

# Agricultural Education, Communication and Technology (AECT)

George W. Wardlow  
Department Head  
205 Agriculture Building  
479-575-2035  
Email: wardlow@uark.edu

Jill Rucker  
Graduate Coordinator  
E108 AFLS  
479-575-2035  
Email: kjrucker@uark.edu (wardlow@uark.edu)

Agricultural Education, Communications and Technology Website  
(<https://agricultural-education-communications-and-technology.uark.edu/programs/graduate.php>)

## Degree Awarded:

Ph.D. in Agricultural, Food and Life Sciences with Agricultural Education, Communications and Technology Concentration (AFLSPH-AECT)

**Program Description:** The Department of Agricultural Education, Communication and Technology offers a concentration for the interdisciplinary Ph.D. program in Agricultural, Food and Life Sciences. Faculty from across Bumpers College prepare students for the wider array of natural and social sciences while allowing the student to develop a tailored degree program through the Agricultural Education, Communications and Technology Concentration.

## Requirements for Ph.D. in AFLS with Agricultural Education, Communications and Technology Concentration

**Prerequisites to Degree Program:** A Master of Science degree is desirable. A student with a Bachelor of Science and an exceptional record in academics and/or research may be approved for admission to the Ph.D. program in Agricultural, Food and Life Sciences if the Graduate Student Concentration Admissions Committee of the desired concentration deems them qualified and approval is granted by the AFLSPH Steering Committee. A student admitted to the University of Arkansas, pursuing an M.S. and in good academic standing may apply to be admitted to the doctoral program and forgo completing the M.S. degree if so approved by the AFLSPH Steering Committee and the AFLSPH Graduate Concentration Admissions Committee. A minimum grade point average of 3.00 (on a 4.00 scale) on previous college-level course work is required.

**Admission Requirements for Entry:** To be considered for admission, a student must submit a letter of intent, along with the application for admission indicating the desired degree concentration, areas of interest and career goals. Official transcripts of all previous college-level course work must be submitted. Three letters of recommendation are required. These letters should address the character and academic capability of the applicant. Applications will first be reviewed by the AFLSPH Steering Committee which will assign the student to the appropriate Graduate Student Concentration Admissions Committee for review. The

Concentration Admissions Committee will make the final determination of admittance into the AFLSPH program and the concentration.

**Requirements for Doctor of Philosophy Degree:** The Ph.D. program in Agricultural, Food and Life Sciences requires a minimum of 72 credit hours after a Bachelor of Science or Bachelor of Arts degree or a minimum of 42 hours after a Master of Science or Master of Arts degree.

General course requirements for each degree candidate are arranged on an individual basis by the Faculty Adviser, the Graduate Advisory Committee and the candidate in accordance with guidelines of their concentration. Alternate courses may be selected at the discretion of the committee.

All students must complete 6 hours of elective course hours and 2 hours of seminar. One seminar must be a research proposal presentation and the other must be an exit seminar presenting the dissertation research results. All students must complete 18 hours of doctoral dissertation hours. Students entering the doctoral program with only a B.S. or B.A. must also complete an additional 30 hours (to reach the 72 hour post B.S./B.A. requirement). Students must satisfactorily pass written and oral candidacy examinations covering their discipline and supporting areas. These examinations must be completed at least one year before completion of the Ph.D. degree program in Agricultural, Food and Life Sciences. Each candidate must complete a doctoral dissertation on an important research topic in the concentration field. The specific problem and subject of the dissertation is determined by the faculty adviser, the student and the Graduate Advisory Committee. A dissertation title must be submitted to the dean of the Graduate School at least one year before the dissertation defense. Provisional approval of the dissertation must be given by all members of the Graduate Advisory Committee prior to the dissertation defense. Students must pass the oral defense and examination of the dissertation given by the Graduate Advisory Committee. A student cannot be approved for conferral of the doctoral degree until after completion of all coursework, written and oral candidacy exams, the defense passed and dissertation accepted by the Graduate School and an application for the degree has been filed with the Registrar's Office and the fee paid.

