



## **School of Agriculture and Applied Sciences**

### **DEPARTMENT OF AGRICULTURE**

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### **Online Master's Degree Program**

#### **Master of Science in Agriculture with endorsement in Agricultural Extension Education (Non-thesis Plan\*)**

#### **Program Description:**

The Program is designed for those who are currently working or aspire to work in Cooperative Extension Service. This will enable those professionals who are currently working to continue their education. The Degree is designed to improve professional and technical skills in the areas of agricultural extension education, communication, and leadership.

Content areas will include agricultural production practices, program planning, curriculum development, teaching methodologies, youth development and research. Students in the program will complete course work in agriculture, extension and education. It should be noted that completion of this degree does NOT result in certification to teach middle school or high school agriculture.

This program will also be suitable for individuals who aspire pursuing a doctoral degree in the future. Students will gain in-depth knowledge of the context and content of school-based agricultural education or extension education.

#### **Learning Outcomes:**

The following learning outcomes are expected for the Agricultural Extension Education Endorsement: (1) students completing the program will be well-trained and proficient in the technical fields of agriculture; (2) students will master the skills and techniques for teaching youth and adults leadership and life skills; (3) graduates of the program will be competent extension educators and program development specialists; (4) graduates of the program will demonstrate that they have been adequately prepared to become competent teachers of Agriculture; and that they are prepared for agriculture-related careers in Cooperative Extension, government agencies and in the agriculture industry.

#### **Program Requirements**

The Degree program is 33 semester hours. The Program is designed to be completed 100 percent online.

### Admission Requirements:

- A complete application for admission
- A bachelor's degree from an accredited institution
- Undergraduate GPA of 2.5 or higher on a 4.0 scale.
- GRE scores (not older than five years). Students who score less than 3 on the analytical section may be admitted on a conditional basis and will **be required to complete a technical writing course (AN 501) with a grade of “B” or better. This course will not count towards graduation.**
- An official transcript of all academic work on the collegiate level.
- Two letters (Recommendation Letter forms) of recommendation.
- English Proficiency Requirements - International Applicants (Official Test of English as a Foreign Language (TOEFL) scores or International English Language Testing System (IELTS) scores. International applicants are subject to all international admission requirements as specified by the school of graduate studies.
- All other graduate school admission standards will apply.

### Exit Requirements:

- A completed and approved research project that comprises the first three chapters of a thesis.
- Students admitted with a score of less than 3 on the written portion of the GRE are required to complete AN 501 (Technical writing in agriculture) with a grade of “B” or better. The course will not count towards graduation but will rather satisfy an admission requirement. The requirement must be fulfilled during the first year of enrollment in the Program

### AGRONOMY PROFESSIONAL OPTION\*\* (Non-Thesis Plan)

<b>Core Courses (12 hours)</b>		<b>Credits</b>
ED 512	Foundation of American Education	3 hrs.
ED 514	Methods of Educational Research	3 hrs.
PH 513	Advanced Educational Psychology	3 hrs.
AG 610	Thesis I	3 hrs.
<b>Required Courses (9 hours)</b>		<b>Credits</b>
AN 500	Administration of Agricultural Education	3 hrs.
AN 506	Advanced Methods of Teaching	3 hrs.
AN 515	Advanced Principles of Teaching Agricultural Edu	3 hrs.
PS 548	Advanced Soil Management	3 hrs.
<b>Approved Electives (12 hours)</b>		<b>Credits</b>
AN 511	Youth Organization and Program Management	3 hrs.

AN 601	Special Problems in Agricultural and Extension Edu	3 hrs.
AN 584	Advanced Occupational Information	3 hrs.
AN 510	Agricultural Education Media	3 hrs.
PH 504	Psychological Statistics	3 hrs.
AE 508	Rural Economic and Community Development	3 hrs.
AE 525	Advanced Agricultural Marketing	3 hrs.
AE 520	Advanced Farm Organization and Management	3 hrs.
PS 535	Advanced Soil Classification	3 hrs.
PS 548	Advanced Soil Management	3 hrs.
PS 597	Agricultural Environmental Law	3 hrs.
PS 601	Special Problems in Vegetables & Small Fruits	3 hrs.
AS 523	Advanced Animal Nutrition	3 hrs.
AS 533	Physiology & Anatomy of Farm Animals	3 hrs.
AS 553	Physiology of Reproduction	3 hrs.
AS 564	Special Problems in Selected Topics	3 hrs.
AE 508	Rural Economic and Community Development	3 hrs.
PS 590	Advanced Research Techniques	3 hrs.
PS 597	Agricultural Environmental Law	3 hrs.
AS 564	Special Problems in Agricultural Economics	3 hrs.
PS 559	Advanced Soil Fertility	3 hrs.
PS 541	Agricultural Plant Pathology	3 hrs.
AG 558	Special Problems in Ag Mech	3 hrs.

