



Food Science Graduate Student Handbook

GENERAL INFORMATION, ADMISSION AND DEGREE REQUIREMENTS



UNIVERSITY OF
ARKANSAS

DALE BUMPERS COLLEGE
OF AGRICULTURAL, FOOD
& LIFE SCIENCES

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TABLE OF CONTENTS

	Page
I. Department of Food Science Admission Requirements and Procedures	1
II. Financial Support	1-2
III. Reimbursement of Tuition and Fees	2-3
IV. Minimum-Maximum Credits per Session/Semester	3
V. Requirements of all Graduate Assistants	3-5
VI. Master of Science Degree Program	6-11
VII. Doctor of Philosophy Degree Program	12-18
VIII. General Departmental Policies	19-23
IX. Appendices	
A. Graduate School enrollment guidelines	
B. Staff duties relevant to graduate students	
C. Miscellaneous information and links to forms & resources	
D. Travel grant information	
E. Annual evaluation forms	
F. MS/PhD program worksheets	
G. FDSC laboratory safety guidelines	
H. Nutrition course requirements	
I. Graduate Faculty	

I. DEPARTMENT OF FOOD SCIENCE ADMISSION REQUIREMENTS AND PROCEDURES

Applicants for graduate studies must meet entry requirements of the Graduate School and the Department of Food Science. The Graduate School requirements for admission are available in the University of Arkansas Graduate Catalog (<http://www.uark.edu/depts/gradinfo/>). In addition to the Graduate School requirements, applicants must also meet Department of Food Science requirements to be admitted to the Food Science graduate degree program.

A. Master of Science Program

To be considered for regular admission, applicants must have a B.S. degree from an accredited institution with a grade-point average (GPA) of no less than 3.00; a GRE score of verbal, 146, quantitative, 144, and 4.0 for the writing test; suitable preparation in food science or related areas, and be acceptable to the department. GRE scores are accepted for 5 years from the test date. International students must also have a TOEFL score of no less than 92 (internet- based)/580 (paper) and no less than 4.5 on the TWE score of the TOEFL test.

Applicants with lower than the required GPA or GRE scores may be admitted conditionally into the M.S. degree program. Conditionally accepted students must achieve a GPA of at least 3.0 for the first 12 hours of graduate coursework to achieve regular student status.

B. Doctor of Philosophy Program

Applicants with a M.S. research thesis degree or B.S. degree in Food Science or related sciences from an accredited institution may be accepted into the interdepartmental doctoral Food Science program. Applicants with a research thesis M.S. degree should have an MSGPA of no less than 3.5. Students with a B.S. degree will be considered for the Ph.D. program if their BSGPA is no less than 3.65 and if they have had research experience with publishable research results. All applicants to the Ph.D. program (B.S. and M.S.) should have a GRE score of verbal, 153, quantitative, 148, and writing, 4.0; suitable preparation for the food science graduate program, and be acceptable to the department. GRE scores are accepted for 5 years from the test date. International applicants are required to have a TOEFL score of no less than 92 (internet- based)/580 (paper), no less than 4.5 on the TWE score of the TOEFL test.

II. FINANCIAL SUPPORT

A. Research Assistantships

Food Science graduate assistantships are stipends granted on a competitive basis determined by the student's scholastic record, area of interest, recommendations and evaluation by the faculty. Funding for assistantships is from State of Arkansas funds allocated to the Department or from grants/contracts obtained by individual faculty members. The availability and source of funds determines the number and type of assistantships that can be awarded. Students must be regularly admitted to the FDSC graduate degree program before being considered for an assistantship.

Graduate assistantships are normally granted for 25% or 50% appointments, depending on the applicant's qualification and availability of funds. Quarter-time assistantships provide a stipend, but the student must pay in-state tuition and fees. Half-time assistantships include a stipend of \$13,000 plus tuition for M.S. students, and \$15,000 plus tuition for Ph.D. students. Students are responsible for fees.

For each assistantship appointment, students must perform assigned duties, demonstrate satisfactory progress and maintain a GPA of 3.0 or higher to continue to receive assistantship support. Quarter-time and half-time assistantship support will not exceed two years for M.S. students or three years or four years for Ph.D. students who entered the program with a M.S degree or a B.S. degree, respectively.

B. Teaching Assistantship

In recent years, funding for teaching assistantships has not been available although graduate students on research assistantships may be requested to assist with teaching departmental courses. Duties may include organization and presentation of both lectures and labs. It is strongly encouraged that graduate students obtain teaching experience during their tenure in the FDSC department, particularly those seeking a Ph.D. degree. Students should participate in teaching even though they may not be supported by a teaching assistantship.

Students whose native language is not English must attain an acceptable score on the Test of Spoken English (TSE) or on the SPEAK test in order to be eligible for teaching responsibilities. The score must be on file with the Graduate School. The SPEAK test is administered through the University of Arkansas.

C. Fellowships and Other Financial Support

Other support may be available from competitive fellowships provided by companies and national organizations. Some fellowships or other financial assistance for outstanding students are available from the Graduate School, and applications should be completed with the assistance of the Thesis or Dissertation Director. Graduate scholarships are also offered by the Institute of Food Technologists (IFT) and American Association of Cereal Chemistry (AACC) and other professional organizations on a nationally and regionally competitive basis. Graduate students are encouraged to apply to funding organizations for support.

D. Research Expenses

Requests for travel, supplies, equipment, and other expenses required for thesis or dissertation research should be through the student's Thesis or Dissertation Director. Students are encouraged to assist with the development of proposals for obtaining grants to support research projects.

III. REIMBURSEMENT OF TUITION AND FEES (ASSISTANTSHIP RECIPIENTS)

Graduate assistants who resign or are terminated from their graduate assistantship appointments,

whether or not they withdraw from school, may at the discretion of the funding source, be required to reimburse the Department of Food Science for the tuition and fees paid on their behalf proportionate to the length of time remaining on the contract during the current semester.

IV. MINIMUM-MAXIMUM CREDITS PER SESSION/SEMESTER

Registration for course credits is governed by the graduate student's enrollment status. Students on assistantship and students that are not financially supported by the department fall under different enrollment guidelines. The Graduate School defines the minimum and maximum number of hours of credit that should be taken according to enrollment status (Appendix A).

The minimum number of hours of enrollment for students on 0-49, 50-74, and 75-99% graduate assistantship appointments is 9, 6, and 3, respectively, for fall and spring semesters. International sponsored students may have other minimum requirements to be considered as full-time students. All 50% appointed graduate assistants (GAs) must register for at least 3 hours in any summer session and 6 hours for Fall and Spring semesters. Ph.D. students that have completed their course and research requirements and only need to complete their dissertation may register for only one hour credit during that semester with the approval of the Graduate School.

Full-time employees who are working toward a graduate degree must consult with their Thesis/Dissertation Director to determine course schedules that do not interfere with obligated duties and that the courses are appropriate for the degree program.

V. REQUIREMENTS OF ALL GRADUATE STUDENTS

A. Core Food Science Course Requirements

The Department of Food Science requires all students receiving a graduate degree (M.S. or Ph.D.) with a Food Science specialization to have competencies in core subjects that are required for a B.S. degree in Food Science. Students having completed a B.S. degree from a program approved by the Institute of Food Technologists will have satisfied these requirements. Some or all competencies will need to be achieved by students who received their degrees in other fields.

Achievement of core competencies can be demonstrated by satisfactory completion of the following courses or through comprehensive examinations (*no graduate credit is allowed for FDSC 3103 and only 6 hours of credit will be counted toward the total number of credit hours required for MS and PhD degree*):

- FDSC 3103/3100L Principles of Food Processing
- FDSC 4122/4121L Food Microbiology
- FDSC 4304/4300L Food Chemistry
- FDSC 4754/4750L Engineering Principles of Food Processing

Students unable to complete the required courses or their equivalent must demonstrate competencies through examinations that will be administered through a committee of Food Science

faculty members chaired by the Food Science Graduate Program Coordinator.

For information about Nutrition course requirements, see Appendix H.

B. Grade Requirements

All graduate students must maintain a cumulative grade point average of not less than 3.0 for approved graduate courses. All courses completed (including repeated courses) at the University of Arkansas for a graduate degree in Food Science shall be considered in determining the average grade point.

C. English Competency

All graduate students must be competent in reading, writing, speaking and understanding English prior to receiving an advanced degree. Students who demonstrate unsatisfactory English skills will be required to seek assistance from appropriate courses or tutoring to attain English competency. The Writing Center (Kimpel 315) provides assistance with writing and grammar. Courses or individual assistance to improve speech may be obtained in the departments of Communication, English or Spring International Language Center (SILC). The student's Thesis or Dissertation Director and Advisory Committee will be responsible for the evaluation of the student's English competency.

D. Time Commitment and Absences

1. Time/Work Commitment and Obligations

All graduate students are required to be working either on thesis/dissertation research projects or on assigned duties in fulfillment of assistantship obligations when not attending class. A full-time commitment is required for achieving satisfactory performance by all graduate students regardless of their financial support.

