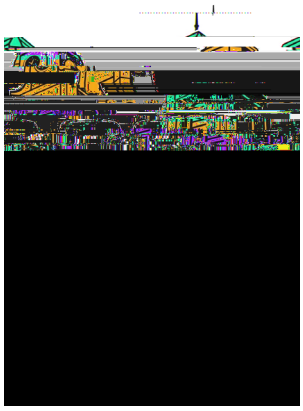
MASTER OF SCIENCE DEGREE
IN
AGRICULTURAL REGULATIONS



USDA Regulatory Science Center of Excellence

University of Arkansas at Pine Bluff

Pine Bluff, AR 71601

MASTER OF SCIENCE DEGREE PROGRAM IN AGRICULTURAL REGULATIONS

[Thesis- option]

School of Agriculture, Fisheries and Human Sciences
USDA Regulatory Science Center of Excellence
University of Arkansas at Pine Bluff
1200 North University Drive, Mail Slot 4913
Pine Bluff, Arkansas 71601

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Graduate Coordinator & Dr

USDA Regulatory Science Center of Excellence Mission Statement

The Center's mission is to support education, research, and understanding in regulatory sciences and risk analysis. The Center also supports a multidisciplinary program designed to

Physiology/plant biochemistry, Agronomy/Soil Science, and additional research labs are located in the S. J. Parker research facility.

Admission Process

Applicants to the Graduate Agricultural Regulations Program must submit a complete set of application materials to the Center for Regulatory Science. All correspondence regarding admissions should be directed to the Graduate Agricultural Regulations Program Coordinator. The application deadline for fall admission is March 15th. The application deadline for spring admission is October 15th. A complete application package should be submitted by the appropriate deadline. A complete application includes the following:

1. Application for Admission to the Graduate Agricultural Regulations Program (https://uapbactive.uapb.edu/apply/)
2. Non-refundable $45.00 application fee
3. Three letters of recommendation
4. A 300-500 word statement of purpose
5. Official transcripts from all colleges and universities attended (minimum 2.7 GPA required)
6.

Admission Requirements and Status

1. Regular Admission

Admission to the Graduate Agricultural Regulations Program is based upon the complete application package of the applicant and the availability of a departmental graduate advisor and departmental resources. During the application review process, applications are routed to the appropriate faculty member(s) for a detailed review. Applications with specific research interests (as indicated on the application) are matched to the faculty member(s) with corresponding research expertise. Prospective students must hold a four-year baccalaureate degree or higher from a college or university of recognized standing (i.e., degrees from institutions outside the U.S. are evaluated for equivalency to U.S. degrees).

The applicant should possess a cumulative grade-point average of 2.70 (A=4.00) or better on all coursework attempted, or 3.20 (A=4.00) on the last 60 semester hours of coursework attempted, before receipt of a baccalaureate degree from a regionally accredited institution of higher learning and be recommended by the chairperson of the department offering that degree. Scores on the Graduate Record Examination, the Miller Analogies Test, or a similar test will also be considered in determining the admission status of graduates. The applicant must also be recommended by the chairperson of the department conferring the bachelor's degree or the student's undergraduate advisor.

Students who do not have a course equivalent to Administrative Law and Government Regulations (AGRI 3312) will be required to take this undergraduate course in addition to meeting the coursework requirements of the M.S. degree. After the student is admitted, the graduate committee will evaluate the student's transcript to determine if other undergraduate strengthening courses are needed.

2. International Admission Status

An applicant from a foreign country seeking admission to the Graduate Agricultural Regulations Program must meet the same requirements for regular admission as applicants from the United States. Besides, he or she must demonstrate the ability to read, write, speak, and understand the English language. Prospective students whose native language is not English must take the Test of English as a Foreign Language (TOEFL).

3. Provisional Admission

Applicants who appear to meet the admissions requirements but have a baccalaureate degree in a non-natural science field may be accepted on a provisional basis. An applicant who is unable to supply all required documentation before the admission deadline but who otherwise appears to meet the admission requirements, with the recommendation of the Graduate Coordinator and approval of the Center Director, may be granted provisional admission. A complete application package must be received by the Center before the end of the semester for which the student has registered in a provisional status. A student may be admitted provisionally only [illegible]

International applicants residing outside of the United States at the time of application may not be admitted on a provisional basis.