**TOTAL 33 hrs.**

\*Students who do not score 3.0 on the GRE Analytical Writing must enroll in AN 501-Technical Writing (3 Credits)

## **COURSE DESCRIPTIONS:**

### **AGRICULTURE EDUCATION COURSE DESCRIPTION (AN)**

#### **AN 500 3 hrs. ADMINISTRATION OF AGRICULTURAL EDUCATION**

A careful study of the federal and state acts, laws and policies governing agricultural vocational education.

#### **AN 501 3 hrs. TECHNICAL WRITING IN AGRICULTURE**

This course is designed to fulfill the English proficiency requirements for all students who are admitted to graduate school conditionally. The focus will be on academic and technical writing with emphasis on critical reading, thinking, writing, and the key aspects of writing within student's discipline.

#### **AN 504 3 hrs. CURRICULA AND PROGRAMS FOR TEACHING RURAL DISADVANTAGED**

This course is designed to analyze programs and curricula within the school system with emphasis on the disadvantaged. Pre-requisite: AN 487 or consent of advisor.

**AN 506 3 hrs. ADVANCED METHODS, TECHNIQUES, AND DEVICES IN TEACHING AGRICULTURE**

This course is concerned with analysis, administration and evaluation of methods, techniques and devices used in teaching agriculture. Emphasized concepts, methods and learning theories relevant for both formal and informal education. Pre-requisite: AN 465 or consent of advisor.

**AN 510 3 hrs. AGRICULTURAL EDUCATION MEDIA**

This course deals with the sources, selection, evaluation, and use of material related to agriculture. 118 Graduate Catalog 2014-2016 Alcorn State University.

**AN 515 3 hrs. ADVANCED PRINCIPLES AND PHILOSOPHY OF VOCATIONAL EDUCATION**

This course is designed primarily for people who are engaged in the profession of vocational education. AN 315 is a similar course and is needed before enrolling in this course.

**AN 584 3 hrs. ADVANCED OCCUPATIONAL INFORMATION**

This course is an extension of AN 484. An examination and analysis into the world of work with emphasis toward teaching.

**AN 601 3 hrs. SPECIAL PROBLEMS IN AGRICULTURAL AND EXTENSION EDU**

This course is an observation, identification, and analysis of problems related to teaching agriculture. Primarily designed for in-service teachers and extension educators.

**AE 508 3 hrs. RURAL ECONOMIC AND COMMUNITY DEVELOPMENT**

This course deals with economic and social conditions in rural areas. It discusses patterns, trends, and problems in rural communities. It deals with the economic concepts that help with understanding and analyzing rural communities, theories of growth, and economic development. Completion of this course will result in understanding theories, concepts, and frameworks of a community, economic development and community decision-making models.

**AE 520 ADVANCED FARM ORGANIZATIONS AND MANAGEMENT**

This course involves the study of the farm business from the standpoint of maximizing net returns over time. The major emphasis is on the fundamental principles underlying sound farm organization and operation. It deals with the development of problem-solving and risk-management skills needed on the modern farm operation. It will apply spreadsheets to perform production planning and analysis of farm and ranch problems with linear programming, simulations, and other tools. Students will apply the analysis of the acquisition of resources and the use of information systems in managing the individual farm.

**AE 525 3 hrs. ADVANCED MARKETING**

This course is a study of the principles and problems associated with marketing of agricultural product-functional and commodity approaches. Students will be expected to conceptualize and analyze market data relative to conditions of competition.

