

**NC State University
Food Science Graduate Program
Policies and Procedures**

Fall 2012

Safety and Health	1
Equipment and Supplies.....	2
Telephone Use	2
Travel.....	2
Getting around Raleigh	2
Vacations and Holidays	3
Adverse Weather Conditions	3
Registration.....	3
Assistantships and the Graduate Student Support Plan.....	3
Establishing North Carolina Residency	4
Minimum Course Requirements for Graduate Degrees in Food Science.....	5
FS 696 and FS 896	6
Minor in Food Science	6
Graduate Courses by Category	7
Graduate Student Progress Evaluation	8
Continuation in Doctoral Program.....	9
Preliminary Comprehensive Exam for Ph.D. Candidates.....	9
Teaching Assistants.....	9
Fellowships	9
Statistical Consulting Service	10
Thesis	10
Final Defense.....	10
Format for Graduate Student Curriculum Vitae	11
Job Search Tips.....	11
Summary of Forms to be Submitted to the Graduate School	12
Forms Specific to the Food Science Department.....	12
Graduate Plan of Work and Advisory Committee	12
Guidelines For M.S. Program	13
Guidelines for Ph.D. Program.....	14
Appendix A: Policy for Admission to the Ph.D. Program (approved 02/12/90).....	16
Appendix B: Graduate Program in Food Science Outcomes Assessment (abridged)	17
Appendix C: Student Progress Evaluation Rubric	19

Security and Keys

Schaub Hall is open Monday through Friday; from 7:30 a.m. to 5:00 p.m. Laboratories and offices should be locked whenever they are left unoccupied, after 5:00 p.m., and on weekends or holidays. Your Student ID card can be activated to unlock the outside doors, and you can check out keys for interior doors for your laboratory/office space. A \$5 cash deposit is required. To obtain a key:

- Obtain a Key Request form from Beth King (room 100).
- Return the completed and signed form, along with your \$5 cash deposit, to Beth King.
- See Karl Hedrick (room G14-C) to pick up your keys and activate your Student ID card.
- Lost keys should be reported promptly; replacement keys will require another deposit.

Safety and Health

The outside doors to Schaub Hall should not be propped open after they are locked for the evening and weekends. When working after regular hours, you should keep the laboratory or office door closed and locked. Laboratories should be locked whenever they are unoccupied. If you encounter unfamiliar visitors in your work area, ask if they need assistance and escort them to their destination. Do not hesitate to seek assistance from a co-worker if the situation warrants. Detailed information regarding personal safety, campus security, and additional non-criminal services provided by the NCSU Police Department, is available at <http://campuspolice.ehps.ncsu.edu/>. In the event of a campus emergency, dial 911 for assistance, using a campus landline when possible.

If you are assigned laboratory and desk space, please locate and read the laboratory safety plan information. Discuss general lab safety issues with the area supervisor or designated technician, checking off the topic categories listed online at: <http://www.ncsu.edu/ehs/2010/managercklst.html>. Complete and sign the form at the end of the training session indicating you have read and understand the information and then place it in the safety plan notebook. As you develop new procedures for your research, a description of the procedure and precautions to reduce hazards should be included in the safety plan. ALL students must participate in the Hazard Communication Training provided by the Environmental Health and Safety Department. The course is part of the Manager's Safety Orientation Checklist at the link above, and is also online for non-lab personnel at <http://www.ncsu.edu/ehs/hazcom/hazcom.htm>.

If you anticipate the use of radioisotopes in your research, you should take the appropriate Radiation Safety Training Courses offered by the Environmental Health and Safety Department. For course and registration information, see <http://www.ncsu.edu/ehs/radiation/training.htm>.

Additional training is required for use of materials that are biohazards or potentially carry blood-borne pathogens (<http://www.ncsu.edu/ncsu/ehs/biosafety.htm>).

For research involving live vertebrate animals, a self-paced training course is available from the university's attending veterinarian. You are also required to complete a health survey. Immunizations against certain animal borne diseases are available for some species. For detailed information regarding the Animal Care and Use Policy, required forms, and to complete the Animal Subjects Tutorial, please visit: <http://research.ncsu.edu/sparcs/compliance/iacuc/>.

Research with human subjects (including taste panels) requires prior approval from the Institutional Review Board. See <http://research.ncsu.edu/sparcs/compliance/irb/>.

Additional useful information about policies and procedures for the conduct of research is available at

the Sponsored Programs website (<http://research.ncsu.edu/sparcs/compliance/>). For example, the information on Scholarly Research Integrity is covered by the requirement for doctoral students to take a research ethics course, however links from the [website](#) can get you started right away on proper collection and management of your research data to prevent possible problems later on.

Equipment and Supplies

Most equipment and instruments have been purchased for use by all members of the department. The faculty member with primary custody is responsible for establishing guidelines, procedures, or schedules that should be followed by all users of an instrument. Failure to follow established procedures may result in restrictions on the use of an instrument.