Graduate students on 25% or 50% assistantship appointment are obligated to perform assigned duties not to exceed 10 or 20 hours per week, respectively. The assigned duties and work schedules are determined by the Thesis/Dissertation Director who will ensure that they do not interfere with class schedules and satisfactory progress toward completing degree requirements. Graduate assistants in Food Science may be assigned a combination of duties in areas of teaching and research. Thesis/Dissertation Directors should provide in writing the duties required for assistantship support. Graduate assistantships should involve work and assignments supportive of Food Science and the research program of the Thesis/Dissertation Director.

2. Vacation and Sick Leave

Vacation schedules should be determined in consultation with the student's Thesis/Dissertation Director. Absences due to illness or other reasons should promptly be reported.

E. Annual Evaluation of Graduate Students

As required by the Graduate School the progress of every graduate student is reported by his/her advisory committee annually. The student submits a 3-4 page report to his/her advisory committee, in the format of the *Annual Progress Report Form (Appendix E)*, during the spring semester of the first year of graduate study. If the graduate committee has not been formed at the time of the first evaluation, the major advisor will be solely responsible for evaluating the student's progress. All graduate students, whether on an assistantship or not, are required to have this evaluation. Students who refuse to participate in this evaluation will face dismissal from the Food Science Graduate Program.

Within two weeks of the submission, the committee members will provide comments to the major advisor. After reviewing the candidate's progress, the graduate advisor advises the student of its evaluation and also recommends to him/her any coursework he/she should take during the next year, and gives directions on the future program of research. The graduate advisor is then responsible for reporting the committee's evaluation to the Food Science Graduate Affairs Committee (FSGAC) on the *Advisory Committee Report Form*. The advisor shall consult with all advisory committee members prior to reporting to the FSGAC to ensure that everyone is in agreement with the evaluation. If the student is a candidate for reappointment, such as a Graduate Assistant, the advisory committee also makes a recommendation on the reappointment. The Graduate Affairs Committee, composed of the Graduate Program Coordinator, Department Head and an appointed faculty member, will then review the material and submit the *Annual Graduate Student Academic Review Form* to the Dean of the Graduate School.

VI. MASTER OF SCIENCE DEGREE PROGRAM

A. Appointment of Thesis Director

All students accepted into the Food Science M.S. program will be immediately assigned a Thesis Director. The Thesis Director will be responsible for guiding the student's academic program and thesis research. Faculty must hold a Graduate Faculty Group I or II classification to serve as thesis directors for M.S. students.

Assignments of new students to thesis directors will be performed by the Head of the Department of Food Science. Assignments will be determined from the student's specific request for an area of specialization and mutual consent of a faculty member willing to accept the student.

After becoming acquainted with the programs and faculty, a student may request to be reassigned to a different Thesis Director. The student should discuss the proposed change with the Department Head. The request for changing to a different Thesis Director should be submitted in writing to the Department Head and have approval of the proposed new Thesis Director. The former director will inform the Graduate School of his/her resignation and the Department Head will submit notification of the newly assigned Thesis Director to the Graduate School.

B. Evaluations and Reporting of Progress

The student should meet with the Thesis Director on a regular basis to report on research and academic progress. The Thesis Director will evaluate the student's progress and give constructive advice when necessary. A written copy of the evaluation may be prepared and distributed to the student, the Thesis Committee, and the Head of the Department.

C. Selection and Function of M.S. Thesis Committee

By the end of the first semester of course work, a Thesis Committee should be selected and submitted for approval to the Department Head and Graduate School. The Thesis Committee will be responsible for providing assistance in guiding the academic and thesis research program of the graduate student. The Thesis Committee determines the student's fulfillment of the degree requirements. Thesis Committee members must hold a Graduate Faculty Group I or II classification.

The Thesis Committee will consist of a minimum of three graduate faculty members, including the Thesis Director who will serve as the committee chairperson. At least two of the committee members must be faculty or adjunct faculty in the Department of Food Science, and at least one committee member must be from another department. Information for adjunct faculty is available on the FDSC website, <http://www.foodscience.uark.edu/>. The student should determine the willingness of the faculty member to serve on his/her Thesis Committee. The appropriate form requesting approval of committee members is submitted to the Department Head, who will forward it to the Graduate School for final approval.

Changes in committee members require the approval of the Department Head and Graduate School. Changes should be requested in a memorandum from the Thesis Director with written agreement of the faculty member being removed from or added to the Thesis Committee.

Students are recommended to schedule at least two formal meetings with their Thesis Committee. The first meeting, scheduled during their initial year of study, should establish courses to be taken to complete academic requirements and present a research proposal for the thesis. The other required meeting will be the student's presentation of the thesis and defense. Additional meetings are typically scheduled for progress reports or if assistance is necessary. Students are encouraged to contact individual members of their Thesis Committee whenever advice about their graduate program is needed. The major role of the Thesis Committee is to serve as a primary resource for information and guidance.

D. Graduate Course and Thesis Credits

A minimum of 24 graduate level course credits are required for the M.S. degree, in addition to any course deficiencies. Deficiencies will be indicated at the time of acceptance to the graduate degree program or by the Thesis Committee. At least 14 course credits must be from 5000 or higher level courses. A maximum of 3 credit hours may be earned for Special Problems Research (FDSC 509V). Students, along with their Thesis Director, will develop an academic plan of study for the degree program. Due to changes in course availability and student interests and needs, the plan of study may change during the degree program. The student's Master's Thesis Committee must approve the plan of study and any changes.

Students are permitted to transfer a maximum of 6 credits of graduate courses from another U.S. university for their M.S. degree program. The transferred credits must carry a B or higher grade and be acceptable for the M.S. program of the Department of Food Science. Credit transfer is administered by the Graduate School.

M.S. students must complete a minimum of 6 credits of Thesis (FDSC 600V). Students may register for more than 6 hours of Thesis during their M.S. program; however, only 6 hours will be recognized by the Graduate School for M.S. requirements.

E. Seminar

Graduate students pursuing the M.S. degree should earn two credits for Seminar (FDSC 5001). The first seminar may be a presentation of proposed research and the second on research results. Students may be requested to present seminars even if they are not enrolled in FDSC 5001 that semester. All students are **required** to attend regularly scheduled and special departmental seminars.

F. Thesis

A thesis developed from research on an original problem must be completed for the M.S. degree. The Department of Food Science does not have a non-thesis option for graduate degree programs. A non-thesis M.S. in Agricultural, Food and Life Sciences with emphasis in Food Safety is offered through the College.

1. Selection of thesis topic

Selection of the thesis topic will be mutually determined by the student and Thesis Director. Usually, the research subject will be associated with an on-going project that has financial support available for supplies, materials and possible expenses. The Master's Thesis Title Form must be submitted to the Graduate School at least six months before completing the degree requirements, <http://grad.uark.edu/forms/student/masters-thesis-title.pdf>.

2. Proposal development

It is mandatory that the thesis research project be carefully planned and a proposal be presented for discussion with the Thesis Committee. The proposed research may be presented to other students and faculty at a seminar. The proposal may need to be revised to include appropriate suggestions. Research activities that may affect or involve humans or other animals will require prior approval by the Institutional Review Board. The Thesis Director will determine the appropriate approvals required for the research. Institutional Review Board forms are available on the RSSP site at: <http://vpred.uark.edu/210.php>.

3. Thesis development

The thesis is a formal document that describes the justification, background, methods, results and conclusions of the research conducted. The research is expected to develop new information suitable for publication.

There are different styles acceptable for developing the thesis. The format will be determined by the Thesis Director prior to beginning the first draft. General University requirements for the thesis format are described in "Guide for Preparing Theses and Dissertations" at <http://grad.uark.edu/dean/thesisguide.php>.

The Thesis Director will assist with editing the thesis. Additional assistance in editing and revision may be obtained from others skilled in scientific writing. Copies of the thesis should be distributed to the Master's Thesis Committee when it is determined by the Thesis Director to be suitable for the defense.

4. Thesis defense (Final examination)

The Thesis Committee should receive a copy of the thesis at least two weeks prior to the defense.

The date, time and location of the defense should be scheduled by the M.S. candidate. At least two weeks prior to the defense, a memorandum from the Thesis Director will notify the Graduate School, Department Head and Thesis Committee of the scheduled defense.

The defense will focus on the thesis and related topics. Students also should be prepared to address questions related to courses completed for their degree program.

The Master's Thesis Committee will reach a verdict of pass, recess or fail. The pass verdict may be conditional with the requirement of including certain changes in the thesis that will be verified by the Thesis Director or other committee members. The decision to recess will require the student to revise the thesis, include more research and/or study certain topics for additional examination at another time. The fail verdict will result in the student being dismissed from the program without the M.S. degree. A simple majority will determine the verdict. If the vote of the committee is tied, then the Department Head will meet with the committee members to determine either a verdict or alternative requirements prior to re-examination. The Thesis Director will report the decision of the committee to the Graduate School and Department Head.

The student must obtain signatures of the Master's Thesis Committee members on the Master's Degree Record of Progress form, <http://grad.uark.edu/forms/student/progress-record.pdf>, to verify completion of the defense (Master's Comprehensive Examination). In addition, the student and advisor need to complete the departmental MS Program worksheet (Appendix F) and obtain a signature from the Department Head.