**AE 601 3 hrs. SPECIAL PROBLEMS IN AGRICULTURAL ECONOMICS**

Credits from 1-4 hours may be attained. This course may be taught on individual or group basis with one or more written reports treating special problems in several areas of agricultural economics.

**PS 535 3 hrs. ADVANCED SOIL CLASSIFICATIONS**

This course deals with the advanced study of soil development, soil morphology, and principles of soil classification. The classification system will include the seventh approximation. Aerial photos and current reviews of literature will be used and discussed. Pre-requisite: PS 446.

**PS 541 AGRICULTURAL PLANT PATHOLOGY**

This advanced course will cover the principles of Plant Pathology and classical plant diseases. Students will study microorganisms that induce plant diseases, molecular interactions between hosts and pathogens, plant disease epidemics, integrated management for prevention and control of diseases. There will be assigned readings from the required text book. Students will understand plant disease development and management, be able to design and develop processes for new emerging diseases.

Prerequisite: PS 441 General Plant Pathology

**PS 548 3 hrs. ADVANCED SOIL MANAGEMENT**

This course is designed to critically examine soil conservation practices and soil analysis, as well as to show the importance of soil moisture in the uptake of cation and anion and the functional roles of cations and anions in the nutrition of plants.

**PS 559 ADVANCED SOIL FERTILITY**

Deals with Soil-plant relationships in the field and methods of diagnosing deficiencies in soils and plants; the influence of chemical, biological, and physical properties of soil and other growing media on nutrient availability to plants; soil and nutrient management practices that maximize plant productivity and profitability while maintaining or enhancing environmental quality; Soil Fertility and Plant Nutrition; Basic Soil-Plant Relationships; nutrient transport in Plants; Soil Acidity and Alkalinity; Nitrogen, Phosphorus and Potassium in Soil; Sulfur, Calcium, and Magnesium in Soil and plant; Micronutrients in Soil and plant.

Prerequisite: PS 459 Soil Fertility

**PS 590 3 hrs. ADVANCED RESEARCH TECHNIQUES**

This course is designed to prepare students to determine and evaluate the current problems in plant science. This will include literature reviews, research planning, and an organized attempt to collect information for answering the problems.

**PS 597 3 hrs. AGRICULTURAL ENVIRONMENTAL LAW**

This course will focus attention to advanced federal agricultural laws and regulations, real conditions, problems, and will discuss issues via illustrations with real examples and approaches. The student will be able to develop basic skills in legal research, case analysis, statutory interpretation and regulatory design.

**PS 601 3 hrs. SPECIAL PROBLEMS IN VEGETABLE AND SMALL FRUIT PRODUCTION**

This course is a general discussion of the modern principles and practices in efficient vegetable and small fruits; seeds and seed growing; managing soils and fertilizing; growing plants, handling, and transplanting; cultivating and rotating; irrigating and mulching, controlling insects and diseases, storing vegetables and small fruits; harvesting, handling, and marketing vegetables and small fruits.

**AS 523 3 hrs. ADVANCED ANIMAL NUTRITION**

This course is a complete and comprehensive study of the chemistry and functions of carbohydrates, proteins, lipids, vitamins, minerals, and water; physiology of digestion and absorption of these nutrients in animals; biochemistry of nutrient metabolism. A review of analytical methods and pertinent literature will also take place.

**AS 533 3 hrs. PHYSIOLOGY AND ANATOMY OF FARM ANIMALS**

This course will provide further study into the prenatal development of body systems. An emphasis will be made on structure and function of the systems, developmental changes from age, and common problems and diseases associated with each body system.

**AS 553 3 hrs. PHYSIOLOGY OF REPRODUCTION**

The goal of this course is for students to learn the critical role of the endocrinology system. Emphasis will be made on the mammalian endocrine glands from the standpoint of their structure, their physiological function in relation to the organism, the chemical nature and mechanism of their secretory products, and the nature of anomalies manifested with their dysfunction. Current theories will be evaluated and discussed using information from recent scientific publications.

**AS 564 3 hrs. SPECIAL PROBLEMS IN SELECTED TOPICS**

This course is a formal courses given infrequently to explore in-depth a comparatively narrow subject which may be topical or of special interest. A specific title may be used in each instance and will be entered on the student's transcript