4. Probationary Admission

An applicant who does not meet all the admission requirements but shows promise for successful graduate study and, upon the recommendation of the graduate coordinator and the approval of the Center Director, may be granted probationary admission. Students in probationary admission status must earn a 3.0 grade point average or better in their first semester to continue in the program. Special course requirements or other conditions may be imposed by the student's graduate committee. A student in probationary admission status may not hold an assistantship or be admitted to candidacy for the Master's degree.

5. Special Students

A person who wishes to take graduate courses in Agricultural Regulations Specisl Stnt

graduate program. The student does not have to apply for readmission if the student has been enrolled in the program within the past 12 months.

Returning graduate students who have not been enrolled in the Agricultural Regulations Graduate Program for over one year but not more than three years and who are not within one year of the six-year limit on the graduate-level study must submit the following to the Graduate Coordinator or the Center Director:

1. Application for Admission to the Graduate Agricultural Regulations Program
2. Three letters of recommendation
3. Official transcripts from all colleges and universities attended
4. Official GRE scores from the general GRE test
5. Official TOEFL scores (international applicants only).

Applications for admission may be obtained from the UAPB Graduate School or the Agricultural Regulations Graduate Coordinator.

Tuition and Fees

Graduate student tuition and fees are based on factors such as the number of credit hours taken and residency/non-residency in the State of Arkansas. Tuition and fees are established by the University. Current information regarding the cost of graduate tuition and fees may be found at the University website (

If a student desires to take graduate-level courses at another accredited U.S. university while enrolled in the Graduate Agricultural Regulations Program at UAPB and have the course credit transferred to UAPB for use in the Graduate Agricultural Regulations Program, the student must have prior approval from their advisor, the Graduate Coordinator, and the Center Director. A maximum of 6 graduate credits may be transferred and all transfer credits must be of 'B' grade or higher on a four-point scale.

Enrollment in Graduate Classes

Students who have not been admitted to the Graduate Agricultural Regulations Program (including undergraduate students) may only enroll in course offerings with the approval of the center director and the course instructor. Graduate courses can not be used to simultaneously fill both graduate and undergraduate level requirements.

Graduate Course Offerings

GAGRI 6001/6002/6003 (0 credit hour): Agricultural and Environmental Regulatory Practices Seminar: This course is designed to provide students a forum to observe graduate research project presentations and to provide an opportunity for faculty and agricultural professionals to present seminars relative to issues in *homeland security* agricultural and environmental regulatory affairs. All graduate students are required to take this course each semester that they are enrolled in the graduate program except for their final semester. During the student's final semester, they will enroll in GAGRI 6101 and present their research project. Sequential course numbers are used to correspond with each semester that the student is enrolled in the graduate program.

GAGRI 6101 Agricultural and Environmental Regulatory Practices Seminar (1 credit hour): This course is designed to provide students a forum for the presentation of their graduate research project and to provide an opportunity for faculty and agricultural professionals to present seminars relative to issues in agricultural and environmental regulatory affairs. All graduate students are required to take this course during the final semester of enrollment in the graduate program.

GAGRI 6102 Ethical Concepts (1 credit hour): This course will provide students an understanding of best practices for responding to ethical issues that an

resources disciplines who are ready to begin, or who are currently working on a master's thesis. The course assumes that writing is inseparable from thinking and that writing is a process that benefits from collaboration with peers and mentors. Students will learn to use writing to help develop their thinking as a scientist, understand how to organize and compose the major scientific writing genres, identify the various scientific and lay genres and their function in the academic community, identify a well-conceived rationale, purpose, organization, focus, and conclusion, understand what makes an effective oral presentation and be able to present their work accordingly as well as to relate their presentations to specific audience needs.

GAGRI 5306 (3 credit hours): Geographic Information Systems and Water Management. This course introduces students to the application of geographic information systems (GIS) including cartography, data structure, map overlays, and spatial analysis. This course approaches GIS in the context of environmental issues relating to hydrology and watershed management, soil science, land-use planning, and conservation. Both field activities and GIS and GPS software/hardware are incorporated into course experiences. After completing this class, students will be able to describe what GIS is and several ways that it may be used as a tool in agriculture and resource management; enter data into ArcView and describe the primary GIS data types and sources; describe how GIS is used in the context of watershed management; analyze and query data in ArcView; present results of the analysis using the ArcView software; and create a GIS database.