5. Completion and distribution of thesis

Following a pass verdict by the Thesis Committee, the thesis will usually need revision to include corrections and changes. When acceptable, the Thesis Director and committee members will sign the Record of Progress form.

The Intellectual Property Disclosure form, <http://grad.uark.edu/forms/student/intellpropdisclose.pdf>, is required to be completed by all Master's students. This form must be submitted to the Graduate School by the time the final copies of the thesis are submitted for deposit in the University Libraries.

Follow instructions in the Guide to Thesis and Dissertations for submitting the thesis electronically. It is not required to submit a hard copy of the thesis to the University Library, but may be if desired. One bound copy should be provided to the Thesis Director, and the student should have a copy for his/her own records. The student also needs to email a PDF copy of the final thesis to Connie Tharel, ctharel@uark.edu and bring a printed copy (on plain copy paper) to the FDSC office.

G. Important Deadlines

Students should refer to Master's Forms and Deadlines (following page) and <http://grad.uark.edu/dean/commencement/index.php> for information and deadlines for completing the degree.

Master's Forms and Deadlines

<http://grad.uark.edu/forms/degreeforms.php>

Date
Completed

- _____ Submit the **Master's Committee form**, consisting of a major advisor and at least two other members of the graduate faculty, to the Graduate School as soon as the committee has been selected.
- _____ Submit the **Master's Thesis Title form**, consisting of the title of the thesis and approved by the thesis director, to the Graduate School as soon as the thesis topic has been established but no later than three months prior to the date of the oral defense
- _____ **Thesis Registration:** Register for a minimum of six semester hours of master's thesis. Registration beyond six hours carries no degree credit. Consult your thesis director concerning registration for thesis. NOTE: The mark of "R" is the only acceptable mark reported when a thesis is in progress. A grade or mark may be assigned to the thesis when it has been accepted by the committee. Any grade assigned by the committee for the thesis is to be recorded on the Record of Progress for the Master's Degree.
- _____ If applicable, the **transfer credit form** and official transcript must be submitted to the Graduate School before the date of graduation for the semester of graduation
- _____ **Apply to graduate via ISIS** before the graduation deadline for the semester of graduation. For instructions, visit <http://registrar.uark.edu/968.php>.
- _____ **Preliminary copies:** The thesis, after its acceptance by the thesis director, should be submitted for approval to each thesis committee member. The committee must receive the thesis at least three (3) weeks before the final oral defense. Follow the "Guide to Preparing Theses and Dissertations" at http://grad.uark.edu/dean/commencement/GTandDD_Guide.pdf
- _____ **Defend thesis** at least four weeks prior to the graduation date.
- _____ Complete a **thesis pre-check with the Graduate School** at least two weeks prior to the thesis submission deadline (See [Guide to Theses and Dissertations](#) for more information)
- _____ **Submit final approved thesis** and thesis submission packet to the Graduate School no later than two weeks prior to the date of graduation (see [Thesis Submission Deadline](#)).
- _____ Master's thesis committee completes and sends **Record of Progress** to the Graduate School when all master's degree requirements are completed but no later than the end of the semester of graduation
- _____ **Thesis forms:** The following forms should be submitted ONLY with the final copies of a thesis: Thesis Submission Form and Intellectual Disclosure Form. These forms are available at <http://grad.uark.edu/forms/degreeforms.php>
- _____ Schedule an **exit interview** with the department head after your defense.

VII. DOCTOR OF PHILOSOPHY DEGREE PROGRAM

A. Appointment of Dissertation Director

Following acceptance by the Graduate School and the Department of Food Science, the student will be assigned a temporary advisor if the student has not already selected a Dissertation Director prior to enrollment. Selection of the Dissertation Director will be made on the basis of the student's interest and the acceptance of the student by a faculty member. Faculty must hold a Graduate Faculty Group I classification in order to serve as Dissertation Director for Ph.D. students.

During the first semester, students who have not selected a Dissertation Director should visit with the faculty to discuss possible areas of research for the Ph.D. dissertation. Before the end of the first semester, the student should meet with the Department Head to finalize the selection of the Dissertation Director. This selection is made with the understanding that the Ph.D. dissertation will be in an area of interest of the Dissertation Director. However, this procedure will be different for students receiving a graduate research assistantship, since their research area and Dissertation Director are determined when the assistantship is awarded.

A student wishing to change Dissertation Director should discuss the change with the Department Head. A written request should be made to the Department Head indicating the reasons for the change. The decision, with mutual consent of the student and new Dissertation Director, will be made by the Department Head. After discussing the reasons for changing the Dissertation Director with the student, the Department Head will notify the Graduate School if reasons for the change seem justified. The former director will submit his/her resignation as the student's Dissertation Director to the Department Head and Dean of the Graduate School.

B. Evaluations and Reporting of Progress

The student should meet with the Dissertation Director on a regular basis to report research and academic progress. The Dissertation Director will evaluate the student's progress and give constructive advice when necessary. A written copy of the evaluation may be prepared and distributed to the student, the Dissertation Committee and the Head of the Department.

C. Selection and Function of Doctoral Dissertation Committee

Before the second semester is completed, the Doctoral Dissertation Committee Form, <http://grad.uark.edu/forms/student/doctoral-diss-comm.pdf>, must be submitted to the Graduate School. The Doctoral Dissertation Committee must consist of a minimum of four members selected from the graduate faculty and the Dissertation Director, who serves as the chairperson. The chairperson and at least two committee members should be faculty members, or adjunct faculty, of the Department of Food Science and at least two members must be from other departments. Information for adjunct faculty can be found on the FDSC website, <http://www.foodscience.uark.edu/>. The Doctoral Dissertation Committee determines the student's fulfillment of the degree requirements. Doctoral Dissertation Committee members must hold a Graduate Faculty

Group I or II classification.

Changes in committee members require the approval of the Department Head and Graduate School. Changes should be requested in a memorandum from the Dissertation Director with written agreement of the faculty member being removed from or added to the Doctoral Dissertation Committee.

The duties of the Doctoral Dissertation Committee for Ph.D. students are to:

- Assist with selection of courses and planning of research activities
- Assist with development of the dissertation research proposal
- Conduct Ph.D. candidacy examinations
- Meet periodically during the course of the Ph.D. program to review progress and to assist with direction and problems
- Review dissertation and administer the dissertation defense
- Determine fulfillment of qualifications for the Ph.D. degree

D. Course Credits

For students entering the Ph.D. degree program with a M.S. degree and aside from deficiencies identified upon admission and/or the Doctoral Dissertation Committee, a minimum of 24 course credits and 18 semester hours of dissertation research credit are required. Requirements include a minimum of 18 credit hours of 5000 or higher level courses. Not more than 3 hours of credit may be earned for Special Problems Research courses.

For students without a M.S. degree and aside from deficiencies identified upon acceptance to the program and/or the Doctoral Dissertation Committee, a minimum of 42 semester hours of course credit and a minimum of 18 semester hours of Ph.D. dissertation research credit are required. Requirements include a minimum of 30 hours of 5000 or higher level courses. Not more than 6 hours of credit may be earned for special problems research courses.

For all Ph.D. students, a maximum of 6 hours from the Food Science core courses will be counted toward the 42 hours. Transfer of credit is not allowed for doctoral degrees. Course and credit hour requirements may be adjusted in lieu of academic work completed in excess of B.S or M.S. degree requirements or at other universities and approved by the Doctoral Dissertation Committee.

Students, along with their Dissertation Director, will develop an academic plan of study for the degree program. Due to changes in course availability and student interests and needs, the plan of study may change during the degree program. The plan of study and any changes must be approved by the student's Doctoral Dissertation Committee.

E. Seminar

Students pursuing the Ph.D. degree shall earn at least two credits for Seminar (FDSC 5001). The first seminar may be a presentation on the proposed dissertation research and the second should be on the research results. Ph.D. students may be requested to give a presentation each Fall and Spring semester, whether or not credit is received. All Ph.D. students are required to attend regularly scheduled and special departmental seminars.

F. Candidacy Examinations

At least one year prior to completing all other requirements, formal admission to candidacy is required for the Ph.D. degree. Such admission requires the successful completion of qualifying written and oral examinations. The candidacy exams are a comprehensive assessment of knowledge and capabilities for the Ph.D. degree. Each Doctoral Dissertation Committee Member provides a written exam, and the oral exam is scheduled after satisfactorily completing the written examinations.

The Dean of the Graduate School and the Department Head need to be notified of the date, location and results of the oral exam. The Dissertation Director is responsible for providing this information.

G. Teaching Experience

All Ph.D. students should obtain teaching experience by assisting with the instructional program of the Department. Each Ph.D. graduate student should assist their Dissertation Director with teaching courses when appropriate. The duties should be directly related to the instruction and preparation of a course and could include periodic lecturing, grading homework assignments, preparation of materials or development and presentation of laboratory exercises. International students whose native language is not English must demonstrate their English skills by passing the University Test of Spoken English in order to teach in a classroom or laboratory environment.

H. Dissertation

Ph.D. students must complete a minimum of 18 credits of Dissertation (FDSC 700V). Students may register for more than 18 hours of Dissertation during their Ph.D. program; however, only 18 hours will be recognized by the Graduate School when the Ph.D. requirements are compiled.

