BS - MSLFS
Department of Food Science and Technology

Student Name: _____ **Degree Program:** MSLFS

Advisor Name: _____

These guidelines are provided to assist in planning your degree and supplement the Graduate Policies and Procedures listed in the Graduate Catalog. Students should read and print or download a copy of this material (see <http://www.grads.vt.edu/>) to document the Policies and Procedures in force at enrollment.

Date Completed	Task for progress toward degree	Target Date
	Attend Graduate teaching assistant workshop	Week before classes start and semester 1
	Complete building and laboratory safety training (Appendix L)	Week before classes start
	Complete biosafety training (Appendix ?)	Week before classes start
	Attend department graduate student orientation	Week classes start
	Complete Faculty, Staff and Research Associate interview signature sheet (Appendix C), turn into main office	End of Semester 1
	Form Advisory committee	As soon as possible
	First committee meeting (review plan of study)	End of Semester 1
	Submit Plan of Study to Donna Eastwood	End of Semester 2
	Write and defend research proposal to advisory committee & Second committee meeting	End of Semester 2
	Perform proposed research, write thesis	Semester 2 – 3
	Third committee meeting (report progress)	Semester 3
	Fourth committee meeting (finalize, plan for defense)	Semester 4
	Schedule defense date	Semester 4
	Complete appropriate graduate school forms prior to defense	3 weeks prior to defense
	Thesis defense and final exam ^{1,2}	Semester 4
	Submit ETD	2 weeks following defense

¹The thesis defense normally must be held during regular academic semesters or sessions and must be scheduled through the Graduate School. Requests to schedule the defense must be received by the Graduate School (with a copy to the departmental graduate coordinator) at least 2 weeks before the proposed date of the defense. ²Financial support from the Department is normally limited to 2 years and may be withdrawn after this time.

APPENDIX I-2

Graduate Student Check List: MSLFS - PhD

Department of Food Science and Technology

Student Name: _____ **Degree:** Ph.D.(after Masters)

Advisor: _____ **Start Date:** _____

These guidelines are provided to assist in planning your degree and supplement the Graduate Policies and Procedures listed in the Graduate Catalog. Students should read and print or download a copy of this material to document the Policies and Procedures in force at enrollment.

Date Completed	Task for progress toward degree	Target Date
	Attend Graduate teaching assistant workshop	Week before classes start and semester 1
	Complete building and laboratory safety training (Appendix L)	Week before classes start
	Complete biosafety training (Appendix ?)	Week before classes start
	Attend department graduate student orientation	Week classes start
	Complete Faculty, Staff and Research Associate interview signature sheet (Appendix C), turn into main office	End of Semester 1
	Form Advisory committee	As soon as possible
	First committee meeting (review plan of study)	End of Semester 1
	Submit Plan of Study to Staff Graduate Coordinator	End of Semester 2
	Write and defend research proposal to advisory committee & Second committee meeting	End of Semester 2
	Perform proposed research, write thesis	Semester 3-5
	Third committee meeting (report progress)	Semester 3
	Fourth committee meeting (report progress)	Semester 4
	Fifth Committee meeting (report data)	Semester 5
	Sixth Committee meeting (report data, plan for defense)	Semester 6
	Schedule defense date	Semester 6
	Complete appropriate graduate school forms prior to defense	3 weeks prior to defense
	Dissertation defense and final exam ^{1,2}	Semester 4
	Submit ETD	2 weeks after defense

¹The Preliminary Examination must be taken at least 6 months before the Ph.D. defense. At least 24 hours of course work and/or research must remain to be taken, including work for which the student is currently enrolled.

²The Preliminary Examination and the Ph.D. defense normally must be held during regular academic semesters or sessions and must be scheduled through the Graduate School. Requests to schedule an examination or defense must be received by the Graduate School at least 2 weeks before the proposed date.

APPENDIX J
 Department of Food Science and Technology
Graduate Student Progress Evaluation

Student Name	VT ID (Last 4 digits)
Academic Year:	
Fall (June-December) ☐	Spring (January-May) ☐
<u>Program</u>	
BS → MS ☐	MS → PhD ☐
	BS → PhD (admitted) ☐
	BS → PhD (changed) ☐

Please report progress and achievements for the time period you have indicated above.
 Submit the original signed copy to the Graduate Program Coordinator.