GAGRI 5400 Molecular Biology (4 credit hours): Molecular biology provides an overview of the basic molecular process and recombinant DNA technologies that play an important role in forensics, therapeutics, drug discovery, and agriculture. This includes the structure and function of DNA, RNA, and proteins; DNA replication and repair processes; RNA synthesis and processing; protein synthesis and regulations; and basic recombinant DNA technology.

GAGRI 6408 Post-Harvest Physiology (4 credit hours): This course will provide a fundamental understanding of post-harvest physiology, handling, and technology. The course aims to provide a basic understanding of the structure, physiology, and biochemistry of horticultural and food production concerning post-harvest handling and storage. The importance of preharvest factors and genetic material, as well as environmental conditions and handling during distribution and storage periods, is considered.

GAGRI 6369 Principles of Pest Management (3 credit hours): Students will be exposed to concepts and principles underlying the development of pest management systems. Pest population dynamics, economic and action thresholds, control methods and their environmental impacts, governmental restrictions and their development, and ethical and moral considerations will be discussed. A historical and practical justification of pest management will be developed and related to the presentation of current pest management systems.

GAGRI 6320 Food Safety (3 credit hours): This course provides a comprehensive application of up-to-date topics in food science technology and safety. This course covers the interdisciplinary nature of food science, including biology, engineering, chemistry, microbiology, nutrition, and physics, in all major food commodities. This course helps students

apply their knowledge of contributory sciences to thinking critically about core topics in food science, technology, and safety.

GAGRI 6420 Food Microbiology (4 credit hours): This course provides an overview of the role of microorganisms in food spoilage, food safety, food processing, food preservation, foodborne illness, and food intoxication. This course is meant as a basic laboratory course in food microbiology and safety.

GAGRI 6323 Statistics in Agriculture (3 credit hours): To introduce a basic and practical overview of descriptive and inferential statistics as applied to the fields of plant and soil sciences, animal science, and regulatory science. To enable graduate students to collect, summarize, and analyze data, state meaningful hypotheses and statements, and draw accurate conclusions from research results. Students will gain experience in experimental design, data analysis, computer statistical software, and interpretation of result

solutions; implementation and evaluation stages; the roles of lobbyists, legislature, the executive branch, and other actors will be explored. Case studies, presentations by, and discussions with local and regional legislators appearing as guest lecturers are a primary component of the course.

GAGRI 6398 Animal Health Issues and Epidemiology (3 credit hours): This course helps students develop an understanding of general principles of health and the prevention of disease in farm animals. The application of epidemiologic procedures to the understanding of the occurrence and control of infectious and chronic diseases, in general, is also covered. Students will become familiar with examples of causative agents of infections and zoonotic diseases, including viruses, bacteria, and parasites; recognize and describe a variety of non-infectious diseases and develop a basic understanding of balance for analysis of emerging animal health issues; learn about specific methods and techniques for surveillance and analysis of emerging animal health issues; explore the design and implement a system for identification and assessment of emerging animal health issues; practice interpretation and assessment of emerging animal health issues; foster their ability to recognize and create rational arguments regarding animal health issues through discussion and written assignments; and learn to discuss practical social, economic and legal issues that relate to animal health issues.

GAGRI 6301 Environmental Soil Chemistry (3 credit hours): This course will provide a better understanding of reactions and processes controlling the toxicity of contaminants in the soil. There are growing concerns about organic and inorganic contamination of important resources and potential ecological and human health risks. Knowledge of environmental soil chemistry is important in understanding the fate, mobility, and potential toxicity of contaminants

Curriculum

Master of Science Program in Agricultural Regulations-Curriculum (Thesis-option)

Outline for each program curriculum, including the sequence of courses (final course selection will be decided by the student and his/her advisors).