## Additional Concentration Requirements

In addition to the general requirements for the Ph.D. program in Agricultural, Food and Life Sciences, students in the Agricultural Education, Communications and Technology Concentration must also complete:

Graduate credits related to research and/or data analysis (qualitative and quantitative research methods)	9
Graduate-level courses related to theory appropriate to the student's discipline	3
Graduate-level elective credits as appropriate to the discipline	1
AECT 6903 Emerging Scholarship in the Discipline	3

## Graduate Faculty

**Cox, Casandra Kay**, M.S., B.S. (University of Arkansas), Instructor, 2003.  
**Estep, Chris**, Ph.D. (University of Florida), M.Ed., B.S. (Texas A&M University), Associate Professor, 2019.  
**Graham, Donna Lucas**, Ph.D. (University of Maryland-College Park), M.Ed., B.S. (University of Arkansas), University Professor, 1985, 2017.  
**Johnson, Donald M.**, Ph.D. (University of Missouri-Columbia), M.A., B.S. (Western Kentucky University), Professor, 1993, 1999.  
**Miller, Jefferson Davis**, Ph.D., M.A. (Oklahoma State University), B.A. (Northeastern State University), Professor, 2001, 2012.

**Rucker, Kathryn Jill**, Ph.D., M.B.A., B.S. (Oklahoma State University), Associate Professor, 2013, 2018.

**Wardlow, George W.**, Ph.D. (The Ohio State University), M.Ed., B.S. (University of Missouri-Columbia), Professor, 1992, 1998.

## Agricultural Communications Courses

### **ACOM 510V. Special Problems. 1-6 Hour.**

Individual investigation of a special problem in agricultural communications which is not available through regular courses. These will be directed by a member of the graduate faculty. (Typically offered: Fall, Spring and Summer) May be repeated for up to 6 hours of degree credit.

### **ACOM 5143. Electronic Communications in Agriculture. 3 Hours.**

An overview of communication technology in the agricultural, food and life sciences. Graduate degree credit will not be given for both ACOM 4143 and ACOM 5143. (Typically offered: Spring Even Years)

### **ACOM 520V. Special Topics. 1-4 Hour.**

Topics not covered in other courses or a more intensive study of specific topics in agricultural communications. (Typically offered: Irregular) May be repeated for degree credit.

### **ACOM 5243. Graphic Design in AFLS. 3 Hours.**

This course provides students with graphic design and software skills specific to industries in Agriculture, Food, and Life Sciences. Students will learn to use industry-standard software (InDesign, Photoshop, Illustrator, Microsoft Excel, etc.) to prepare text and graphics and package them for use in print production. Graduate degree credit will not be given for both ACOM 4243 and ACOM 5243. Prerequisite: ASTM 2903 or ISYS 1123 or equivalent. (Typically offered: Fall, Spring and Summer)

### **ACOM 5343. Communication Campaigns in Agriculture. 3 Hours.**

Students will develop understanding of the principles, practices and applications of social marketing, integrated marketing communications, advertising and public relations as they pertain to developing communication campaign strategies for the agricultural industry. Students will develop a communication campaign for an agricultural company and/or entity focused on a specific product or service. Graduate degree credit will not be given for both ACOM 4343 and ACOM 5343. Prerequisite: Graduate standing. (Typically offered: Spring Odd Years)

### **ACOM 5543. Ag Publications. 3 Hours.**

Students produce a magazine through classroom study mirroring a professional magazine staff and are provided an opportunity for their writing, advertisements, photographs and artwork to be published in the magazine. By using computer applications, students integrate various skills including writing, editing and layout in agricultural publications. Graduate degree credit will not be given for both ACOM 4543 and ACOM 5543. (Typically offered: Spring Even Years)

### **ACOM 5643. Agricultural Video Production. 3 Hours.**

The goal of this course is for students to develop a practical understanding of video production with an emphasis on short-form videos commonly used in education and marketing in the agricultural, food and life sciences industry. The course content covers both theory and practical application and will include training with industry-standard video equipment and editing software. Prerequisite: Graduate standing. (Typically offered: Spring Even Years)

### **ACOM 575V. Internship in Agricultural Communications. 1-6 Hour.**

Scheduled practical field experiences under supervision of a professional practitioner. (Typically offered: Fall, Spring and Summer) May be repeated for up to 6 hours of degree credit.