1. Selection of dissertation topic

It is the responsibility of the student, in consultation with the Dissertation Director, to select a suitable research problem. The research problem should be of particular interest of the Ph.D. candidate and have consent of the Dissertation Director. The selected topic will usually be associated with the research program of the Dissertation Director. The Doctoral Dissertation Title Form, <http://grad.uark.edu/forms/student/doctoral-title.pdf>, must be submitted to the Graduate School at least one year prior to the dissertation exam.

2. Proposal development

Each student is expected to complete a comprehensive review of relevant literature prior to preparing the research proposal. The student is required to develop a research proposal and prepare a work plan in consultation with the Dissertation Director. The research proposal is submitted to the Doctoral Dissertation Committee members at least two weeks prior to a meeting scheduled to discuss the proposed dissertation research. Possible revisions to improve the proposal will be discussed at this meeting. Copies of the revised proposal should be delivered to each committee member within two weeks after the meeting.

Research activities that involve humans or other animals will require prior approval by the Institutional Review Board. The Institutional Review Board forms are available on the RSSP site at: <http://vpred.uark.edu/2IO.php>.

As the research progresses and changes are required in the proposed research activities, it is recommended that additional meetings or discussions be held with the Doctoral Dissertation Committee. It is important that Ph.D. students develop and demonstrate abilities to independently design and conduct original research.

3. Dissertation development

The dissertation will be a formal document that describes the research justification, background, methods, results and conclusions. It is important that the quality of the information be suitable for publication.

There are different styles acceptable for developing the dissertation. The format will be determined by the Dissertation Director prior to beginning the first draft. General University requirements for the dissertation format are described in "Guide for Preparing Theses and Dissertations" at <http://grad.uark.edu/dean/thesisguide.php>.

The Dissertation Director will assist with editing the dissertation. Additional assistance in editing and revision may be obtained from others skilled in scientific writing and members of the Doctoral Dissertation Committee.

4. Dissertation defense (Final examination)

The dissertation should be presented to the Doctoral Dissertation Committee members at least two weeks prior to the scheduled defense. Additionally, at least two weeks prior to the defense, the Graduate School and Department Head should be notified in writing about the location and schedule of the defense. The student is responsible for arranging the time for the defense with the committee members. The Record of Progress Form is available at <http://grad.uark.edu/forms/student/PHD.pdf> for the committee to sign following a pass verdict.

The defense will focus on the dissertation and related topics. Students should also be prepared

to address questions related to courses completed for their degree program. The Doctoral Dissertation Committee will reach a verdict of pass, recess or fail. A majority vote for pass with no more than one vote of fail is required for the pass verdict. If two committee members do not approve to pass, then the committee will re-vote to determine if the recess verdict is appropriate. To obtain the recess verdict, a majority vote is required.

The pass verdict may be conditional with the requirement of including specified changes in the dissertation that will be verified by the Dissertation Director and other committee members. The decision to recess will require the student to revise the dissertation, include more research and/or study on certain topics for re-examination at another time. The fail verdict will result in the student being dismissed from the program without the Ph.D. degree. In addition, the student and advisor need to complete the appropriate departmental PhD Program worksheet (Appendix F) and obtain a signature from the Department Head.

S. Completion and distribution of dissertation

Following a pass verdict by the Doctoral Dissertation Committee, the dissertation will usually need revision to include corrections and suggested changes. When the dissertation is acceptable, the Dissertation Director will sign the Doctoral Degree Record of Progress Form and submit it to the Department Head for his signature. The form will then be submitted to the Graduate School.

The Intellectual Property Disclosure form, <http://grad.uark.edu/forms/student/intellpropdisclose.pdf>, is required to be completed by all doctoral students. This form must be submitted to the Graduate School by the time the final copies of the dissertation are submitted for deposit in the University Libraries.

Follow instructions in the Guide to Thesis and Dissertations for submitting the dissertation electronically. It is not required to submit a hard copy of the dissertation to the University Library, but may be if desired. The following forms should be submitted ONLY with the final copies of a dissertation: Library Transmittal Form, Intellectual Property Disclosure, Verification of Research Compliance, Dissertation Publishing Agreement Forms and the Survey of Earned Doctorates. These forms are available at grad.uark.edu/forms. One bound copy should be provided to the Dissertation Director, and the student should have a copy for his/her own records. The student also needs to email a PDF copy of the final dissertation to Connie Tharel, ctharel@uark.edu, and bring a printed copy (on plain copy paper) to the FDSC office.

6. Publications

The dissertation research findings should be presented at professional meetings and published as refereed journal articles in scientific journals. The manuscript(s) for publication must be approved by the Dissertation Director, co-author of the manuscript. The student should have at least the first draft of the manuscript(s) written to the satisfaction of the Dissertation Director prior to scheduling the final oral examination.

I. Important Deadlines

Students should refer to Doctoral Forms and Deadlines (following page) and <http://grad.uark.edu/dean/commencement/index.php> for information and deadlines for completing the degree.

Doctoral Forms and Deadlines

<http://grad.uark.edu/forms/degreeforms.php>

Date
Completed

- _____ Submit the **Doctoral Committee form** consisting of a major advisor and at least two other members of the graduate faculty, to the Graduate School as soon as the committee has been selected.
- _____ Submit the **Doctoral Dissertation Title form**, consisting of the title of the dissertation and approved by the thesis director, to the Graduate School as soon as the dissertation topic has been established but no later than three months prior to the date of the oral defense.
- _____ Submit the **Candidacy Exam Notification Form** once the student has passed candidacy. The Graduate School must be notified from the major adviser or department head.
(<http://grad.uark.edu/forms/student/CandidacyExamNotify.pdf>)
- _____ **Register for a minimum of 18 hours of doctoral dissertation.** After passing candidacy examinations, doctoral students are required to be enrolled in a minimum of one hour of graded graduate course work or dissertation credit each semester (Fall, Spring and Summer) until the student has graduated
- _____ **Apply to graduate via ISIS** before the graduation deadline for the semester of graduation. For instructions, visit <http://registrar.uark.edu/968.php>.
- _____ Fill out **Dissertation Defense Announcement** at least two weeks prior to the date of defense
- _____ **Defend dissertation** at least four weeks prior to the graduation date
- _____ Complete a **dissertation pre-check with the Graduate School** at least two weeks prior to the dissertation submission deadline (see [Guide to Theses and Dissertations](#) for more information)
- _____ **Submit final approved dissertation and required dissertation submission packet** to the Graduate School no later than two weeks prior to the date of graduation
- _____ **Complete all degree requirements** before the date of graduation
- _____ Doctoral dissertation committee completes and sends **Record of Progress** to the Graduate School when all doctoral degree requirements are completed but no later than the end of the semester of graduation
- _____ Schedule an **exit interview** with the department head after your defense

VIII. GENERAL DEPARTMENTAL POLICIES

A. Building Maintenance and Security

The Department of Food Science building and administrative offices are open Monday through Friday, 8:00 a.m. to 5:00 p.m. Students will need to obtain keys for the building and appropriate work areas if they will be working in the building before 8:00 a.m., after 5:00 p.m. or during weekends and holidays. Connie Tharel, FDSC Secretary, N201, currently organizes the distribution and return of building and room keys.

1. Key check-out

Keys for the building, labs and offices need to be obtained from the FDSC Main Office, N-201. Following authorization by the Thesis or Dissertation Director, the graduate student signs and dates a checkout sheet for each key received.

2. Key check-in

Upon completion of the student's program, all checked out keys must be returned. Failure to return all keys will result in delayed graduation.

3. Lost keys

Lost keys need to be reported to the main office immediately. This is a serious matter and may involve considerable expense if locks have to be changed. Depending on the circumstances, students may be responsible for paying for the costs involved.

B. Office Supplies and Purchasing

Copy paper for use in department printers is available in the main office. Department printers are to be used for official university research activities only.

Special supplies and research materials should be approved for purchase through the Thesis or Dissertation Director. Eric Friend, FDSC Departmental Fiscal Manager, organizes the purchase of all research materials and will assist new students through the purchasing process. VWR, <http://procurement.uark.edu/545.php>, is the vendor of choice for the University.

C. Computers and Programs

Computers are available for graduate students to use for their courses and research. Students should check with their Thesis or Dissertation Director for instructions on which computers are available for their use and on proper use and policies prior to operating a departmental computer. Only legal licensed software is permitted for use on departmental computers. Any questions regarding computer use should be directed to the IT Help Desk, 575-3420.

Computers designated for graduate student use are connected to University and global networks and may be used by students for their degree studies and research. Use of the Internet through computers in the Department is only allowed for professional work activities and is not allowed for personal activities.

All electronic storage devices connected to departmental computers must be scanned for viruses.

D. Pilot Plant

Use of the Food Processing Pilot Plant is scheduled through the Pilot Plant Manager, John Swenson, 575-3095. It is expected that those using the Pilot Plant will clean up the facilities after its use. The Pilot Plant Manager will provide instructions on proper use of processing equipment and will provide recommendations on processing requirements.