Before using any equipment or supplies from another laboratory, please request permission from the faculty or staff member responsible. When working in someone else's laboratory, every effort should be made to avoid interfering with residents of that lab and to perform a thorough job of cleaning up when you are finished. We hope that such common courtesy will encourage more interaction between people in various research groups, since this is a very desirable part of the educational process.

Telephone Use

To place an on-campus call, dial the last 5 digits of the phone number (3-xxxx, 5-xxxx, etc). Off-campus calls should be dialed as follows: 7-aaa-xxx-xxxx or 7-1-aaa-xxx-xxxx where aaa is the area code and 1 is used for long distance calls. Long distance calls for business purposes should be placed station to station (dial 7+1+area code + seven digit number). Each phone should have a log for recording the purpose of long distance calls charged to the university. All personal calls should be kept brief and avoided as much as possible. If you need to place a personal long-distance call, you must use your own telephone credit card or cell phone.

Travel

Students are encouraged to attend and present papers at local and national scientific meetings. Travel support may be considered for students to attend one (M.S. students) or two (Ph.D. students) professional meetings during their program. Exceptions to this number may be approved with proper justification and strong research productivity. Every effort should be made to obtain travel support from extramural sources (Graduate Student Association, Graduate School, Food Science Club, etc), as there are no departmental funds to support graduate student travel.

Getting around Raleigh

"GoPass" is a free student bus pass sponsored by NCSU Transportation which allows students to ride city buses [Capital Area Transit \(CAT\)](#) and regional buses [Triangle Transit \(TT\)](#) free of charge (nothing is required to use the NCSU Wolfline). For information on how to obtain your free GoPass, please visit the NCSU Transportation [website](#).

Vacations and Holidays

Graduate research assistants, in their roles as employees of the department, are expected to adhere to the working schedule of academic employees. As one-half time employees, their service obligation is 20 hours per week. This time may be devoted to research applicable to their thesis or to other work depending on the conditions of the research funding. Holiday schedules are readily available from advisors or bulletin boards. Research assistants are entitled to two weeks of vacation each year. Vacation should be taken at a time approved by the student's advisor.

Adverse Weather Conditions

Closing of the university due to adverse weather conditions will be announced on the radio with a notice from the Chancellor's office. Notices are also posted on the NCSU home page and telephone system. If offices remain open, graduate assistants who anticipate transportation problems will be permitted, with advisor's approval, to take vacation leave in reporting for work or leaving early. Time will be made up at the discretion of the advisor. Work time lost by students due to closing of the university or by voluntary action must be charged to vacation leave or made up.

Registration

Each graduate student admitted to the Food Science program must register each fall and spring semester until the degree is granted. Graduate students, who were enrolled during the spring semester and will be enrolled in fall, will be allowed to use the library even though they are not registered for summer sessions. An additional fee is required for use of the gym and student health center during the summer. Registration for FS 696/896 is sometimes recommended for U.S. students supported on an assistantship to avoid FICA tax withholding and cover the above fees. However, the Graduate Student Support Plan does not provide summer tuition benefits.

All students must be registered during the semester they graduate (Fall, Spring, Summer I or Summer II), unless the completed thesis or dissertation is submitted to the graduate school prior to the beginning of class for that term.

Assistantships and the Graduate Student Support Plan

Research and teaching assistantships are awarded annually and may be renewed for a total of 4 semesters for M.S. students or 6 semesters for Ph.D. students. Students supported on a qualifying assistantship and meet minimum registration requirements are automatically eligible for health insurance and tuition benefits under the Graduate Student Support Plan (GSSP). Health insurance is provided at no cost to the student for as long as they meet the assistantship and registration requirements. Tuition benefits are provided for a [limited number](#) of semesters. For detailed eligibility and registration requirements, see: <http://www.ncsu.edu/grad/support-plan/index.php>.

All students supported on an assistantship are required to register for 9 credit hours per semester for the first 3 semesters of their M.S. degree program and for the first 6 semesters of their Ph.D. degree program (8 semesters for Ph.D. students who do not have a M.S.). Thereafter, registration for 3 credit hours per semester is required. Students who register for additional credits not required by their Plan of Work will be responsible for these tuition costs.

Graduate assistants are paid biweekly (fellows are paid monthly) via direct deposit to their designated bank account. Currently registered full-time students who work on campus less than 30 hours per week are exempt from FICA tax. Any work performed in addition to a student's primary assistantship (or fellowship) requires prior approval by the student's DGP, PI, or advisor. Additional jobs can have important effects on tax status and visas for international students.

Students paid an assistantship from grant funds must complete Conflict-of-Interest statements as do other NCSU employees. Affected students will be notified by email from the Sponsored Programs Office (SPARCS).