Courses completed during the current semester (tentative grade if necessary):

Dept. and #	Course Name	# Credit Hours	Grade
FST 5994/7994	Research and Thesis/Dissertation		EQ

Degree Progress

Virginia Tech GPA	Current term:	Cumulative:
Cumulative Credit Hours	Graded: + Research (5994/7994): = Total:	
Plan of Study	Submitted? ☐ Date:	
Committee Meetings	I confirm that at least one committee meeting was held this semester. ☐	
Defense	Projected Date:	

(PhD Students Only)

Date of Preliminary Exam:	Scheduled ☐	Passed ☐
---------------------------	------------------------------------	---------------------------------

MS → PhD students should take exam in 4th semester, BS → PhD students should take exam in 5th or 6th semester, exam cannot be taken during the summer or winter break

 Graduate Student Signature

 Date

Section 2: Student Self-Evaluation

In the spaces below, **the student** should provide a listing of accomplishments since the last evaluation period. Please list or describe your activities and accomplishments under the following headings:

Research

(Include research progress and performance; research proposal defense; peer-reviewed manuscript submitted and/or accepted, professional meeting presentations or attendance)

Teaching

(describe duties or activities that were or were not part of a formal teaching assignment)

Extension/Outreach

Professional, University, or Community Service

Awards, Honors, Recognitions

In the space below, please describe the specific goals and/or activities that you plan to accomplish in the next semester.

Section 3: Review by Graduate Assistantship Supervisor

This section is to be filled out **for** students **by** an assistantship supervisor who is **not** their graduate advisor (e.g., GTAs, Campus Kitchen Assistants, Food Innovation Program Assistants, etc). If this does not describe you, you may skip Section 3 entirely.

Supervisor:

Assistantship

(For GTAs, please list the course # and name, for others please give details)

The following assessment is to be filled out by the Assistantship Supervisor

Area of work	Exceeds expectations	Meets expectations	Needs improvement	Unsatisfactory	N/A
Completion of assigned tasks	☐	☐	☐	☐	☐
Problem solving / analysis	☐	☐	☐	☐	☐
Initiative / independent work	☐	☐	☐	☐	☐
Teamwork	☐	☐	☐	☐	☐
Communication	☐	☐	☐	☐	☐
Skill development	☐	☐	☐	☐	☐
Reliability	☐	☐	☐	☐	☐

Did the student meet the expectations for their assistantship that were shared with them at the beginning of the semester?

Yes ☐

No ☐

If “no”, please provide the expectations that were not met:

Please provide constructive feedback related to the student’s performance in their assistantship below:

Overall assessment of performance in assistantship: **Satisfactory:** ☐

Unsatisfactory: ☐

Assistantship Supervisor Signature

Date

This section is to be filled out **by** the graduate student's advisor/committee chair and member(s) of the advisory committee. You must obtain signatures from **your advisor and at least one other committee member**.

_____ Advisor Name _____ Advisor Signature _____ Date

The following assessment is to be filled out by the Graduate Advisor

Area of work	Exceeds expectations	Meets expectations	Needs improvement	Unsatisfactory	N/A
Completion of assigned tasks	☐	☐	☐	☐	☐
Problem solving / analysis	☐	☐	☐	☐	☐
Initiative / independent work	☐	☐	☐	☐	☐
Teamwork	☐	☐	☐	☐	☐
Communication	☐	☐	☐	☐	☐
Skill development	☐	☐	☐	☐	☐
Reliability	☐	☐	☐	☐	☐

Did the student meet the expectations for their assistantship that were shared with them at the beginning of the semester?