## Agricultural Education, Communications and Technology Courses

### **AECT 610V. Special Problems. 1-6 Hour.**

Individual investigation of a special problem in agricultural education which is not available through regular courses. These will be directed by a member of the graduate faculty. Prerequisite: Graduate standing. (Typically offered: Fall, Spring and Summer) May be repeated for up to 6 hours of degree credit.

### **AECT 620V. Special Topics in Agricultural Education, Communications and Technology. 1-4 Hour.**

Topics not covered in other courses or a more intensive study of specific topics in agriculture education. Prerequisite: Graduate standing. (Typically offered: Irregular)

### **AECT 6301. Doctoral Seminar. 1 Hour.**

The seminar provides doctoral students a critical review of current research in agricultural and extension education, communication, leadership, and technology, an opportunity for collaboration and mentorship with peers, faculty and visiting scholars, and professional development. The presentation of a doctoral research proposal and research findings is expected of all students. This course may be repeated for up to three hours of degree credit. Prerequisite: Admission in doctoral program. (Typically offered: Fall and Spring) May be repeated for up to 3 hours of degree credit.

### **AECT 6903. Emerging Scholarship in the Discipline. 3 Hours.**

This course surveys recent scholarship in the discipline of agricultural education, communications and technology, with a special focus on recent literature highlighting research, teaching, and service across the discourse communities of ag education, ag communications, ag systems technology management, and ag leadership. Prerequisite: Graduate standing. (Typically offered: Fall Odd Years)

### **AECT 700V. PhD Dissertation. 1-18 Hour.**

PhD dissertation. Prerequisite: Graduate standing and approval of dissertation chair. (Typically offered: Fall, Spring and Summer) May be repeated for degree credit.

## Agricultural Education Courses

### **AGED 5001. Seminar. 1 Hour.**

Presentations and discussion of graduate student research as well as review of current literature and topics of current interest by students and faculty. All graduate students will make at least one formal presentation. Prerequisite: Graduate standing. (Typically offered: Fall and Spring) May be repeated for up to 3 hours of degree credit.

### **AGED 5053. Philosophy of Agricultural and Extension Education. 3 Hours.**

An examination and analysis of social and economic events leading to the establishment and maintenance of federal, state, county, and local agricultural education programs. Lecture 3 hours per week. Prerequisite: Graduate standing. (Typically offered: Spring)

### **AGED 510V. Special Problems. 1-6 Hour.**

Individual investigation of a special problem in agricultural education which is not available through regular courses. These will be directed by a member of the graduate faculty. Prerequisite: Graduate standing. (Typically offered: Fall, Spring and Summer) May be repeated for up to 6 hours of degree credit.

### **AGED 5113. Undergraduate Researchers Improving Student Experiences. 3 Hours.**

To engage students in the social sciences in action research that serves to solve a problem or answer a question within the student's academic field through scientific inquiry. All students will work with professionals, commonly outside of the university, within their discipline to conduct their action research in order to solve a problem experienced by that professional. Students may work in teams or individually to complete the overall purpose of the course. Prerequisite: AGED 5463 or HESC 5463 or other instructor approved Research Methods course. (Typically offered: Spring)

**AGED 520V. Special Topics in Agricultural and Extension Education. 1-4 Hour.**

Topics not covered in other courses or a more intensive study of specific topics in agriculture education. Prerequisite: Graduate standing. (Typically offered: Irregular) May be repeated for degree credit.