Students registered for at least 3 credits and not covered by the GSSP Health Insurance or a comparable policy must purchase insurance coverage from the University.

Establishing North Carolina Residency

The Graduate Student Support Plan will guarantee non-resident tuition for one year for U.S. citizens. However, graduate students who are U.S. citizens or permanent residents are eligible for North Carolina residency for tuition purposes under certain conditions. Immediately upon moving to North Carolina, it would be advantageous to undertake the following actions determined to be tangible indications of residency intent: obtain a North Carolina Driver's license or state ID card and voting registration, register a motor vehicle, obtain a property for taxation, file a North Carolina state income tax return, and convert banking, club/organization memberships, etc. to North Carolina.

In addition to the above mentioned steps, it will be incumbent on the individual to demonstrate that he/she is financially independent of parents or guardian, if they are non-residents of North Carolina, and to demonstrate a visible means of support substantiating the claim of financial independence. If the individual has not been totally self-supporting during the last 24 months, a completed affidavit will be required from the parent(s) to indicate the amount of support provided.

Further and equally important, once the individual has clearly established their residency intent and financial independence, he/she must maintain North Carolina residence for 12 continuous months immediately prior to the semester the in-state status change can be made effective. A Tuition Reclassification Application should be submitted as soon as appropriate during the eligible enrollment semester after the 12 month (365 days) domicile requirement has been met.

For updated and detailed information, including application deadlines and instructions, see <http://www.ncsu.edu/grad/tuition-residency/>.

Minimum Course Requirements for Graduate Degrees in Food Science

Minimum Credits Needed on Graduate Plan of Work	(36) Mr. F.S.	(30) M.S.	(72) Ph.D.
Research	4-6 cr (FS 693) ^a	1-6 cr (FS 695) ^b	unspecified (FS 895)
Seminar	1 cr (FS 780) ^c	1 cr (FS 780) ^c	1 cr (FS 780)
Research Ethics	n/a	n/a	1 cr ^d
Teaching ^e	n/a	1-3 cr (FS 685)	1-3 cr (FS 885)
Core FS Courses ^f (with minor)	n/a	≥6 cr	≥9 cr
Core FS Courses ^f (without minor)	≥12 cr	≥12 cr	≥15 cr
Optional Minor ^g	n/a	6-10 cr	6-10 cr
Dual Level FS Courses ^h	6-8 cr	6-8 cr	6-8 cr
400-Level Courses ⁱ	≤6 cr	≤6 cr	n/a
500 & 700-Level Courses ^j	≥20 cr	≥20 cr	unspecified
Transfer Credits	≤15 cr ^k	≤12 cr ^k	18-36 cr ^l

^aMr. F.S. students must take 4-6 credits of an independent study project to include library or laboratory research, or a service project of similar depth.

^bUp to 6 credits of FS 693/695 may be used to meet the minimum credits required for a M.S. degree.

^cAt least one, but no more than two credits of departmental seminar should be applied toward the minimum total hours for a Master's degree.

^dA Doctoral Plan of Work must include a course (minimum 1-credit) that has a major focus on research ethics. Suitable courses are listed on the Research Ethics program [website](#). Students who can demonstrate equivalent exposure to research ethics topics may petition their Advisory Committee to waive this requirement.

^eM.S. students must register for FS 685 (Master's Supervised Teaching) and serve as a teaching assistant for one semester. Ph.D. students must register for FS 885 (Doctoral Supervised Teaching) and serve as a teaching assistant for *two* semesters.

^fMost Food Science graduate courses are included in one of the following categories: Microbiology, Chemistry-Biochemistry, Nutrition, Engineering, and Processing Technology. A Master's program must include courses from at least two categories and a Ph.D. program must include courses from three categories. A course must be at least two credits to qualify as meeting a category requirement. **Dual-level courses normally taken in an undergraduate Food Science major (FS 502, 503, 505, 506 and 521) do not fulfill the credit requirement in this category.** Enrollment in a greater number of Food Science courses is encouraged.

^gCredits for a minor are variable, depending upon the requirements of the minor department or program. A student will select the minor work from a single discipline or field that, in the judgment of the advisory committee, provides relevant support to the major field. However, when the advisory committee finds that the needs of the student will best be served by work in an interdisciplinary minor, it has the alternative of developing a special program in lieu of the usual minor. Courses used to satisfy a minor for a M.S. degree at NCSU may also count toward a minor in the same program on the Plan of Work for a Ph.D. Courses that are cross-listed with another department or program (e.g. FSA or NTR) may count toward the major or the minor, but not both.

^hGraduate students without a degree in Food Science **must** enroll for credit in two of the following courses: FS 231 (Food Engineering); FS 502 (Food Chemistry); FS 505 and FS 506 (Food Microbiology and Food Microbiology Lab); FS 521 (Food Preservation). Although FS 231 **cannot** be included on the Plan of Work, FS 502, 505, 506, and 521 may be used as elective credits to meet the minimum credit hour requirements.