Yes ☐

No ☐

If “no”, please provide the expectations that were not met:

Please provide constructive feedback related to the student's performance in their assistantship below:

Overall assessment of performance in assistantship:

Satisfactory: ☐

Unsatisfactory: ☐

_____ Committee Member Name _____ Advisor Signature _____ Date
Committee Member Comments (optional):

_____ Committee Member Name _____ Committee Member Signature _____ Date
Committee Member Comments (optional):

_____ Committee Member Name _____ Committee Member Signature _____ Date

Committee Member Comments (optional):

Committee Member Name

Committee Member Signature

Date

Committee Member Comments (optional):

Committee Member Name

Committee Member Signature

Date

Committee Member Comments (optional):

APPENDIX K

Virginia Tech Department of Food Science and Technology

Leave Request

Student Name: _____

First day of requested leave: _____

Date of return to work: _____

Number of workdays (M-F) of leave requested: _____

Are any of these workdays designated state holidays for 2024-2025 (Labor Day, November 23 and 24, December 22 & 25, January 1, January 15, Memorial Day, Juneteenth, July 4)?

If so, subtract and enter new total ____

Number of days of leave taken this year (August 10, 2024 - August 9, 2025)* _____

I confirm that I intend to be absent only the days indicated on this sheet. These workdays will be subtracted from the 10 days of vacation time provided to me per calendar year.

I confirm that I have read and understood the leave expectations described within the graduate student's expectations document. I confirm that if this document has not been received two weeks prior to the date of planned leave, my leave request can be denied. I understand that leave will not be granted during crucial parts of laboratory projects or when it conflicts with assistantship responsibilities.

Student signature _____ Date _____

Faculty advisor signature _____ Date _____

*Advisor justification /approval required if over 10 days _____

Department Head Signature _____ Date _____

Submit this form to the Staff Graduate Coordinator.

APPENDIX L

VT FST Departmental Research Training Form

Researcher name: _____

- This form and appropriate training must be completed before you are able to enter any FST research space. The area(s) in which you will work will dictate which training you complete
- For paid researchers: all appropriate training must be completed before your addition to the University payroll can be processed
- Upon completion of the required training modules, you will be allowed access to the designated spaces listed on this form.

Section I - Researcher Information

Printed Name:

Signature:

- ☐ Faculty/Staff ☐
Undergraduate
☐ Graduate Student

Home Department:

Supervisor Name:

Hokie Passport ID Number:

PID:

Building(s):

- ☐ FST
☐ HABB1
☐ ISLB
☐ OTHER _____

Work/Research Locations (List each room number):

_____, _____, _____, _____, _____, _____

Section II - Required Reading

Required reading for **everyone** working in a research space. Check off and date when you have completed the reading.

- ☐ OSHA Lab Standard (29 CFR 1910.1450)
 - <https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.1450>
 - Date Completed: _____
- ☐ Virginia Tech Policy 1005: Health and Safety Policy
 - <http://www.policies.vt.edu/1005.pdf>
 - Date Completed: _____
- ☐ Virginia Tech EHS Chemical Hygiene Plan:
 - https://www.ehss.vt.edu/detail_pages/document_details.php?document_id=102
 - Date Completed: _____

Section III - Required Training Modules

It is required for **ALL** researchers to complete the following training modules with passing scores on the assessment quizzes prior to working in any research space. Check each training when complete.

- ☐ Chemical Safety: General Lab Safety
 - http://www.ehss.vt.edu/detail_pages/training_details.php?training_id=1540
- ☐ Biological Safety: Laboratory Hazardous Waste
 - http://www.ehss.vt.edu/detail_pages/training_details.php?training_id=3395
- ☐ Biological Safety: Introduction to Biosafety Cabinets
 - http://www.ehss.vt.edu/detail_pages/training_details.php?training_id=550
- ☐ Biological Safety: Safe Autoclave Use and Verification
 - http://www.ehss.vt.edu/detail_pages/training_details.php?training_id=1457
- ☐ Fire and Life Safety: Flammable Liquid Safety
 - http://www.ehss.vt.edu/detail_pages/training_details.php?training_id=327
- ☐ Fire and Life Safety: Portable Fire Extinguisher
 - http://www.ehss.vt.edu/detail_pages/training_details.php?training_id=331
- ☐ Compressed Gas Cylinders: Compressed Gas Cylinder Safety
 - http://www.ehss.vt.edu/detail_pages/training_details.php?training_id=678
- ☐ Personal Protective Equipment (PPE) Awareness
 - http://www.ehss.vt.edu/detail_pages/training_details.php?training_id=337
- ☐ CITI Responsible Conduct of Research
 - <http://www.research.vt.edu/sirc/hrpp/training.html>
 - Completed Date: _____ (Send the completion certificate to the lab manager)
- ☐ Biosafety for Research Labs
 - http://www.ehss.vt.edu/detail_pages/training_details.php?training_id=3737
 - Select the version that includes "Bloodborne Pathogen training" if your work will include any animals with a backbone or human subjects