E. Secretarial Assistance

Graduate students are expected to do their own word processing on manuscripts, thesis, dissertations, etc.. Connie Tharel, FDSC Secretary, room N-201, is available to help incoming students with any questions they may have with payroll, registration, payment of tuition, Graduate School forms, personnel records, etc.

F. Transportation

1. Bus Service

The Food Science Building will be serviced Monday through Friday by the Gray bus during the Fall and Spring, and the Blue (Reduced) bus during the Summer and Christmas Break (mid December to mid January) from 7:00 am to 5:30 pm. The bus cycles to and from campus every 30 minutes. Bus schedules are available on the UA web-site <http://parking.uark.edu/67.php>, and should be checked since schedules occasionally change.

2. Travel reimbursement

The Food Science Department encourages students to participate in professional meetings by presenting scientific reports of their research. Depending on availability of funds, graduate students presenting a paper at a meeting will be eligible for travel expense reimbursement. Plans for travel should first be discussed with the student's Thesis or Dissertation Director well in advance of professional meetings and receive approval by the Department Head.

Travel authorization needs to be established with Eric Friend, FDSC Departmental Fiscal Manager, when expenses for lodging and meals are to be claimed for reimbursement. He also has the

forms required for requesting Travel Authorization and for reporting Travel Expenses. Request for permission to travel should be turned in at least two weeks prior to the time of traveling.

The Graduate School has a limited number of travel grants that are available for eligible graduate students each year (July 1-June 30). These forms are located on the Graduate School website at http://www.uark.edu/depts_gradinfo/recruit/funding_travelgrants.html. See information, Appendix D.

The following policies will be used regarding travel:

- Travel for conducting university-related business can be done either in departmental (state-owned) or personal vehicles. If the travel is in departmental vehicles, only those individuals who are officially affiliated with the University of Arkansas or are carrying out some form of official business for the University are eligible for travel. If the travel is conducted in a private vehicle, guests may accompany the employee/affiliate, but reimbursement then becomes an issue between the student and the Thesis or Dissertation Director; funds for reimbursement will be charged to the Thesis or Dissertation Director's grant accounts.
- Only university employees on official business may be reimbursed for travel related expenses such as food and lodging. Students must consult with their Thesis/Dissertation Director to establish the amount of funding that will be allowed for travel expenses.

3. Operating a departmental vehicle

The operation of a State vehicle is permissible for University employees or personnel on official University business only. Reservations and keys for use of departmental vehicles are obtained from Connie Tharel, FDSC Departmental Secretary. Employees using departmental vehicles must record information indicated on the vehicle sign-out sheet. Departmental vehicles are not allowed to be used by students to travel to campus for classes.

G. Safety

All personnel working in laboratories need to know the safety procedures for their lab, including location and proper use of fire extinguishers, showers and first-aid materials. For safety reasons, a person should not work in a lab alone during hours the Department is closed. All personnel using labs are required to participate in training sessions. Anyone observing unsafe conditions or practices should report them to the Department Head. Joe Tokar, safety personnel, can also be reached at 575-6475. A safety committee member from each lab has a copy of the campus safety policy that details the University-wide laboratory safety guidelines. The campus safety program is detailed online at www.phpl.uark.edu/ehs/ehs. The topics of particular importance are The Chemical Hygiene Plan, Blood-Borne Pathogens (Biohazards), Radiation Safety, Respiratory Protection, and Lock-Out Tag-Out. See appendix G for FDSC laboratory safety guidelines.

H. Office Space

Graduate students will be provided a study/office area at a location arranged by Connie Tharel, FDSC Secretary and the Department Head. Student desks in E-wing are assigned to students of faculty with labs located in E-wing. Most other students will be assigned a desk in the C-wing (C-1 or C-3).

I. Copying

Departmental copiers are available for graduate students to copy material directly related to research. The copiers are not to be used for course work. Copying books and other copyright material is illegal. For large volume copying, such as multiple volumes of thesis or dissertations, students are asked to use an outside copying service. The Thesis or Dissertation Director will provide an authorized access code number and all copies will be charged to his/her account.

J. Telephones, FAX and Mail

Personal local phone calls on departmental telephones should be kept to a minimum. All long distance calls must be placed through the WATSBOX (long distance) system. Use of the WATSBOX for personal calls is prohibited. Access to the WATSBOX is by a 5-digit authorization number that may be available from the student's Thesis or Dissertation Director. A phone list of departmental numbers is available from Connie Tharel, FDSC Departmental Secretary.

Mail and fax correspondence for business purposes can be made through the Department. All outgoing mail, UPS and FedEx is currently handled by the FDSC Departmental Secretary. Mail received for graduate students is organized by the first letter of the last name and is distributed to mailboxes in the upstairs hallway of N-wing. Graduate students are expected to check their mailboxes regularly. A fax machine is located in the FDSC Main Office.

K. Food Science Library of Theses/Dissertations

Located in the main office is a file of all Food Science theses and dissertations. Spiral-bound copies may be checked-out from Connie Tharel, FDSC Secretary, for review by graduate students. Theses/dissertations submitted in 2013 or later are available electronically. Copies are also available in Mullins Library or from the faculty.

L. Exit Review and Interview

When a graduate student has completed his/her degree requirements, the Thesis or Dissertation Director will notify the Department Head and administrative staff. Appropriate termination papers need to be processed, keys returned, identification cards returned, computer IDs cancelled, etc.

Electronic files that have been stored on departmental computers need to be deleted or downloaded in concurrence with the Thesis or Dissertation Director. All data that have been created

are University property and need to be deposited with the Thesis or Dissertation Director. All students are required to complete an Exit Interview Document and a meeting (Exit Interview) with the Department Head should be arranged to discuss the degree program and future plans. A forwarding address should be left with the Department of Food Science.

ENROLLMENT GUIDELINES

Enrollment status for graduate students who are **NOT** graduate assistants/master lecturers:

Graduate students who are **NOT** appointed to graduate assistantships should have the Registrar verify their enrollment. These graduate students will be considered as follows:

Full-time : 9 + hours

3/4-time : 7-8 hours

1/2-time : 5-6 hours

Less than 1/2-time : 1-4 hours

These hours may be graduate or undergraduate courses, but ALL must be taken for credit.

REQUIRED ENROLLMENT FOR GRADUATE ASSISTANTS, SENIOR GRADUATE ASSISTANTS (Teaching, Research, Administrative Support, Etc.) and Master Lecturers:

Spring and Fall Semesters:

Percent of Appointment	Minimum Enrollment	Maximum Enrollment	Tuition Portion Paid
0-49%	9	15	Out-of-state (NONR) paid
50-74%	6	15	In- & out-of-state paid
75-99%	3	6	In- & out-of-state paid

Summer

(12-week assistantships -- enrollment may be in any summer session):

Percent of Appointment	Minimum Enrollment	Maximum Enrollment	Tuition Portion Paid
0-49%	3	12	Out-of-state (NONR) paid
50-74%	3	12	9 hours FEES & all NONR paid
75-99%	3	6	9 hours FEES & all NONR paid

Summer

(6-week assistantships -- enrollment may be in any summer session):

Percent of Appointment	Minimum Enrollment	Maximum Enrollment	Tuition Portion Paid
0-49%	3	6	Out-of-state (NONR) paid
50-74%	3	6	6 hours FEES & all NONR paid
75-99%	3	3	6 hours FEES & all NONR paid

The minimum hours required must be degree-related graduate hours taken for credit, or deficiencies (graduate or undergraduate) filed by the department with the Graduate School. Audit classes and/or classes not approved by the student's advisor are not covered by the tuition fee waiver. PEAC/DEAC classes are not covered. Doctoral students are not considered to have deficiencies and therefore must enroll for graduate hours in order to meet the minimum required.

Termination of an appointment during a semester may result in the student being responsible for a portion of the fees (in-state tuition) on a pro rata basis.

All international graduate teaching assistants MUST pass the SLPT test, or a score of 7 on the IELTS test (speaking) sub test, or a 26 on the internet-based TOEFL (speaking) sub test.

All graduate assistants meeting the minimum required hours will be considered full-time.

FDSC Staff Duties relevant to Graduate Students

Meshell Clark, Departmental Administrative Manager, 5-4455

Visa issues (H1B, DS2019, J-1, etc.)

Building maintenance – report repairs/needs

Dr. Meullenet's schedule, etc. – to make an appointment with Dr. Meullenet

Questions about University policies

Report an injury or safety issue

Connie Tharel, Secretary, 5-4450

Grad student's first point of contact

Graduate assistant hiring paperwork

*Give forms required by grad school needing Department Head's signature

Reserve cars/conference rooms

Fax/scan

Mail FedEx/UPS

Hourly payroll timesheets (for students on hourly payroll)

Desk assignments for grad students

Key check-out

Eric Friend, Fiscal Manager, 5-4564

Travel related documents (Travel authorizations, travel grants from grad school, travel claims)

Purchasing lab supplies & equipment and/or services (pcards, VWR)

Robin January, Student Relations/Recruiting, 5-2682

FDSC website- website updates or news items for website or newsletter

Cathy Hamilton, Academic Advisor, 5-5299

Enrollment assistance – advising hold removal, pre-requisite overrides and instructor consent overrides on FDSC special problems, internship, thesis & dissertation courses, administrative change of registration forms, out of career registrations forms, and ISIS troubleshooting.