ⁱUp to 6 credits of 400-level courses from OTHER departments may apply towards a Master's Plan of Work. 400-level courses **cannot** be included on a Doctoral Plan of Work.

^jAt least 20 credits of 500 and 700-level courses (any department) must be included on the Master's Plan of Work.

^kUp to 12 credits of a M.S. degree program (up to 15 credits for Mr. F.S. students) may come from any combination of the following transfer options:

- Transfer of graduate credits earned at other universities
- Transfer of graduate credits earned while enrolled in a previous undergraduate or graduate degree program at NCSU
- Transfer of Post-Baccalaureate Studies (PBS) graduate credits earned at NCSU

^lThe 72-credit hour requirement for a Ph.D. student may include up to 36 credits transferred from a relevant M.S. degree taken at NCSU (if there was no break between the M.S. and Ph.D. registration), or up to 18 credits transferred from a M.S. degree taken at another university.

FS 696 and FS 896

FS 696 (M.S.) and FS 896 (Ph.D.) are sometimes used by students who need summer registration for various reasons. Examples are: new students beginning a research project in the Summer I term; U.S. students who wish to avoid deduction of FICA taxes (~7.5%) from their stipend during the summer months. FS 696 and FS 896 cannot be included on the Plan of Work.

Minor in Food Science

For students majoring in other departments or programs, the Minor in Food Science consists of 9 credit hours from any food science listings. Only 6 hours of 400-level courses can be used on a Plan of Work, but these can be Food Science courses used to satisfy the requirements for the minor. The minor representative to the advisory committee (who must be a Graduate Faculty member in the Food Science Department) can make recommendations on which courses should be selected.

Graduate Courses by Category

Chemistry-Biochemistry

- FS 510- Food Lipids: Issues and Controversies
- FS 567- Sensory Analysis of Foods
- FS 765- Polymer and Colloidal Properties of Foods

Engineering

- FS 741- Thermal Processing of Foods
- FS 785- Food Rheology

Microbiology

- FS 540- Food Safety and Public Health
- FS 725- Fermentation Microbiology

Nutrition

- FS 501- Advanced Nutrition and Metabolism
- FS 555- Exercise Nutrition
- FS 706- Vitamin Metabolism

Processing Technology

- FS 530- Post-Harvest Food Safety
- FS 522- Food Packaging
- FS 553- Food Laws and Regulations
- FS 751- Food Ingredient Technology In Product Development

General Food Science

- FS 520- Pre-Harvest Food Safety
- FS 526- Upstream Biomanufacturing Laboratory
- FS 550- Food Industry Study Tour
- FS 554- Lactation, Milk, and Nutrition
- FS 557- Nutraceuticals and Functional Foods
- FS 562- Post-Harvest Physiology
- FS 580- Professional Development and Ethics in Food Safety
- FS 780- Seminar In Food Science

“Remedial” Food Science *(for students without a prior degree in the field)*

- FS 502- Chemistry of Food and Bioprocessed Materials
- FS 505- Food Microbiology
- FS 506- Food Microbiology Lab
- FS 521- Food Preservation

Graduate Student Progress Evaluation

Students and their major advisor should select faculty members to serve on their advisory committee as soon as possible after beginning their program. The committee for a M.S. student must include at least three Associate or Full Graduate Faculty members. The committee for a Ph.D. student must include at least four Associate or Full Graduate Faculty members, including one member from outside the major department, who is willing to serve the role of a Graduate School Representative. Students who declare a minor on their Plan of Work must include a committee member from the minor department to serve as the Minor Representative. The advisory committee should meet on a regular basis (at least annually) to evaluate the student's progress and review plans.