Section IV - Paid Researcher

Will you be a paid researcher?

☐ Yes

☐ No

Section V - Animal with a Backbone Specific Training

Will you be working with animals with a backbone?

☐ Yes

☐ No

If yes, see <http://www.research.vt.edu/iacuc/training.html> to complete the following modules:

☐ Core IACUC Training (refresher required every 3 years)

☐ Virginia Tech-Specific IACUC Training (refresher required every 3 years)

☐ Virginia Tech Occupational Health and Safety training (refresher required every 3 years)

☐ EHSS Health Survey

Section VI - Laboratory Specific Training

Will you be working in a non-BSL2 FST Pilot Plant? (FST 15 or HABB1 103)

☐ Yes

☐ No

If yes, complete the following:

☐ Electrical Awareness Training

■ https://www.ehss.vt.edu/detail_pages/training_details.php?training_id=320

Will you be working in a BSL2 Space?

☐ Yes

☐ No

If yes, complete the following:

☐ EHSS Health Survey

■ https://www.ehss.vt.edu/med_survey/index.php

Will you be working with human subjects?

☐ Yes

☐ No

If yes, complete the following:

☐ CITI Social & Behavioral Research

■ <http://www.research.vt.edu/sirc/hrpp/training.html>

■ Completed Date: _____ (Send the completion certificate to the lab manager)

Does the potential exist that you will come in contact with saliva, blood, or feces?

☐ Yes

☐ No

If yes, complete the Biosafety for Research Labs module **WITH** bloodborne pathogen training:

☐ Biosafety for Research Labs with bloodborne pathogen module

■ http://www.ehss.vt.edu/detail_pages/training_details.php?training_id=3737

Section VII - Safety Equipment Locations

This section requires scheduling a safety tour with the lab manager for the areas you will be working in.

Check the appropriate area where you have been shown the safety equipment listed below:

- ☐ FST
- ☐ HABB1 2nd Floor
- ☐ HABB1 4th Floor
- ☐ HABB1 Pilot Plant_(List room #)
- ☐ ISLB_____(List room #)
- ☐ Other _____

Check each item that you have been shown. Write N/A for any items not found in your working space.

- ☐ First aid kit
- ☐ Spill kits (chemical and biological where appropriate)
- ☐ Fire extinguishers
- ☐ Eye wash stations
- ☐ Emergency deluge showers
- ☐ SDS for all chemicals
- ☐ Departmental/Building chemical hygiene plan (CHP)

I have been shown the location of the following items as they relate to the area where I will be working. If my research or work requires the use of a new area, I will complete this form regarding the new areas.

Researcher's Initials: _____

Lab Manager's Initials: _____

Section VIII - Training Documentation

I certify that I have submitted documentation of laboratory specific training to the appropriate laboratory manager on _____(date).

Researcher Signature:

Section IX - Supervisor / PI Use Only

I certify that the above-named individual will be working in a designated laboratory space under my instruction and with the appropriate direction and supervision.

☐ _____ **Supervisor Initials**

I certify that I have shown any pertinent laboratory Standard Operating Procedures (SOPs) the researcher will need.

☐ _____ **Supervisor Initials**

I request Hokie Passport access of the following areas for this researcher:

- ☐ HABB1 main entrance door
- ☐ HABB1 4th floor corridor
- ☐ Loading dock door
- ☐ Other: _____

This individual requires keys for the FST Building:

- ☐ Yes
- ☐ No

If Yes, list the specific rooms access is needed for: _____

Supervisor Print Name:

Date:

Supervisor Signature:

Section X - Laboratory Manager Use Only

Upon review of this document and receipt of any required documentation, I authorize the above named individual to be given access to the following spaces by Hokie Passport swipe.