Information on employment & internship opportunities, events, competitions, scholarship opportunities, academic deadlines, policies/procedures, student services.

Job postings for students and graduates

Lance Maples, Maintenance Specialist, 5-4829

Building maintenance issues (such as clogged drains in labs, heating/cooling problems, etc.)

Miscellaneous Information

Graduate student forms: <http://grad.uark.edu/forms/degreeforms.php>

Masters calendar: <http://grad.uark.edu/dean/calendar/masterscalendar2012-2013.php>

Doctoral calendar: <http://grad.uark.edu/dean/calendar/doctoralcalendar2012-2013.php>

Guide for preparing theses and dissertations: <http://grad.uark.edu/dean/thesisguide.php>

Commencement information and forms: <http://grad.uark.edu/dean/commencement/index.php>

The Quality Writing Center: <http://qwc.uark.edu/resources/>, The QWC provides face-to-face and online tutoring at our Kimpel Hall and Mullins Library locations. Tutors provide reader feedback and collaborate with student writers to help them learn revision strategies for improving their drafts. The QWC also provides resources for ESL students.

Mullins library, <http://libinfo.uark.edu/>, reference desk, 575-6645

Agricultural Statistics Laboratory

Statistical design and analysis is an integral part of research in every discipline from the conception of the project through the dissemination of the results. Proper study design ensures that the data will address the study objectives as efficiently as possible given the available resources and avoids the danger of collecting data that are not able to unambiguously address the hypotheses of interest. Proper statistical analyses avoid incorrect, misleading and unsupportable conclusions from the study.

The Agricultural Statistics Laboratory faculty offer applied statistics courses at the graduate level in the College of Agricultural, Food and Life Sciences that are oriented toward students in the College. These courses provide students with an understanding of statistics and its role in scientific research. All of the courses are taught with an emphasis on concepts and applications rather than on highly mathematical statistical theory. Students gain an appreciation for the power of correctly applied statistical methodology as well as its limitations in poorly designed and inappropriate situations. Successful students obtain the knowledge needed to design and analyze their own research studies and, more importantly, to recognize when the advice and assistance of a professional statistician is required.

For graduate students in the College, the Laboratory faculty and staff also provide advice and assistance on statistical design, analysis, and data management issues related to their research subject to approval by the student's advisor. The assistance is provided on a time available basis. While reasonable efforts are made to meet project deadlines, they cannot be guaranteed. Students needing assistance are strongly encouraged to contact the Laboratory at the proposal stage of their research to avoid potential problems later. For information, contact the Agriculture Statics Laboratory, 575-2448

Office of International Students and Scholars

Audra D. Johnston, Associate Director

104 Holcombe Hall

Phone: 1-479-575-5003 E-mail: audra@uark.edu

Schedule appointments at: <http://iss.uark.edu>

Nonresident tax coordinator

Shelly Gahagans

222 Administration building

Phone: 479-575-2158 E-mail: sgahagan@uark.edu

Travel Grants

Travel Grant Forms: <http://graduate-and-international.uark.edu/resources/forms/travel-grant-graduate.pdf>

Graduate Student Travel Grant Procedures and Policy for Fiscal Year 2017

1. Awarded on a first-come, first-served basis.
2. A student may receive one travel grant per year (July 1 – June 30). No exceptions.
3. Once the maximum allocation in each category listed below has been reached, no further travel grants will be approved for that period. (See below for allocations for FY2017.)
 - a. If the maximum number of allocations in a category is not reached during July 1- December 31, the dean of the graduate school and international education may approve the allocations for that category be made available to applicants in the second half of the fiscal year.
 - b. This is solely at the dean's discretion, and is contingent on funding being available.
4. Submission of the application does not guarantee an award.
5. Students should actively seek additional sources of funding support for travel (e.g., from conference sponsors, professional organizations, academic colleges, and personal funds).
 - a. Departments are asked to commit a minimum of 10% of the total travel towards the student's travel funding.
6. Only travel to professional meetings and conferences will be funded.
7. The purpose of the travel will be to present the student's research that has been conducted at and bears the name of the University of Arkansas.
8. In the case of multiple students working on a presentation, only one student will be funded as the presenter.
9. The application will be reviewed and both the student and department contact person(s) listed on the application will be notified by email. Please allow 2-3 weeks for review and processing.
10. If a student receives a travel grant, but does not use it, the student MUST notify both the Graduate School and the department that the travel grant will not be used.

Eligibility requirements

1. The applicant must be in a graduate degree program at the time the travel occurs.
2. The applicant must have completed one year of graduate study prior to the dates of the travel.
 1. The student information in UAConnect will be used to verify this requirement.
3. The applicant must be in good academic standing when the travel occurs.
 1. The student information in UAConnect will be used to verify this requirement.
4. The applicant must be enrolled as a full-time student during the semester the travel occurs, but the following exceptions may be considered during the application process:
 1. Summer travel: Students on 9-month GA appointments who are not funded during the summer are not required to enroll during the summer.

2. Reduced enrollment: Students who have been approved for reduced enrollment may have one travel grant while on reduced enrollment.
5. Students who have graduated from their degree program are not eligible for travel grant funding after the graduation date.
6. University of Arkansas appointed employees are not eligible for a travel grant. Graduate assistants are not considered full employees of the university, and are eligible.

Application process

1. A completed application with all required information and supporting documentation should be submitted at least 6 weeks prior to the start of the travel. Students are encouraged to submit applications well in advance to take advantage of early-bird registration and travel discounts.
 - a. Late applications may be denied.
 - b. Incomplete applications will be returned to the student. The completed application must be received 6 weeks prior to the start of the travel.
2. The application includes:
 - a. The application form, completely filled out (including email address, university ID number, etc.);
 - b. An abstract of the paper/poster being presented;
 - c. Proof of paper/poster acceptance, if available at the time of application;
 - i. If the acceptance is received after the travel grant application is submitted, the acceptance should be sent separately as soon as it is received.
 - ii. NOTE: If no acceptance notice, or other proof of presentation is submitted, the travel grant will be cancelled.
 - d. Panel/oral presentations require a statement from the student explaining how the student's research is the basis for the presentation. Proof of acceptance/participation is required.
 - i. NOTE: If no acceptance notice, or other proof of presentation is submitted, the travel grant will be cancelled.
 - e. Performance/portfolio presentations require a statement from the student explaining how the student's graduate study is the basis for the presentation. Proof of acceptance/participation is required.
 - i. NOTE: If no acceptance notice, or other proof of presentation is submitted, the travel grant will be cancelled.
 - f. Estimated Budget Form – must include any funds received from outside sources;
 - i. Only approved expenses per the university's travel policy will be reimbursed. Travel Office web site: <http://travel.uark.edu/> for per diem rates, meals chart, and trip optimizer to determine flying vs. driving costs.
 1. Airline reservations must be made at least 14 days in advance of the trip, in accordance with university policy.
 2. If the student has a choice between driving and flying to the destination, reimbursement is based on which transportation method is least expensive.

Two allocated pools of funding each year

1. For travel that occurs between July 1 – December 31
 - a. If travel starts in June, but ends on July 1 or later, the travel is considered in this period

2. For travel that occurs between December 31 – June 30
 - a. If travel starts in December, but ends on January 1 or later, the travel is considered in this periodAllocation for each period (subject to availability of funds)

1. **July 1 – December 31:**

- a. 160 doctoral student presenter grants
 - i. The Graduate School will reimburse 90% of the total travel expense, up to a maximum award of \$1,000.
- b. 75 master/education specialist presenter grants
 - i. The Graduate School will reimburse 90% of the total travel expense, up to a maximum award of \$600.
- c. 30 master of fine arts presenter grants
 - i. The Graduate School will reimburse 90 % of the total travel expense, up to a maximum award of \$750.

2. **January 1 – June 30:**

- a. 160 doctoral student presenter grants
 - i. The Graduate School will reimburse 90% of the total travel expense, up to a maximum award of \$1,000.
- b. 75 master/educational specialist presenter grants (graduate certificate not funded)
 - i. The Graduate School will reimburse 90% of the total travel expense, up to a maximum award of \$600.
- c. 30 master of fine arts presenter grants
 - i. The Graduate School will reimburse 90% of the total travel expense, up to a maximum award of \$750.

Reimbursement for Approved Expenses

1. **Students** have 7 business days from the end of the travel to submit all receipts to the department. Students who traveled internationally have 14 days to submit receipts.
 - a. If 30 days have passed, and the student has not submitted receipts to the department, and no explanation of the delay has been provided by the student, the travel grant may be cancelled.
2. **Departments** have 30 days to submit a travel claim to the Graduate School for reimbursement processing. If the travel was to an international destination, departments have 45 days to submit the travel claim.
 - a. If 60 days have passed, and the department has not submitted the travel claim to the Graduate School, and no explanation for the delay has been provided by the department, the travel grant may be cancelled.
3. For travel that ends on June 30 of any given fiscal year, all travel claims must be cleared prior to December 31 of the calendar year.
4. If a travel claim is not submitted in a timely manner, it will be assumed the student did not travel and the travel grant will be cancelled. Once the travel grant is cancelled, it cannot be reinstated.
5. Once the reimbursement has been processed, no supplemental claims will be accepted.