- a. Full-time students will be evaluated annually before the start of the student's 3rd, 5th, 7th, etc. regular semester, excluding summers. Part-time students will be evaluated biennially before the start of the 3rd, 5th, 7th, etc. year, dating from the beginning of the graduate program.
- b. The chair of the advisory committee will convene the evaluation and the student's entire advisory committee will participate in the evaluation.
- c. The Ph.D. Preliminary Oral Examination will replace the annual or biennial Progress Evaluation provided it is scheduled within 3 months of the normal evaluation date established in (a) above. If a Progress Evaluation is postponed in anticipation of the Preliminary Oral Examination, the chair of the advisory committee will call for an immediate Progress Evaluation if it is determined that the Oral Exam cannot be held within the 3-month period. If the Preliminary Oral Exam replaces the Progress Evaluation, the next Progress Evaluation will take place as specified in (a).
- d. The M. S. or Ph.D. Final Oral Examination (defense) will replace the annual or biennial Progress Evaluation, provided it is scheduled within 3 months of the normal evaluation date as established in (a). However, if it is later determined that the Final Oral Examination cannot be held within the 3 month period, the chair of the advisory committee will call for an immediate Progress Evaluation. An extension will require approval of the department head.
- e. Students who do not complete all requirements for the degree within 1 year of the Final Oral Examination must return annually for a Progress Evaluation.
- f. Upon completion of each evaluation, the student's advisory committee will complete and sign the evaluation form.
- g. The student will read and discuss the evaluation with the advisory committee, add any written comments he/she deems necessary, and affix his/her signature.
- h. One copy of the completed and signed evaluation form will be distributed by the chair of the advisory committee to each of the following:
 - Director of Graduate Programs
 - graduate student
 - any advisory committee member who wishes to have a copy
- i. This recommendation should not be used to delay or otherwise affect the submission of the student's Plan of Graduate Work, which is due in the Graduate School prior to the student's completion of one-half of the proposed program or 18 credits, whichever is earlier.

Continuation in Doctoral Program

A master's degree candidate who wishes to continue in a doctoral program at NCSU must give notice of this intent at least one full semester before completion of the master's program. At least two faculty members should be asked to write letters of recommendation, or one letter of recommendation may be co-signed by the entire advisory committee. Internal applications will be evaluated using the same standards required for outside applicants to our doctoral program. It is our policy to discourage students holding B. S. degrees from NCSU from remaining here for their doctorate, except under extenuating circumstances.

Students enrolled in the M.S. program who wish to transfer to the Ph.D. program without completing their M.S. program, must follow the Food Science Department Policy for Admission to the Ph.D. Program (Appendix A).

Once a student is enrolled in graduate school, all requests to change their curriculum (e.g. Food Science, FS, to Nutrition-Food, NTF), or degree objective (thesis to non-thesis or M.S. to Ph.D.) must be made by the student to the Director of Graduate Programs, who will submit the request with appropriate signatures to the Graduate School for final approval. The student must have completed at least one semester in their original curriculum and be in good academic standing before a request to transfer will be accepted.

Preliminary Comprehensive Exam for Ph.D. Candidates

The Graduate School requires each doctoral student to pass a preliminary comprehensive examination composed of two parts: written and oral. All doctoral students will take a departmentally administered exam in partial fulfillment of the written requirement. The examination is given annually, usually in May or June. It is the students' responsibility to notify the chair of the preliminary exam committee of their intent to take the exam. The procedures and policy guidelines for the Food Science Ph.D. Written Preliminary Examination will be available from the chair of the preliminary exam committee during the call for exam sign up.

Teaching Assistants

All graduate students are required to serve as teaching assistants in Food Science courses (see program requirements section). The experiences benefit the department, the faculty and both graduate and undergraduate students. Assignment of teaching assistants is made by the Director of Graduate Programs. Attempts will be made to accommodate requests from students and faculty for TA course assignments. International students are required to take the English proficiency "Speak Test" administered by the Graduate School prior to assignment. Students will be required to act as a teaching assistant once during an M. S. program and twice during a Ph.D. program.

Fellowships

To encourage students to apply for graduate fellowships and awards, the Food Science Department recommends that any fellowship or award stipend based upon excellence in scholarship, research, teaching, or leadership be combined with graduate assistantship funds.

Statistical Consulting Service

The Statistics Department offers free consulting to graduate students and faculty in the College of Agriculture and Life Sciences. Assistance in the design of experiments, methods of data analysis, and interpretation of results is available. This service is provided as part of a training program for graduate students in Statistics who do the consulting under faculty supervision. For more information or an appointment, call 515-2584.

Thesis

Electronic Thesis and Dissertation Submission (ETD) is required. The Graduate School has prepared an ETD website with information needed to complete this process: <http://etd.ncsu.edu>. This website includes a step-by-step tutorial, frequently asked questions, and all information needed to successfully submit the ETD. It also contains detailed information about registering for ETD workshops. These are hands-on classes designed to teach the entire process of ETD submission, as well as all information needed to correctly format the thesis or dissertation and go through the steps necessary to meet all deadline requirements. Participation in this workshop early in the graduate program is recommended. The Thesis and Dissertation Guide can be accessed through the ETD website, or at the following web address: <http://www.ncsu.edu/grad/etd/index.php>. Students are responsible for the typing and formatting of their thesis or dissertation. Please be aware of all deadlines and instructions about applying for graduation at the EDT website. Submission of the ETD to the thesis editor is required within 24 hours of passing the final defense. Additional changes to the content resulting from the defense can be made until the final draft is approved by the thesis editor, advisory committee members, and chair of the advisory committee.