- ☐ HABB1 main entrance door
- ☐ HABB1 4th floor corridor
- ☐ Loading dock door
- ☐ Other: _____

Signature of Laboratory Manager:

Kim Waterman - Microbiology Lab Manager
Or
Ann Sandbrook - Food Chemistry Lab Manager

Date:

Section XI - Department Head Use Only for BSL2

Upon review of this document and receipt of any required documentation, I authorize the above named individual to be given access to the following keys:

- ☐ FST 129
- ☐ HABB1 - BSL2 corridor
- ☐ Individual BSL2 laboratory numbers: _____, _____, _____, _____

Signature of Department Head Dr. Joe Eifert:

Date:

APPENDIX M

VT FST Guidelines for “BS to PhD” Track

Recruitment

1. Prospective students **will not** be promised participation in BS-PhD track if admitted as MSLFS students
2. Prospective students **will** be advised that participation in the BS-PhD track depends on factors that may not be in their control, such as:
 - a. Progress
 - b. Funding
 - c. The nature of their project
 - d. Willingness of the advisor
3. Students interested in the BS-PhD track should discuss this with potential advisors during recruitment.

Admissions

1. Selected students without a Masters degree can be admitted directly to a PhD program.
2. Students without a Masters degree (or equivalent) will be admitted to the MSLFS program. These students can switch tracks from BS → MSLFS to BS → PhD by meeting the requirements specified below.
3. No exceptions will be made (except in the case of funding that requires a PhD student status). Students wishing to do the BS-PhD track must enroll as MSLFS students and meet the track requirements.
 - a. Students with BS degrees in non-FS disciplines will be eligible for BS-PhD track switch
4. Students are encouraged to discuss desire to switch tracks with advisor and/or department head IMMEDIATELY upon starting MSLFS track due to strict deadlines
 - a. Student must determine the willingness and ability of the professor to help (due to deadlines, professor must be willing to help ID and design project, help expedite the writing process, etc., on an accelerated schedule)

Requirements for switching tracks from BS-MSLFS to BS-PhD

1. Students may switch from BS-MSLFS track to BS-PhD track only in 3rd or 4th semester (< 2 is too little time to properly evaluate, > 4 is too long)
 - a. Students must enter the BS-PhD track by the end of their 4th semester; students failing to do so will not be allowed to switch tracks thereafter (no exceptions)
2. Student must be making accelerated progress towards MSLFS degree:
 - a. Graduate committee selected (will need to be expanded by 1 member after switch is made)
 - b. Plan of study submitted (will need to be expanded to PhD requirements after switch is made)

3. Satisfactory progress in at least 15 credits of graduate coursework at VT
 - a. Coursework being completed on MSLFS track schedule
 - b. No grade lower than a B- (higher than grad school minimum, since the attempt is to ID exceptional students)
 - c. Student is making accelerated progress and shows promise in research, defined by having submitted a manuscript:
 - i. Submitted by the end of the final exams of the 3rd semester (initial submission). Students not meeting this deadline will be required to finish on the MSLFS track
 - ii. Specifics:
 1. Submitted to a peer-reviewed journal
 2. NOT a review article (must be research/data)
 3. Student is 1st author
 4. Student wrote the majority of the manuscript under the guidance of the advisor and co-authors
 5. Student's own work represents $\geq 50\%$ of the data in manuscript (not simply writing up a previous student's work, as this would not be "research progress")
4. Student has had 2 committee meetings:
 - a. First committee meeting (by end of 2nd semester per department guidelines):
 - i. Intent to try for BS-PhD track discussed
 - ii. Concerns of committee addressed with student
 - iii. Plans are made to meet requirements to enter the track
 - b. Second committee meeting (in the 3rd semester):
 - i. Progress and requirements are reviewed
 - ii. Advancement to BS-PhD track is approved or rejected
5. There will be absolutely no exceptions to deadlines
6. Consent of:
 - i. The advisor
 - ii. The advisory committee (unanimous)
 - iii. The graduate committee (majority)
 - iv. The department head (for administrative purposes)
7. Required funding is available or will be available

APPENDIX N

The following checklist is to be used when graduate students leave the department.