3. Degree Requirements

- A. Have you formed your thesis/dissertation committee? Yes No
- B. Have you had your proposal committee meeting? Yes No Date
- C. Who are your committee members?
- D. PhD Students, have you had your candidacy exam? Yes No
 Written Prelim date:
 Oral prelim date:
- E. If required, have you completed the Food Science or Nutrition core courses?
 Yes No N/A
- F. Has your committee met to discuss your research progress? Yes No
 If so, what were their recommendations?
- G. Do you have regular meetings with your advisor? Please describe.

4. Research Progress

- A. Please describe your thesis/dissertation research findings for the past year (150-200 words).
- B. Describe ongoing thesis/dissertation studies for which data collection is in progress (100-150 words)
- C. Are there any barriers to your research productivity? Please describe.
- D. If you are facing barriers to research productivity, have you had a committee meeting to ask for guidance?
 How are you overcoming these barriers?
- E. List your research strengths.
- F. List your research weaknesses.
- G. How is your advisor/committee helping you overcome your weaknesses?
- H. What percentage of your planned research have you completed so far? %
- I. Research outcomes:
 - 1) Papers in preparation
 - 2) Papers submitted
 - 3) Papers published
 - 4) Professional presentations in the past year (posters, oral presentations, etc.)

5. Additional responsibilities, awards & activities

- A. Description of professional society memberships (please denote any officer/leadership roles).
- B. Please list any awards received in the past year.
- C. Short description of teaching responsibilities over the past year.

6. Special circumstances

- A. Are there special circumstances you wish to make known (e.g. change of concentration, faculty advisor, large research setbacks, etc.)? If so, please include a short description of the problem including the underlying reason for the situation(s).

7. Upcoming year

- A. Are you interested in an:
 - 1) Industry internship? Yes No
 - 2) Study abroad/visiting researcher experience? Yes No
 - 3) Teaching experience? Yes No

Report on Annual Review
Graduate Advisory Committee Report

(To be completed by major adviser and/or graduate committee)

Student's Name: _____

Student's Advisor: _____

Degree Sought. _____

Student's starting date for graduate studies: _____

Date of this report: _____

Please give an answer to each item listed below. A handwritten response is acceptable.

1. Is the goal of the student's research project clear and adequate?

2. Is the student's progress made toward that goal over the past year acceptable? Why or why not? If unsatisfactory, have they met with their committee to discuss? What were the recommendations?

3. Has the student's course curriculum been in line with your expectations? If not, why and how will you help the student meet your expectations?

4. Is the student's plan for courses during the next year adequate? If so, has this been approved by the student's committee?

5. Is the student's research plan for the following year clear and sensible? If not, why?

6. What is a realistic date for graduation? Is this aligned with committee expectations?

7. Do you recommend continuation of the student's pursuit toward a degree? If not, why?

8. Do you recommend continued financial support for the student? If not why?

ANNUAL GRADUATE STUDENT ACADEMIC REVIEW

Due dates are determined by the department.

Completed evaluations must be submitted to the Graduate School
by June 30th of each year.

PLEASE NOTE: A review is NOT necessary if: a. the student graduated. b. the student never enrolled after acceptance into your program. c. the student was never officially admitted to your program.

1. Student's Name: _____
2. Student's Personal Identification Number: _____
3. Student's degree program: _____
4. Semester and year student entered degree program: _____
5. Does student have any out of date course work? (Course work is considered out of date if at the time of graduation it will be more than six years old for masters and more than seven years old for doctorate.)
_____ YES _____ NO

6. This student (check one):

- _____ is making satisfactory progress toward the degree.
- _____ is not making satisfactory progress toward the degree.
Please attach a statement describing the requirements for satisfactory progress that are not being met by this student. Explain how satisfactory progress toward the degree can be regained.
- _____ has withdrawn from the program.
- _____ has been dismissed from the program because of unsatisfactory progress toward the degree. Please attach a statement explaining why the student was dismissed and a copy of your letter to the student.

7. The results of the review were communicated to the student:

- a) by face-to-face interview on _____ (date)
_____ (signature of student)
- b) by the following procedure because the face-to-face interview was not possible or practical (**include dates of notification**): _____

8. This form accurately summarizes the annual graduate student academic review for this student for _____ (Academic Year)

Signature of Review Coordinator

Name of Review Coordinator

Signature of Department Head/Chair

Date

FOR GRADUATE SCHOOL USE ONLY:

Review received (signature of dean): _____

Revised: 06/22/2010

Food Science MS Program Worksheet

4000 level coursework	5000 or higher level coursework	Special Problems Research	Dissertation hours
Total hours earned:	Total hours earned:	Total hours earned:	Total hours earned:

Degree requirements met:

_____ 24 hours graduate level course credit earned (not including thesis hours)

_____ 14 hours 5000 or higher level course credit earned

_____ maximum 3 hours course credit counted for Special Problems Research

_____ 6 hours course credit earned for Thesis

_____ core Food Science course requirements met (maximum 6 hours credit can be counted in total hours earned toward degree)

Faculty Advisor _____
(signature) (date)

Department Head _____
(signature) (date)

Food Science PhD Program Worksheet (without MS degree)

4000 level coursework	5000 or higher level coursework	Special Problems Research	Dissertation hours
Total hours earned:	Total hours earned:	Total hours earned:	Total hours earned:

Degree requirements met:

_____ 42 hours graduate level course credit earned (not including dissertation hours)

_____ 30 hours 5000 or higher level course credit earned

_____ maximum 6 hours course credit counted for Special Problems Research

_____ 18 hours course credit earned for Dissertation

_____ core Food Science course requirements met (maximum 6 hours credit can be counted in total hours earned toward degree)

Faculty Advisor _____
(signature) (date)

Department Head _____
(signature) (date)

Food Science PhD Program Worksheet (with MS degree)

4000 level coursework	5000 or higher level coursework	Special Problems Research	Dissertation hours
Total hours earned:	Total hours earned:	Total hours earned:	Total hours earned:

Degree requirements met:

_____ 24 hours graduate level course credit earned (not including dissertation hours)

_____ 18 hours 5000 or higher level course credit earned

_____ maximum 3 hours course credit counted for Special Problems Research

_____ 18 hours course credit earned for Dissertation

_____ core Food Science course requirements met (maximum 6 hours credit can be counted in total hours earned toward degree)

Faculty Advisor _____
(signature) (date)

Department Head _____
(signature) (date)

Laboratory Safety Guidelines

Food Science Department - University of Arkansas

Emergency numbers

- Emergency: 911
- Campus police: 911
- FDSC Office: (479) 575-4605

Do's

- Know the locations of fire extinguishers, safety showers, and eyewashes and how to use them
- Wear closed shoes that cover your entire feet and protect the top of your foot. Leather or synthetic athletic shoes are recommended. Canvas shoes should be avoided because they absorb chemicals.
- Wear lab coats
- Tie back loose hair
- Wear protective gloves when handling hazardous chemicals. Remove the gloves before leaving the lab or using common equipment or areas, including telephones, refrigerators, etc.
- Use safety glasses at all times, or face shields when handling hazardous chemicals or equipment
- Chemicals should be clearly labeled with the substance name and concentration
- Wash your hands before leaving the lab
- Keep laboratory doors closed at all times
- Lock the lab when not in use
- Dispose of glassware and needles in appropriate containers
- Clean up spills immediately and properly dispose of clean up materials
- Keep the laboratory uncluttered, especially floors, fume hoods and workbenches
- Have material safety data sheets (MSDSs) on file or computer access for all chemicals used in the lab
- Read the MSDSs for the chemicals you use
- Use hoods when handling solvents or toxic chemicals (refer to MSDSs)
- Dispose of chemicals in appropriately labeled containers
- Restrain gas cylinders with individual straps to the wall or bench
- Avoid working in the lab alone
- Report all accidents or injuries immediately to the FDSC main office and your supervisor
- In the case of fire or emergency, call 911
- For information regarding lab or chemical safety access the UofA Chemical Hygiene Plan at: <http://ehs.uark.edu> and click on Lab Safety

Don'ts

- No shorts or loose clothing
- No foods or drinks in the lab
- Do not block safety showers or eyewashes
- Do not obstruct work areas, floors, and exits
- Don't leave source of ignition unattended
- Don't leave experiments unattended
- Do not use equipment unless you are properly trained
- Do not store food in laboratory refrigerators
- In case of an accident, do not refuse to be taken to the hospital emergency. Don't worry, **your expenses are covered by the University of Arkansas**

If you have questions, ask your immediate supervisor or major professor

Nutrition Course Requirements for MS/PhD in Food Science – Nutrition Emphasis

Course hour requirements:

- Master's
 - 24 graduate level course credits
 - 14 course credits from 5000 or higher level
 - 6 hours research credit
- PhD with MS degree
 - 24 course credits
 - 18 hours of dissertation research
- PhD without MS
 - 42 hours of course credit
 - 18 hours of dissertation research credit
 - 30 hours of 5000 or higher level