Final Defense

The M.S. and Ph.D. degrees require an oral defense of the thesis or dissertation and the student's entire graduate program, attended by all members of the advisory committee. If the student or any committee member will not be physically present at the exam (i.e. will attend by video conferencing), prior approval from the graduate school is required. In such cases, all committees are required to have a member who is not from the student's major department. (This is a requirement for all Ph.D. committees.) Doctoral preliminary and final exams must be scheduled with the graduate school, and permission to schedule the final defense for M.S. students must be requested, at least **2 weeks prior** to the date of the exam.

At the final defense for the Master or Doctoral degree, the student shall submit their curriculum vitae to their committee members and the Director of Graduate Programs, or submit equivalent information in the Graduate Student On-line Academic Reporting System, <https://gsoars.acsad.ncsu.edu>.

You can use the GSOARS system to continuously update your progress and accomplishments. The system will format and print a CV/resume so you are always ready to apply or interview for a job or internship. We will use this information in our program evaluations in a collected format that cannot be traced back to any individual.

Format for Graduate Student Curriculum Vitae

Name
Academic Department
Local Address
Telephone Numbers
Email address

Education (list of degrees and dates and colleges where degrees were granted)

Professional Qualifications (list of professional activities with appropriate dates, including teaching experience, internships, fellowships, special training, awards, and other employment related to your academic interests)

Publications (list of articles or other professional works that have been published, accepted for publication, or submitted for publication; include authors, date of publication, title of article, title of journal or other publication, volume and issue, page numbers)

Presentations (list of presentations of research to any of a wide variety of audiences and venues, such as graduate seminars and professional conferences for local, regional, national, and international audiences)

Grants (list of grants you have submitted, indicating status of grant - accepted, in process, rejected, etc.)

Professional Organizations (list of professional organizations you are a member of and/or have participated in, any offices you hold in those organizations, and any meetings you have attended)

Job Search Tips

The department collects information about positions for food scientists in a Graduate Job Opportunities Book and an Undergraduate Job Opportunities Book, located in room 119. These and other position announcements are listed with the CALS Career Services Office (111 Patterson Hall) and on their website: <http://www.cals.ncsu.edu/career/>. The Food Science Club also maintains a book with resumes of students seeking employment and provides it to companies for recruiting purposes. Numerous companies visit our campus to interview prospective employees at all levels. Arrangements are made through the Food Science Club or through CALS career services office.

Summary of Forms to be Submitted to the Graduate School

Form or Action Required	Due Date / Timeline (M.S.)	Due Date / Timeline (Ph.D.)
Patent Agreement*	First week of classes	First week of classes
Committee Appointment*	By end of first semester	By end of first semester
Plan of Work*	By end of second semester	By end of second semester
Request to Schedule Preliminary Oral Exam	<i>n/a</i>	At least 2 weeks prior to exam date
Request to Schedule Final Oral Exam	At least 2 weeks prior to exam date	At least 2 weeks prior to exam date
Apply to Graduate in SIS*	By stated deadline for the semester	By stated deadline for the semester
Submit thesis/dissertation for approval*	After passing final oral exam & making corrections	After passing final oral exam & making corrections
Submit CV in GSOARS*	After passing final oral exam & making corrections	After passing final oral exam & making corrections

*designates form or form submission, is online via MyPack Portal.

The Request to Schedule the Oral Exam form may be picked up from the Graduate Student Services Coordinator (129-A Schaub Hall) or may be downloaded from the Graduate School website (<http://www2.acs.ncsu.edu/grad/gars/garsform.htm>). All completed forms must be returned to the Graduate Student Services Coordinator for processing.

Forms Specific to the Food Science Department

- Graduate Student Progress Evaluation Form
- Graduate Student Exit Survey - forms should be picked up from the Graduate Student Services Coordinator at the time of the final exam and returned prior to graduation.
- Curriculum Vitae (see example on previous page)

Graduate Plan of Work and Advisory Committee

All graduate students can enter their Plan of Work and advisory committee online via MyPack Portal, there are no hard-copy forms to be completed. The Plan of Work and advisory committee are designed as advising tools. You should begin working on your Plan of Work and advisory committee as soon as you matriculate and activate in the graduate career. You may save in-progress work and submit later. Please see <http://www.ncsu.edu/grad/faculty-and-staff/docs/GRAD-SIS-training-manual-students.pdf> for detailed instructions. Once you have entered and saved all required information, please meet with the Graduate Student Services Coordinator to have your Plan of Work reviewed before submitting it for approval.

Guidelines For M.S. Program

A summary of Master's Degree procedures can be found at <http://www.ncsu.edu/grad/catalog/grad-programs.html>.

This list of guidelines should be viewed as general milestones in a two-year M.S. program, rather than hard and fast rules. Students should meet with their advisory committee to tailor the guidelines into specific goals for their degree program.