Course Number & Name	Credits
Fall Semester- Year I	
GAGRI 6323 Statistics in Agriculture (R)	3
GAGRI 6V00 Research/Thesis (R)	1-6
GAGRI 6001 Agricultural Regulatory Practices Seminar (R)	0
GAGRI 5400 Molecular Biology (E)	4
GAGRI 6320 Food Safety (E)	3
Spring Semester-Year I	
GAGRI 6002 Agricultural Regulatory Practices Seminar (R)	0
GAGRI 6V00 Research/Thesis (R)	1-6
GAGRI 6102 Ethical Concept (R)	1
GAGRI 6301Environmental Soil Chemistry (E)	3
GAGRI 6342 Risk Analysis (R)	3
GAGRI 6345 Ecological Economics (E)	3
Fall Semester – Year II	
GAGRI 6350 Agricultural Law and Regulatory Practices (R)	3
GAGRI 6003 Agricultural Regulatory Practices Seminar (R)	0
GAGRI 6V00 Research/Thesis (R)	1-6
GAGRI 6408 Post-harvest Physiology (E)	3
GAGRI 6420 Food Microbiology (E)	4
GAGRI 6349 Environmental Policy Analysis (E)	3
Spring Semester – Year II	
GAGRI 6280 Scientific Writing and Editing (R)	2
GAGRI 5386 Geographic Information Systems and Watershed Management (E)	3
GAGRI 6101 Agricultural Regulatory Practices Seminar (R)	1
GAGRI 6V00 Research/Thesis (R)	1-6
GAGRI 6398 Animal Health Issues and Epidemiology (E)	3
GAGRI 6313 Principles of Pest Management (E)	3

(R – Required E – Electives)

Total Required hours: 19

Total hours required for graduation: 31

Table 1. Core courses in the Agricultural Regulations M.S. degree program (Thesis-Option)

Course Number	Course Title	Instructor	Credits

Table 2. Courses (as Electives) are available in the Graduate Agricultural Regulations Program*.

*Other UAPB Graduate Courses

Additional UAPB graduate courses are available other graduate programs on campus. The addition of graduate courses outside the department to the student's plan of study will be

Table 3. Sample program of study for a student interested in Plant and Animal Systems

Table 4. Sample program of study for a student interested in Food Safety in the Agricultural Regulations M.S. degree program.

Course Number		Fall Semester Year 1	Credits
GAGR 6323		Statistics	3
GAGR 6001		Agricultural and Environmental Regulatory Practices Seminar	0
GAGR 6320		Food Safety	3
GAGR 6V00		Research/Thesis	1
		Spring Semester Year 1	
GAGR 6350		Agricultural Law and Regulatory Practices	3
GAGR 6342		Risk Assessment and Analysis	3
GAGR 6002		Agricultural and Environmental Regulatory Practices Seminar	0
GAGR 6V00		Research/Thesis	2
		Fall Semester Year II	
GAGR 6280		Scientific Writing and Editing	2
GAGR 6003		Agricultural and Environmental Regulatory Practices Seminar	0
GAGR 6408		Post-Harvest Physiology	3
GAGR 6420		Food Microbiology	3
GAGR 6V00		Research/Thesis	1
		Spring Semester Year II	
GAGR 6102		Ethical Concepts	1
GAGR 6101		Agricultural and Environmental Regulatory Practices Seminar	1
GAGR 6313	GAGR 6V00	Principles of Pest Manage803026(a)3029.9(r)3022.9( )]TJ /TT10 1 Tf 0 -9.9(m)3	

Table 5. Sample program of study for a student interested in Agricultural Policy and Economic Risk in the Agricultural Regulations M.S. degree program.

Course Number	Fall Semester Year 1	Credits
GAGR 6323	Statistics in Research	3
GAGR 6001	Agricultural and Environmental Regulatory Practices Seminar	0
GAGR 6V00	Research/Thesis	3
	Spring Semester Year 1	
GAGR 6350	Agricultural Law and Regulatory Practices	3
GAGR 6342	Risk Assessment and Analysis	3
GAGR 6002	Agricultural and Environmental Regulatory Practices Seminar	0
GAGR 6345	Ecological Economics	3
	Fall Semester Year II	
GAGR 6280	Scientific Writing and Editing	2
GAGR 6003	Agricultural and Environmental Regulatory Practices Seminar	0
GAGR 6V00	Research Thesis	1
GAGR 6386	Geographical Information Systems (GIS)	3
GAGR 5322	Quantitative Risk Assessment: Probabilistic Methods	3
	Spring Semester Year II	
GAGR 6102	Ethical Concepts	1
GAGR 6101	Agricultural and Environmental Regulatory Practices Seminar	1
GAGR 6349	Environmental Policy Analysis	3
GAGR 6V00	Research/Thesis	2

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UNIVERSITY OF ARKANSAS AT PINE BLUFF
School of Agriculture, Fisheries & Human Science

Master of Science in Agricultural Regulations / Degree Plan (Thesis Option)

Name I.D.#

Address City Zip

Telephone

advisory committee, formulates a program of study based on the guidelines established by the UAPB Graduate Catalog and recommendations from their advisory committee. All the courses listed on the program of study must be completed to graduate and obtain a master's degree. The master's degree in Agricultural Regulations consists of 31 semester hours (twenty-four (25) credits in coursework and six (6) credits in research and thesis). All requirements for the degree must be completed within six (6) years.

