Graduate Handbook

Master of Science in
Agricultural, Food and Life Sciences

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Introduction

The Master of Science in Agricultural, Food and Life Sciences is a graduate degree for practitioners of diverse backgrounds and perspectives. Graduates are prepared to address complex environmental, social, community, and biologically-based problems in agricultural industries, education, and state and federal agencies. The program is administered by a Steering Committee of faculty, representing all academic departments in the Bumpers College of Agricultural, Food, and Life Sciences. The program coordinator works with the Associate Dean to organize student services and program requirements under the oversight of the steering committee. The School of Continuing Education and Academic Outreach for the University of Arkansas and the Bumpers College cooperate to provide a range of distance education opportunities for this degree program. The MS-AFLS currently includes traditional study areas in the agricultural sciences and an evolving web-based course of study in food safety.

Learning Outcomes to Address Program Objectives:

• MS AFLS students will orally present written project proposals, based on a search of the literature and a demonstrated knowledge of the defined emphasis area, to the advisory committee in advance of the special problem project.
• MS AFLS students will write and orally defend the final special problem project in the final comprehensive examination.
• MS AFLS students will be encouraged to make at least one professional presentation at a scientific meeting or academic seminar.
• MS AFLS students will demonstrate an awareness of cultural, societal, economic, and environmental influences on their special topics problem in a defined area of agricultural, food, and life sciences.
• MS AFLS students will demonstrate an awareness of specific discipline knowledge in their report of the special project and in their final comprehensive examination.

Degree Requirements

• The student must complete a minimum of 30 hours of graduate level courses:
  ● Coursework must be taken in at least 3 departments in the College of Agricultural, Food and Life Sciences (CAFLS).
  ● 9 hours will be taken in a defined emphasis area. Broad emphasis areas include, but are not limited to, agricultural education, animal science, plant science, pest management, and food safety.
  ● Fifteen hours of all coursework must be completed in the Bumpers College.
  ● A course in statistics will be required either at the undergraduate or graduate level for all students completing the program.
  ● Students must have a minimum of 9 hours of 5000 level courses or above.
  ● A student may complete the degree program by taking required courses at approved off-campus centers or in approved distance education courses. Senior-level courses approved for graduate credit are also acceptable.
  ● At least 24 of the total 30 graduate hours must be completed in residence credit at the University of Arkansas. Distance education courses originating from the University of
Arkansas, Fayetteville campus are considered resident courses.

- Transfer hours up to a maximum of 6 hours of credit may satisfy particular requirements of the course of study if approved by the student’s committee and the Graduate School. Transfer courses should be approved by the student’s advisory committee prior to enrollment.

- A student admitted into the MS AFLS program from another graduate program at the University of Arkansas must complete at least 12 hours of formal graduate work after being admitted into the AFLS-MS program and meet all the requirements of the degree.

- The student must successfully complete an oral and/or written examination upon fulfillment of degree requirements.
- The student must maintain a cumulative grade point average of 2.85 or higher.
- The student must complete an exit interview.

**SPECIAL PROBLEM REQUIREMENTS**

Requirements for this degree do not normally include a thesis; however, it does require a special problem (self-directed study). Each student will complete one 3-credit-hour special problem from which a technical paper will be developed. A student may substitute an approved thesis project in one of the agricultural, food, and life science departments for the required special problem project.

No more than 9 total hours of thesis, special problems, and internships will be recognized for degree requirements. No more than a total of 6 hours of special problems and internships may be used for degree requirements. Each special problem course should be limited to 3 hours of credit at each enrollment.

**Expectations of Students, Major Advisors and Advisory Committee Members:**

**Students**

The degree program is a Master of Science degree that includes a wide breadth of agricultural, food, and life sciences content. Graduates of the program are expected to demonstrate an understanding of science and an appreciation for the agricultural, food, and life sciences in their course work, special project or thesis, and final oral examination.

**Major Advisors**

Major advisors of MS AFLS students work closely with their students to select a committee and organize an overall academic program that includes appropriate course work and a special project or thesis to correspond to the student’s area of emphasis. The overall program should be developed within the first and second semester of enrollment, and it should reflect the academic interests of the student.

The major advisor should be aware of the expectations for that role within the student’s program (e.g. forms to be signed; milestones to be achieved; expected duties). They will be available to
the student, as consistent with the advisor’s schedule, to provide expert advice and up-to-date information about the subject matter and to act as a source of referral for the literature. The major advisor will also read, edit, comment upon and return drafts of a thesis prior to the final defense and will participate in timely communication with the student. In addition, the major advisor will participate in the candidacy exams (written and/or oral) and final defense as deemed normal by the student’s program.

Advisory Committee Members

As with all Master of Science committees, the MS AFLS advisory committee should assist the student and the major advisor (major professor) in developing and implementing the overall academic program. This will include but not be limited to serving as a source of advice and expertise for the student and critically evaluating and reviewing the student’s proposed program of study, the final project paper or thesis, and the student’s fulfillment of degree requirements.