1st Semester

- 9 hrs of courses (9 hrs completed)
- Initial experiments in the laboratory
- Outline of literature review completed
- Select committee members (consult minor representative if appropriate)

2nd Semester

- 9 hrs of courses (18 hrs completed)
- Experimental methods developed
- 10 – 25% of research is completed
- First draft of literature review completed
- Committee meeting and Student Progress Evaluation form completed
- File Plan of Work

1st Summer

- 25 – 50% of research is completed

3rd Semester

- 9 hrs of courses (27 hrs completed)
- 50 – 75% of research is completed
- Write publication/thesis chapter
- Submit abstract for presentation at a national/international meeting
- Design final series of experiments

4th Semester

- 3+ hrs of courses (≥ 30 hrs completed)
- 75 – 100% of research is completed
- Final draft of literature review completed
- Write publication/thesis chapter
- Present research at a national/international meeting
- Committee meeting and Student Progress Evaluation form completed

2nd Summer

- Finish writing
- Defend thesis
- Schedule exit interview with Department Head
- Present research at a national/international meeting

Guidelines for Ph.D. Program

A summary of Doctoral Degree procedures can be found at: <http://www.ncsu.edu/grad/catalog/grad-programs.html>.

This list of guidelines should be viewed as general milestones in a three-year Ph.D. program, rather than hard and fast rules. Students should meet with their advisory committee to tailor these guidelines into specific goals for their degree program.

1st Semester

- 9 hrs of courses (30-36 hrs [NCSU] or 18 hrs [non-NCSU] transferred from M.S. program)
- Initial laboratory experiments and draft of review of literature
- Review information for written preliminary exam
- Select committee members (include minor representative if appropriate)

2nd Semester

- 9 hrs of courses
- Experiments in the laboratory and/or outline of review of literature
- Committee meeting and Student Progress Evaluation form completed
- File Plan of Work

1st Summer

- Written Preliminary Exam
- 5-20% of research complete

3rd Semester

- 9 hrs of courses
- 15-30% of research complete (submit abstract for presentation at national meeting encouraged)
- Write grant proposal or other document for oral preliminary exam

4th Semester

- 9 hrs of courses
- 25-50% of research complete
- Final draft of literature review completed
- Write publication/thesis chapter
- Present research at a national/international meeting
- Committee meeting and Student Progress Evaluation form completed
- Oral Preliminary Exam

2nd Summer

- Research/Publication

5th Semester

- 9 hrs of courses
- 50-100% of research complete
- Write publication/thesis chapter
- Submit abstract for 2nd presentation at national/international meeting

6th Semester

- 9 hrs of courses
- 100% of research is complete
- Write publication/thesis chapter
- Present second paper at a national/international meeting
- Committee meeting to determine completion of program and Student Progress Evaluation form completed

3rd Summer

- Total program of 72 hrs complete (36 or 54 taken in the Ph.D. program; including hours for research, teaching and thesis preparation)
- Finish writing
- Present exit seminar and defend thesis
- Schedule exit interview with Department Head

Appendix A: Policy for Admission to the Ph.D. Program (approved 02/12/90)

North Carolina State University
Department of Food Science
Policy for Admission to the Ph.D. Program

The outline presented below is intended to standardize and publicize the procedures and criteria used by the Graduate Committee in considering requests for admission to the Ph.D. program by students who have or anticipate receiving a B.S. degree or students in our M.S. program who wish to bypass the M.S. and work directly toward the Ph.D. degree. In each case, the procedures formalize the central role of the M.S. Thesis Advisory Committee and/or Food Science Graduate Committee in determining the suitability of an applicant for admission to our Ph.D. program.

1. Persons who have or anticipate receiving a B.S. degree

Persons applying for admission to the Ph.D. program who hold B.S. degrees will be considered for admission to the Ph.D. provided they satisfy the following criteria. Only exceptionally qualified students with evidence of their research experience and communicative skills in addition to the documentation required by the Food Science Graduate Committee and Graduate School (completed graduate school application, GRE scores, official undergraduate transcripts, three letters of reference, statement describing research interests and career goals, and TOEFL scores [foreign students only]) will be considered for admission into the Ph.D. program. Research experience documentation should include reprints or preprints of publications, published abstracts and a listing of other formal presentations of their research. Final approval of the application will be made by the Food Science Graduate Committee using the same criteria for all Ph.D. applications. Following approval, the applicant's folder will be handled using established procedures. All applicants admitted to the Ph.D. program via this route are to fulfill all current Ph.D. requirements including any undergraduate Food Science course deficiencies. Those applicants denied admission into the Ph.D. program, but eligible for admission into the M.S. program, will be duly informed of the committee's recommendation by the Food Science Graduate Coordinator.