The student will complete a core of regulatory science courses (19 credits) and select, with the approval of his/her graduate committee, other graduate courses that meet the student's career goals.

Committee Meetings

Students are required to have a program of study committee meeting before the end of their first semester. Students are strongly encouraged to schedule at least one more committee meetings during their enrolment in the program.

Grades

3. If the grievance is not resolved in step two, the student should request a meeting with the dean of the school offering the course. The instructor of the course and the center director will also be present at this meeting.

4. If the grievance is not resolved in step three, the student should request a meeting with the Vice-Chancellor for Academic Affairs. The dean of the school offering the course will also be present at this meeting. The Vice-Chancellor for Academic Affairs will schedule a follow-up meeting with the instructor, the Center Director, and the Dean of the school offering the course.

5. If the grievance is not resolved in step four, the student should request a meeting with the Chancellor. The Vice-Chancellor for Academic Affairs will also attend this meeting. The Chancellor will schedule a follow-up meeting with the instructor, the center director, the instructor's dean, and the Vice-Chancellor for Academic Affairs. The Chancellor also has the option of empowering a panel of professors (preferably with graduate teaching status) to review the allegations made by the student, render a judgment, and recommend an action for the Chancellor to implement. The decision of the Chancellor will be final.

Thesis Proposal

All students enrolled in the Graduate Agricultural Regulations Program are required to prepare a thesis involving original research during their tenure in the program. A thesis proposal should be developed before the initiation of thesis research and submitted to their committee members for approval before the end of their second semester of enrollment. The proposal must include an Introduction, Literature Review, Methods, Results, Discussion, Conclusion/Recommendation, and References section (*Format of the Thesis)*. The style of the thesis proposal will follow the 'manuscript preparation' guidelines for the Journal of Soil and Water Conservation, the Journal of Food, Agriculture & Environment, HortScience, the Plant

Preparation of the Thesis

Students will complete a research project under the supervision of their faculty. This work must be written as a master's thesis. There are specif

Copies of the thesis must be prepared on 25% cotton bond paper and submitted to the main campus library no later than two weeks before graduation. The library will ensure that the paper is the correct bond, and the photographs are attached properly, and will submit the copies to the binder. One bound copy is for the student, one copy each for the advisor and other committee members, two copies are for the library and two copies are for the center. The cost of thesis reproduction is the responsibility of the student. The cost of binding is the responsibility of the library. A PDF copy of the thesis must also be deposited with the Graduate Coordinator.

Registration Status of Students

Students who receive assistantships should be enrolled (registered full-time) until all of the requirements of the program of study are fulfilled or until graduation (whichever occurs first). When a student completes all course requirements listed on the program of study but has yet to complete the thesis requirement, the student must register for at least one credit hour (research and thesis or any other graduate elective course). If the student is not registered at any time during the regular semesters (fall, spring, summer), the student will be considered to have withdrawn from the program and cannot graduate until readmitted (see 'Withdrawal' and 'Readmission' sections).

Withdrawal

Students who fail to enroll (register) for any of the regular semesters (fall, spring, summer) will be considered to have withdrawn from the program. Students who fail to attend classes without submitting a written notice of withdrawal will automatically receive a 'W' in all courses in which they are enrolled.

Students may voluntarily withdraw from the Graduate Agricultural Regulations Program by submitting written notice to both the Center Director and the University at least two weeks before the start of final examinations for any of the regular semesters. The student must also:

1. Secure a withdrawal slip from the Admissions and Academic Records Office
2. Secure approval from the center director, dean of the college, and the Vice Chancellor for Academic Affairs (all should sign the withdrawal slip)
3. Secure clearance from the Student Accounts Office
4. Return the approved slip to the Admissions and Academic Records Office

Academic Dishonesty

Academic dishonesty involves acts that may subvert or compromise the integrity of the educational process at the University of Arkansas at Pine Bluff. For details on academic dishonesty in graduate programs, please refer to Section II.6.(2) of the Graduate Handbook.

Necessary Forms are available from the UAPB Graduate School's webpage.