**AGED 5411. Thesis Proposal Development. 1 Hour.**

The purpose of this course is to assist graduate students in the preparation of their thesis or dissertation research proposal. Students will produce the first three chapters of their thesis by the end of the course. Prerequisite: AGED 5463 or HESC 5463. (Typically offered: Spring)

**AGED 5421. Grant Writing. 1 Hour.**

This course provides students with the experience of navigating the research grant writing process, covering the process from idea conception through planning, proposing, receiving, executing grant-funded projects. Students will write an independent grant proposal as a major assignment in this course. Prerequisite: Graduate standing. (Typically offered: Fall)

**AGED 5431. Technical Communication in the Social Sciences. 1 Hour.**

This course focuses on audience identification, writing, editing, formatting and production of social science-based materials for publication. Much of the course content is in the context of developing the findings, conclusions, and recommendations of the master's thesis or other research manuscript. Principles include communicating information relevant to human subject research in agriculture, natural resources, and life sciences to research peers. Course delivery is asynchronous. Prerequisite: Graduate standing. (Typically offered: Spring)

**AGED 5443. Principles of Technological Change. 3 Hours.**

This course introduces a structured approach for dealing with the organizational and human aspects of technology transition, including the key concepts of resistance and change management, organizational change, communications, and processes by which professional change agents influence the introduction, adoption, and diffusion of technological change. This course may be offered as a web-based course. Graduate degree credit will not be given for both AGED 4443 and AGED 5443. (Typically offered: Fall Odd Years)

**AGED 5463. Research Methodology in the Social Sciences. 3 Hours.**

Logical structure and the method of science. Basic elements of research design; observation, measurement, analytic method, interpretation, verification, presentation of results. Applications to research in economic or sociological problems of agriculture and human environmental sciences. Prerequisite: Graduate standing. (Typically offered: Fall)

This course is cross-listed with HESC 5463.

**AGED 5473. Interpreting Social Data in Agriculture. 3 Hours.**

The development of competencies in analyzing, interpreting and reporting the results of analyses of social science data in agriculturally related professions. Students will select appropriate analysis techniques and procedures for various problems, analyze data, and interpret and report the results of statistical analyses in narrative and tabular form. (Typically offered: Fall)

**AGED 5493. Survey Design and Scale Development. 3 Hours.**

This course is designed to provide the expertise required to design and conduct survey research. Students will understand the instruments (scales/questionnaire) used in data collection processes and acquire the statistical skills necessary to develop and test these survey instruments. This course uses both theory and practice. Hands-on training will be provided via SPSS package for data analyses, and Qualtrics will be used for web-based surveys. Prerequisite: 3 hours of graduate level statistics coursework and HESC 5463 or AGED 5463 or instructor consent. (Typically offered: Summer)

This course is cross-listed with HESC 5053.

**AGED 575V. Internship in Agricultural Education. 1-6 Hour.**

Scheduled practical field experiences under supervision of a professional practitioner in off-campus secondary school systems. Emphasis includes classroom preparation, teaching, and student evaluation. (Typically offered: Fall, Spring and Summer)

**AGED 5993. Global Horticulture and Human Nutrition to Enhance Community Resilience and Food Security. 3 Hours.**

This course covers three broad areas (Global Horticulture, Sustainable International Development, Human Health and Nutrition) and experts on three campuses created the instruction. The course is intended to be multi-disciplinary, and students should use their contextual knowledge to add to weekly discussions. Prerequisite: Graduate standing. (Typically offered: Spring)

This course is cross-listed with FDSC 5993, HORT 5993.

**AGED 600V. Master's Thesis. 1-6 Hour.**

Master's Thesis. Prerequisite: Graduate standing. (Typically offered: Fall, Spring and Summer) May be repeated for degree credit.