Graduate School Requirements

Students, major advisors, and advisory committee members are governed by the rules of the Graduate School. Specific definitions of Graduate School responsibilities for each can be found in the Graduate Catalog or on the Graduate School website at:


Step 1. Admission to the University of Arkansas Graduate School.

Interested students should apply to the Graduate School for admission to graduate studies (http://www.uark.edu/depts/gradinfo/ ). Admission requirements will follow standards established by the Graduate School of the University of Arkansas. Normal admission requires a 3.0 or better cumulative grade point average on the last 60 hours of the Bachelor of Science degree or satisfactory scores on the Graduate Record Examination, the Miller’s Analogy Test, or a similar standardized test acceptable to the Graduate Dean. Exemptions will be evaluated on a case-by-case basis. Conditional admittance requires that students achieve a cumulative GPA of 2.85 on their first 12 hours of graduate work plus those specified by the steering committee.

Description of Graduate School Application Process (as referenced on 5/1/08)
(http://www.uark.edu/depts/gradinfo/recruit/applying.html)

- Application: Send a completed Application for Admission (either by Applying Online, or completing an Application for Admission Form) to the Graduate School. Please fill out all areas completely so we can properly evaluate your application materials. Please use your legal name and specify the exact degree and major you are seeking.

- Fee: Enclose the application fee of $40 ($50 for international students), which is required for all new applicants to the Graduate School, including those earning their bachelor’s degree from the University of Arkansas, Fayetteville. We cannot accept cash or debit/credit cards.
• **Academic records**: TWO official transcripts should be sent to Graduate School Admissions from each college or university you have ever attended, even if coursework from one institution appears on the transcript of another institution. Transcripts issued to students are NOT official transcripts. If a degree was earned, the official transcripts must confirm the degree and the date it was received.

If you have not yet received your baccalaureate degree, you must submit TWO official transcripts at the time of application. After completion of your degree, you must submit TWO official transcripts showing confirmation of the receipt of the degree.

If you were previously enrolled or are currently enrolled at the University of Arkansas, Fayetteville, the Graduate School will obtain transcripts from the Registrar’s Office at no charge to the applicant. Anyone who was previously enrolled in the Graduate School, but who is not currently enrolled, is required only to submit an application for re-admission and official transcripts from institutions attended after your last attendance in the Graduate School at the University of Arkansas.

• **Test scores (i.e., GRE, MAT)**: If required by the program to take a standardized test for admission consideration, have official scores sent to the University of Arkansas from the testing agency. The UA institutional code is 6866.

• **Recommendation letters**: Some departments may request that you submit one or more letters of recommendation and a statement of interest letter outlining the reason for enrolling in the program.

**Step 2. Obtain a Major Advisor Through Consultation with the Program Coordinator.** Upon admission to Graduate School and the MS AFLS degree program, the student will be assigned a faculty advisor by the Program Coordinator, generally from the area of defined academic emphasis. The advisor will serve as the Major Professor.

The interaction between a student and his/her major advisor is perhaps the strongest aspect of the learning experience. The major advisor and the student’s advisory committee are extremely important in assisting the student to achieve degree objectives.

**Step 3. Organize an Advisory Committee.** The Major Professor and the student will select the Advisory Committee, consisting of a major professor from the department in which the heaviest concentration of agriculture courses will be developed, i.e. pest management. The major advisor is selected by the student in consultation with the Program Coordinator. At least two other committee members are selected by the student and the major professor with approval of the Dean of the Graduate School. One committee member must be from outside the department in which the major professor is located, and one advisory committee member must also be a member of the Steering Committee. Names of the committee members should be submitted on the appropriate form to the Program Coordinator. The Program Coordinator will forward the approved form to the Graduate School.

Given the expanding scope of the MS AFLS degree and the growing involvement of off-campus faculty in the program, if the student desires an off-campus major advisor, we further suggest that all MS AFLS graduate advisory committees include at least one on-campus co-major...
professor with prior experience in successfully guiding M.S. student projects. The suggestion of an experienced on-campus co-advisor is intended to provide all students with experienced advisors who understand and work closely with the Graduate School and the CAFLS on a routine basis. The concept of co-major advisors is endorsed by the Steering Committee.

The membership of MS AFLS student advisory committee is defined in the MS AFLS Program description posted on the program’s website (http://bumperscollege.uark.edu/544.htm).

Step 4. Develop a Program of Study and an Acceptable Special Problem Project. The Major Professor and student should plan the proposed course of study, ideally during the first semester of enrollment. The proposed course of study will follow all program guidelines and should be approved by the Advisory Committee, with copies submitted to the Program Coordinator. The special project or thesis is a critical aspect of the degree and should follow an approved protocol.

Guidelines for Special Problem Project or Thesis

The MS AFLS degree is science-based and recognizes the unique breadth and diversity of the agricultural, food and life sciences. The program requires a three-hour special project or an acceptable six-hour thesis in one of the associated disciplines to develop a depth of scientific understanding in graduates. Ideally, this project is embedded in a defined area of agricultural science where the student emphasizes a portion of his/her graduate coursework. This project should enhance the student’s understanding of science, specifically the scientific methods, and promote continuing, individual study of a scientific topic of special interest.