2. Graduate students who wish to bypass the M.S. and transfer directly into the Ph.D. program

Those exceptional students satisfying the necessary criteria outlined below will be allowed to bypass the M.S. degree and transfer directly into the Ph.D. program. The procedure for transferring into the Ph.D. program is as follows. A letter from the student should request direct admission to the Ph.D. program, bypassing the M.S. degree. The Food Science Graduate Committee must be supplied with evidence of the student's research and communicative skills, such as reprints or preprints of publications, published abstracts, and a listing of other formal presentations. The letter should outline the rationale for the transfer and state (or request) the arrangements for the student's support if applicable. A letter of recommendation from the M.S. Thesis Advisory Committee should be sent to the Graduate Committee. The recommendation of the M.S. Thesis Advisory Committee for transfer to the Ph.D. program should be made after at least one meeting at which the student presents his/her current research results and future plans for the Ph.D. thesis research. In the event that a M.S. committee has not been appointed at the time the transfer is requested, the Food Science Graduate Committee will serve in this capacity. All applicants admitted to the Ph.D. program via this route are expected to fulfill all current Ph.D. requirements including any undergraduate Food Science course deficiencies.

Appendix B: Graduate Program in Food Science Outcomes Assessment (abridged)

Objectives for the program are:

1. To guide the graduate education of students preparing for professional careers
2. To prepare students to be effective researchers in contributing to the advancement of the safety, variety, and quality of food products for the state, the nation, and the world
3. To maintain and improve the program's leadership position nationally and internationally

Outcomes for each of the program's objectives are:

1. To guide the graduate education of students preparing for professional careers, the program aims to provide a variety of experiences that help students to:
 - a. develop expertise in appropriate concepts, theories, and emerging methodologies from the fundamental disciplines of biochemistry, chemistry, engineering, microbiology, and nutrition
 - b. attain fundamental experience in applying their knowledge to ongoing, real-world issues in food systems, components, products, and processes
 - c. present their research in peer reviewed journals and in conference papers given at professional meetings on the local, regional, and national levels
 - d. participate actively in professional organizations; becoming members, attending meetings, and, where appropriate, taking leadership roles
2. To prepare students to be effective researchers in contributing to the advancement of the safety, variety, and quality of food products, for the state, the nation, and the world, the program aims to provide a variety of experiences that help students to:
 - a. develop a comprehensive knowledge of previous and current research in their field of expertise and be able to demonstrate that knowledge capably in a review of the literature
 - b. generate viable questions within their field of expertise and pose problems or hypotheses related to those questions
 - c. apply sound research methods to problems in food science and describe the methods effectively
 - d. perform statistical analyses of research data and present the results in a way that makes clear sense of the data
 - e. discuss the solution to the research problem or the support or lack of support for the hypothesis in a way that effectively documents the contribution of the research to the area of study
 - f. become independent, self-motivated researchers with the ability to recognize problems in their field of expertise and formulate solutions to the problems
 - g. gain experience in laboratory, classroom, extension, or internet teaching
3. To maintain and improve the program's leadership position nationally and internationally, the program aims to:
 - a. continue to attract high-quality students
 - b. provide effective mentoring that encourages students to graduate in a timely manner
 - c. place graduates in positions in industry and academics
 - d. maintain a nationally recognized faculty that is large enough and appropriately distributed across food science disciplines to offer students a wide range of fields of expertise

Summary of data to be collected:

- Scores on written preliminary exams for doctoral students
- Course grades on food science courses for all graduate students
- Responses to question on student exit interview with department head concerning students' satisfaction with experience in applying their knowledge to real-world issues
- Curriculum vitae forms brought by students to annual committee meetings and oral defense, listing publications, presentations, memberships in professional organizations, meetings attended, leadership roles and job plans
- Rubric to be filled out by committee at a student's annual committee meeting (Appendix C)
- Application statistics (number of applicants, percentage of applicants accepted, and percentage of accepted candidates matriculating)
- Time-to-degree statistics
- Job placement statistics
- Faculty Activity Reports
- FTEs per discipline
- Achievement of faculty hiring goal

Appendix C: Student Progress Evaluation Rubric

Student Progress Evaluation Form (side 2)
Food Science Graduate Program Evaluation Rubric

	Needs Improvement	Competent	N/A
1. reviews the literature in a way that demonstrates comprehensive knowledge of previous and current research in the field of study			
2. generates a viable question within the field of study and poses a worthwhile problem or hypothesis related to the question			
3. applies sound research methods to the problem or hypothesis and describes the methods effectively			
4. performs statistical analyses of research data and presents the results in a way that makes clear sense of the data			
5. discusses solution to problem or support for hypothesis in a way that effectively documents the contribution of research to area of study			
6. demonstrates sufficient knowledge of appropriate concepts, theories, and emerging methodologies in food science			
7. demonstrates qualities of an independent, self-motivated researcher with the ability to recognize problems in the field of study and formulate solutions to the problems			
8. demonstrates qualities of an effective teacher			