## Agricultural Leadership Courses

**AGLE 5033. Developing Leadership in Agricultural Organizations. 3 Hours.**

Organizational concepts of leadership; administrative styles and structures; leadership for boards, committees, governmental bodies, and review of societal and political processes. Prerequisite: Graduate standing. (Typically offered: Fall)

**AGLE 510V. Special Problems. 1-6 Hour.**

Individual investigation of a special problem in agricultural education which is not available through regular courses. These will be directed by a member of the graduate faculty. (Typically offered: Fall, Spring and Summer) May be repeated for up to 6 hours of degree credit.

**AGLE 5153. Survey of Leadership Theory in Agriculture. 3 Hours.**

An interdisciplinary analysis of current issues in the practice of leadership in a contemporary and changing society, particularly as they affect agricultural organizations and issues. Discussions of leadership theory, roles of leaders, skills for effective leadership, diversity issues, and followership will challenge students to think critically about leadership, enhance personal leadership performance and potential, and prepare for or expand leadership roles, and to become innovative and productive in dealing with challenges facing agricultural organizations today. Graduate degree credit will not be given for both AGLE 4153 and AGLE 5153. (Typically offered: Fall)

**AGLE 5163. Leadership Analysis Through Film. 3 Hours.**

Films are a catalyst (Clemens, 1999). They make you laugh, cry, cheer, and think. Flaum (2002) stated leadership is best learned in the leadership moment. Moreover, the principles of Andragogy advocate adult learners best learning when there is a practical application of the learning subject. Therefore, this course builds upon the study of leadership theory by allowing students to analyze, reflect, synthesize, and apply leadership theories, models and concepts in the context of film. The course materials encourage students to reflect, synthesize, analyze, and apply the information learned from major leadership theories and apply them to various scenarios and situations demonstrated in selected films. (Typically offered: Spring and Summer)

**AGLE 520V. Special Topics. 1-4 Hour.**

Topics not covered in other courses or a more intensive study of specific topics in agricultural leadership. (Typically offered: Irregular) May be repeated for degree credit.

**AGLE 575V. Internship in Agricultural Leadership. 1-6 Hour.**

Scheduled practical field experiences under supervision of a professional practitioner. (Typically offered: Fall, Spring and Summer) May be repeated for up to 6 hours of degree credit.

This course is cross-listed with ACOM 575V, ASTM 575V.

## **Agricultural Systems Technology Management Courses**

### **ASTM 501V. Special Topics in Agricultural Mechanization. 1-4 Hour.**

Topics not covered in other courses or a more intensive study of special topics in agricultural mechanization. Graduate degree credit will not be given for both ASTM 402V and ASTM 501V. (Typically offered: Irregular) May be repeated for degree credit.

### **ASTM 510V. Special Problems in Ag Systems Technology. 1-4 Hour.**

Individual investigation of a special problem in agricultural communications which is not available through regular courses. These will be directed by a member of the graduate faculty. (Typically offered: Irregular) May be repeated for up to 4 hours of degree credit.

### **ASTM 5203. Mechanized Systems Management. 3 Hours.**

Selection, sizing, and operating principles of agricultural machinery systems, including power sources. Cost analysis and computer techniques applied to planning and management of mechanized systems. Graduate degree credit will not be given for both ASTM 4203 and ASTM 5203. Corequisite: Lab component. Prerequisite: MATH 1203. (Typically offered: Fall Even Years)

### **ASTM 575V. Internship in Agricultural Systems. 1-6 Hour.**

Scheduled practical field experiences under supervision of a professional practitioner. (Typically offered: Fall, Spring and Summer) May be repeated for up to 6 hours of degree credit.

This course is cross-listed with ACOM 575V, AGLE 575V.

### **ASTM 5973. Irrigation. 3 Hours.**

Methods of applying supplemental water to soils to supply moisture essential for plant growth, sources of water, measurement of irrigation water, pumps, conveyance structure, economics, and irrigation for special crops. Lecture 2 hours, laboratory 2 hours per week. Graduate degree credit will not be given for both ASTM 4973 and ASTM 5973. Corequisite: Lab component. (Typically offered: Spring)