Need to maintain a 3.0 GPA (FDSC Policy) / 2.8 GPA (Grad School Policy)

Core Human Nutrition Course Requirements

- AGST or STAT4373 or ESRM5393 – Statistics or equivalent
- ANSC 5143 Biochemical Nutrition (Even, Fa)
- NUTR 4213 Advanced Nutrition (Fa, 3 hrs)
- CHEM 5813 - Biochemistry I (Fa) (MS optional/PhD Required)
- CHEM 5843 – Biochemistry II (MS optional/PhD Required)
- ANSC6343 Vitamin Nutrition (Even, Sp, 3 hrs)
- ANSC6143 Mineral Nutrition (Odd, Sp, 3 hrs)
- FDSC 5001 - FDSC Seminar

*FDSC Seminar can count for up to 2 hours

**For MS with interest in FDSC courses, CHEM 5813/5843 can be replaced with FDSC courses

Recommended Coursework (not all inclusive)

- AGST5014 – Experimental Design
- ANSC5152 Protein and Amino Acid Nutrition (Even, Sp)
- ANSC5962 Gastrointestinal/Digestive Physiology of Domestic Animals (Fa)
- ANSC 5012 Domestic Animal Energetics (Odd, Sp)
- ANSC 5123 Advanced Animal Genetics (Even, Fa)
- ANSC 5923 Brain and Behavior (Fa)
- ANSC 5932 Cardiovascular Physiology of Domestic Animals (Fa)
- ANSC 5942 Endocrine Physiology of Domestic Animals (Fa)

- ANSC 5962 Gastrointestinal/Digestive Physiology of Domestic Animals (Fa)
- ANSC 5972 Renal physiology (Sp)
- BIOL4234 Comparative Physiology (Fa, 3hrs)
- BIOL5263 Cell Physiology (Fa)
- BIOL5313 Molecular Cell Biology (Sp)
- BIOL 5273 Endocrinology (Sp)
- BIOL 5334 Biochemical Genetics (Sp)
- BIOL 5713 Basic Immunology (Sp)
- BIOL 5343 Advanced Immunology (Sp)
- BIOL 5423 Human Evolutionary Anatomy
- BIOL 5563 Cancer Biology (Fa)
- FDSC 4413 Sensory Evaluation of Food (Odd yr, Fa)
- FDSC 6443 Metabolism of Xenobiotics (Even, Fa)
- CHLP 4623 Human Diseases (Fa)
- KINS 5513 Physiology of Exercise I (Fa)
- KINS 5523 Muscle Metabolism in Exercise (Sp)
- HLSC 6733 Health and Aging process (Odd yr, Sp)
- NUTR 4243 Community Nutrition (Sp)
- NUTR 5223 Nutrition through the Lifecycle (Fa)
- NUTR 5264 Medical Nutrition Therapy I (Fa)
- NUTR 5273 Medical Nutrition Therapy II (Sp)
- NUTR 4493 Public Policy Advocacy for Children and Families (Fa)
- NUTR 5423 Theories of Human Development (Even, Fa)
- NUTR 5443 Gerontology (Sp)
- NUTR 5803 Gender and Aging (Even, Su)
- NUTR 5843 Physical Health and Nutrition in Aging (Fa)
- POSC 5123 Advanced Animal Genetics (Even, Fa)
- POSC 5233 Value Added Muscle Foods (Even, Sp)
- POSC 5743L Advanced Analytical Methods in Animal Sciences Laboratory (Fa)

Optional Food Science Courses

- FDSC 4111/L Food Analysis/Lab
- FDSC 4121/L Food Microbiology/Lab
- FDSC 4304 Food Chemistry
- FDSC 6033 Food Biochemistry
- FDSC 6123 Food Carbohydrate Chemistry
- FDSC 6133 Food Lipid Chemistry
- FDSC 6333 Food Protein Chemistry and Functionality
- FDSC 6403 Epidemiologic Principles in Food Safety and Public Health

GRADUATE FACULTY:

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B.Sc. (1996) in Agricultural Engineering, Jomo Kenyatta University of Agriculture and Technology, Kenya

M.Sc. (2001) in Agricultural Engineering (Food Processing & Engineering), Iwate University, Japan.

Ph.D. (2004) Bioresources Technology (in Food Processing & Engineering), Iwate University, Japan

Research specialties in grain process engineering; rice processing; grain process modeling, validation and optimization; engineering novel grain processing systems for improved grain quality, processing efficiency and safety; byproduct utilization

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B.S. (2000) in Dietetics, University of Illinois,
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Research specialties in the role of dietary protein in energy metabolism, energy balance, obesity, diabetes and body composition throughout the lifecycle.

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B.S. (2004) in Cellular and Molecular Biology, Université Joseph Fourier, France

M.S. (2006) in Biodiversity, Ecosystems and Functional Ecology, Université Blaise Pascal, France

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Research specialties in animal and human gut microbiology, influence of diet on gut microbiota and gut health, microbiomics and metagenomics

Philip G. Crandall

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B.S. (1970) in Horticulture, Kansas State University

M.S. (1972) in Food Science, Purdue University

Ph.D. (1975) in Food Science, Purdue University

Research specialties in food processing, food safety and product development

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B.S. (2002) in Molecular and Micro biology, University of Central Florida

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Research specialties in retail food safety; foodborne viruses; microbial quality of fresh produce; and understanding the interactions between the environment and our food systems

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B.S. (1965) in Chemistry, Madras University
M.S. (1968) in Biochemistry (Medical Enzymology), University of Edinburg, Scotland

Ph.D. (1974) in Biochemistry (Molecular Biochemistry), University of Hull, England

Research specialties in protein structure, chemistry and functionality, proteomics, biopeptides and phenols in health and disease and chemistry, edible films, fermentation, nanotechnology, pre- and probiotics, nutraceuticals, value-added food products and ingredients, food safety and irradiation

Luke Howard

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B.S. (1982) in Horticulture Production, Purdue University
M.S. (1984) in Food Science, University of Arkansas
Ph.D. (1989) in Food Science, University of Arkansas

Research specialties in quality assessment of fresh and processed fruit and vegetables, with emphasis on isolation and characterization of bioactive compounds

Sun-Ok Lee

Assistant Professor

B.S. (1992) in Food Science and Nutrition, Dongduk Women's University, Seoul, South Korea
M.S. (1995) in Food Science, Dongduk Women's University, Seoul, South Korea
M.S. (2000) in Nutrition, Minor in Toxicology, Iowa State University
Ph.D. (2004) in Nutrition, Minor in Toxicology, Iowa State University

Research specialties in nutrition and bioactive substances.

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B.S. (1989) in Mathematics and Biology, Lycee Piere de La Ramee, Saint-Quentin, France
M.S. (1992) in Food Engineering, National Superior School of Agronomy and Food Sciences, Nancy, France
Ph.D. (1996) in Food Science and Technology, University of Georgia

Research specialties in sensory and consumer science with a focus on sensory methodology and sensometrics and texture prediction.

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B.S. (1990) in Chemical Engineering, Universidad Nacional de Misiones, Argentina
M.Eng. (1998) in Industrial Engineering, State University of New York at Buffalo
Ph.D. (2002) in Food Science, Pennsylvania State University

Research specialties in food processing and packaging with concentration in the utilization of byproducts of the food industry and minimization of environmental impact of food processing plants

Andrew Proctor

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B.S. (1975) in Chemistry and Biology, University of London
M.S. (1983) in Food Science, University of Arkansas
Ph.D. (1986) in Food Science, University of Arkansas

Research specialties in lipid chemistry, including FTIR lipid analysis, novel oil processing technologies and utilization of agricultural co-products

Steven Ricke

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B.S. (1979) in Animal Science, University of Illinois, Urbana Champaign
M.S. (1982) in Ruminant Nutrition, University of Illinois, Urbana Champaign
Ph.D. (1989) in Animal Science and Bacteriology, University of Wisconsin

Research specializes in physiology, genetics and pathogenesis of food-borne pathogens in food production environments

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B.S. (1999) in Food Resources, Korea University, Seoul, South Korea
M.S.(2002) in Food and Nutrition, Seoul National University, Seoul, South Korea
Ph.D.(2006) in Food and Nutrition, Seoul National University, Seoul, South Korea Doctor of Medical Science (2011) in Otorhinolaryngology, TU Dresden, Dresden, Germany

Research specialties in sensory and

consumer sciences, chemosensory perception and multisensory integration, food neuropsychology, and eating behavior

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B.S. (1979) in Agricultural Engineering, University of Arkansas
M.S.(1981) in Agricultural Engineering, Purdue University
Ph.D. (1984) in Engineering, University of Nebraska

Research specialties in pre- and post-harvest property characterization, drying, milling and quality assessment of rice

Ya-Jane Wang

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B.S. (1986) in Agricultural Chemistry, National Taiwan University
M.S. (1989) in Food Science and Nutrition, University of Minnesota
Ph.D. (1992) in Food Science and Technology, Iowa State University

Research specialties in structures, properties, interactions and applications of carbohydrates, starch chemistry and value-added agricultural