Appropriate projects should address issues or questions of mutual interests for the student and the advisor. This may be a component of ongoing research by the advisor, but it should clearly reflect a definable and independent topic area for the student. A written proposal of the project or thesis and a proposed program of study should be presented to the committee for review and approval, ideally in a formal committee meeting, before the project is initiated. A final paper describing the project should be reviewed and approved by the major advisor before it is submitted to the committee for review, at least two weeks before the final examination. The initial proposal and the final paper should reflect knowledge of scientific literature and a scientific approach to the chosen project. Topics of interest may range from highly empirical works to more descriptive and/or creative scholarly works.

The format and structure of the research report is flexible but it should be similar to theses or scientific journals within the discipline area of study. It is also recommended that the Graduate School format for a thesis be followed when writing the special problem report. The student’s major advisor will work with the student to develop a scientific report that is acceptable to the advisory committee in structure and content. The MS AFLS Steering Committee expects the scientific report or thesis to reflect a clear mastery of the scientific method including the articulation of a researchable hypothesis, an understanding of the literature associated with the stated research question, and a critical evaluation of the project with appropriate conclusions and relevance to published information. Since the MS AFLS degree is also valued for its breadth of understanding of agricultural, food, and life sciences, the graduate should be able to articulate the significance of their special project to contemporary agricultural, food, and life science issues.
The following is a brief guide for successful completion of the special problem project:

1. The student identifies an acceptable project in consultation with the major advisor.
2. The major advisor and the student’s advisory committee approve the project. A copy of the project description or outline should be filed with the MS AFLS program coordinator. It should include brief but concise evidence of a literature review in this area.
3. The student designs the project and completes work in constant consultation with major advisors. Changes to the project design or approach should be reported to the student’s advisory committee.
4. The student and major advisor work on preliminary drafts of the project report to be sure that it clearly addresses the expectations defined above.
5. A copy of the final report is forwarded to the student’s advisory committee and the program coordinator at least two weeks in advance of the final oral examination.
6. The student is expected to describe and defend the project at the final oral examination.
7. Completion of degree requirements requires formal acceptance of the project and report by the student’s advisory committee. A copy of the final, approved report is given to the program coordinator and to the department of emphasis area.

**Step 5. Complete Courses in the Program of Study, Finish the Special Project, Complete Annual Progress Reports, and Stay Actively Involved with Program Updates, Special Events, and Group Interactions.** Students admitted into the MS AFLS Program from another graduate program must complete a minimum of 12 hours of graduate credit after acceptance into the program. Applications for admission from another graduate program must be evaluated and approved by the Steering Committee with assistance from the Program Coordinator.

**Step 6. Schedule and Complete a Final Oral Examination.** All students must pass a final oral examination to complete program requirements. The examination will be comprehensive and will address all course work and the special problem or thesis project. Students must submit copies of their written report to their advisory committee at least two weeks in advance of the date of the examination. The final Record of Progress form will be signed at the final examination and should be submitted to the Program Coordinator for transmittal to the Graduate School.

**Step 7. Complete a Final Exit Interview.** An exit interview is required at completion of all program requirements. This interview will be conducted by an administrator of the program. The written report of special problem activities and a final resume with a permanent address should be submitted to the administrator at this time.

**Summary/Checklist.** The following is a general guideline of steps that should be taken toward successful completion of MS AFLS degree requirements. Each step requires close interaction between the major advisor and the student.

- The major advisor is assigned by the program coordinator, in consultation with the student.
- The major advisor and student meet and discuss student interests. A program of study is completed, and a special problem project or thesis is proposed. The student’s advisory
committee is formed. Copies of the program of study and the list of names of the student’s advisory committee are submitted to the program coordinator.

- The student proposes a special problem project or thesis to the advisory committee.
- The student completes his/her course work and special problem project.
- Following completion of the special problem project or thesis, the student prepares preliminary drafts of her/his report or thesis for the major advisor. When the report or thesis is acceptable for the advisory committee to review, the student provides all committee members and the program coordinator with a copy of the written report. The student must apply for graduation by the dates defined by the Graduate School, and the written report or thesis must be given to the advisory committee at least two weeks prior to the scheduled final oral examination.
- The student defends his/her special problem project in a comprehensive, oral exam that includes all course work, a demonstration of knowledge in the defined emphasis area, and a demonstration for an appreciation of the breadth of the agricultural, food and life sciences.
- Following successful completion of the final examination, the major advisor submits the record of progress form to the program coordinator, and the student provides a copy of the final and revised project report. The student also completes an exit interview with the program coordinator and provides the program coordinator with a final resume that includes a permanent address.

Financial Support

Most of the students historically enrolled in the MS AFLS degree program are non-traditional students with full- or part-time employment. As such, there are no assistantships or direct financial funding associated with the program. Many of the students are employees of the University of Arkansas Systems and qualify for employee tuition discounts. Students should consult Board Policy 440.1 for detailed explanations and any amendments:

http://hr.uark.edu/StaffHandbook/?Section=8.8.