1. University Items
 - Return University identification card to the Hokie Passport office
 - Return all property belonging to the university (magnetic access cards, computers, devices, etc)
 - Return parking permit to parking services
 - Return any books borrowed (library or departmental sources)
2. Return FST and HABB1 keys
 - FST keys are to be returned to Brett Driver (FST 25A)
 - HABB1 keys are to be returned to Chris Coltman (HABB1 135)
 - Desk keys - leave keys in the carrel for the next user
 - Return any locker keys
3. Lab Space and Pilot Space Cleanup
 - Leave lab notebooks with designated personnel
 - Clean your lab space before meeting with the lab manager
 - Tag items, reagents, chemicals and samples that will be left
 - Dispose of waste
 - Wipe down and clean equipment
 - Empty incubators, refrigerators and cabinet of samples or reagents
4. Department Spaces
 - Remove your items from break room areas
 - Remove your items from the sensory kitchen (both FST and HABB1 spaces)
 - Dispose of any perishable food items
 - Clean and store any equipment and dishes belonging to department
5. Schedule a meeting with the lab manager of your space to go over the following items:
 - Tour the lab spaces you used
 - Return PPE (lab coats, safety glasses, etc)
 - Show the lab manager any supplies you are leaving
 - i. (this includes unused chemicals, waste, pipette tips, samples, etc)
 - If samples are being stored long term, show the lab manager where they are and include who in your lab group will be responsible for these items once you leave
 - i. Location of samples being left: _____
 - ii. Responsible party: _____
 - iii. Sample details: _____
5. Complete Exit Survey for Graduate Students:
 - LINK: <https://forms.gle/sELPnkr4UDhsu9pU6>

Personnel Name: _____

Date Checklist is completed: _____

APPENDIX O:

Travel Procedures

Students are encouraged to attend and present scientific research at regional and national meetings. Travel grants are available through the Graduate Student Assembly's Travel Funds Program (TFP) to help cover some part of the expenses associated with graduate student conference travel. Applications must be filed by the GSA travel cycle deadline associated with students' dates of travel. For updated TFP deadline and application information, visit gsa.vt.edu/programs/ftp. IFT also offers support to students wishing to attend its annual event who aren't already receiving assistance from another source. For more information on applying for IFT's travel scholarship's, visit ift.org/community/students/scholarships.

All students conducting travel as a representative of the department must follow strict state and federal laws governing reimbursement of travel expenses. You will be required to understand and follow the university travel rules [outlined on the controller's website](#). Travel funds are limited and are not to be abused by student travelers. Any expenses incurred that are not deemed necessary to the goal of the trip will not be reimbursed (e.g., personal excursions during your trip, any expenses not from conference or travel days, airfare exceeding coach class accommodations, deviating from the most direct route when traveling to a conference via car, etc.) Travel support is a privilege that will be removed if abused. For all university travel procedures and forms, visit controller.vt.edu/resources/travel.

The university requires a travel Pre-Approval to be completed for each trip prior to departure to ensure there are sufficient funds for the student to be reimbursed upon their return.

- As soon as students have all of the necessary information about their upcoming trip, they will need to submit this information to the department via a Pre- Approval request form (<https://forms.gle/BwSenKRZHL5UB8b76>) to the Staff Graduate Coordinator so that a Pre-Approval can be generated.
- Once completed, students will be emailed a copy of this form that they will then need to have signed by their advisor or whichever faculty member is funding their trip, and then send the signed copy to Stephanie Slocum (sslocum@vt.edu).
- A travel Pre- Approval must be completed and approved by the university **at least two weeks prior** to the departure date of any domestic trip, and **at least a month prior** to the departure date of any international trip.
- Once students return from their trip, they will need to bring any receipts they want to be reimbursed for and updated expense information to Stephanie Slocum who will then submit their final Expense Report.
- For any questions on allowable expenses, travel requirements or travel forms, please contact Stephanie Slocum (sslocum@vt.edu).