AGRICULTURAL EDUCATION

The programs of study offered in Agricultural Education are designed to provide both comprehensive and specialized training to prepare graduates for careers in a wide range of fields of agriculture. In addition to being prepared for licensure as teachers, graduates are professionally prepared for work in cooperative extension and other federal and state programs and services, as well as international education endeavors. Graduates also may find employment as educational directors and consultants with agribusiness firms and organizations. Studies may culminate in the BS, MAg, MS or PhD degrees. The Agricultural Education program is accredited by the Council for the Accreditation of Educator Preparation (CAEP).

The undergraduate teaching option is designed to qualify the bachelor’s degree recipient for the Oklahoma Agricultural Education Teaching License. This license is recognized as meeting requirements for initial employment as a teacher in most states. Graduates look forward to careers ranging from Agricultural Education teacher and Cooperative Extension Educator to agricultural sales, marketing and production positions. The undergraduate Agricultural Education major is structured to provide educational experiences in general education, agriculture and professional education. However, additional degree options are offered to allow students the opportunity to specialize in a particular area of agriculture or natural resources such as Animal Agriculture or Horticultural Sciences.

Courses

AGED 2011 Topics and Issues in Agricultural Education
Description: An exploration into the world of teaching secondary agricultural education with a focus on the role and purpose of the comprehensive agricultural education program. Observation of teachers in an experiential manner by actively interviewing agricultural education teachers, school principals, and appropriate state staff; assisting with FFA activities; and observing students’ SAE opportunities.
Credit hours: 1
Contact hours: Lecture: 1
Levels: Undergraduate
Schedule types: Lecture
Department/School: Ag Education Comm & Leadership

AGED 3101 Laboratory and Clinical Experiences in Agricultural Education
Description: Preprofessional clinical experiences in agricultural education teaching and related careers. Requirement for admission to professional education, student teaching, and internships. Previously offered as AGED 3510.
Credit hours: 1
Contact hours: Lecture: 1
Levels: Undergraduate
Schedule types: Lecture
Department/School: Ag Education Comm & Leadership

AGED 3103 Foundations and Philosophies of Teaching Agricultural Education
Prerequisites: 21 semester credit hours of agriculture with a 2.50 GPA.
Description: Roles and responsibilities of the agricultural education teacher; types of program offerings; steps of the teaching-learning process; place of agricultural education in relation to other educational programs in school systems.
Credit hours: 3
Contact hours: Lecture: 3
Levels: Undergraduate
Schedule types: Lab, Lecture, Combined lecture and lab
Department/School: Ag Education Comm & Leadership

AGED 3203 Planning the Community Program in Agricultural Education
Prerequisites: AGED 3103
Description: Determining resources and trends of local communities with respect to agricultural production and agribusiness. Emphasis on agricultural education program policies, FFA chapter advisement, planning and managing the instructional program, identification and completion of records and reports required of a teacher of agricultural education in Oklahoma.
Credit hours: 3
Contact hours: Lecture: 3
Levels: Graduate, Undergraduate
Schedule types: Lab, Lecture, Combined lecture and lab
Department/School: Ag Education Comm & Leadership

AGED 4103 Methods and Skills of Teaching and Management in Agricultural Education
Prerequisites: AGED 3101 and AGED 3203 and EPSY 3213 (or EPSY 3413) and SPED 3202 and full admission to the University Professional Education program.
Description: Facets of the teaching and learning process including teaching methods, basic teaching skills, proper classroom management techniques, and motivational techniques and ideas. Preparation for student teaching.
Credit hours: 3
Contact hours: Lecture: 1 Lab: 4
Levels: Graduate, Undergraduate
Schedule types: Lab, Lecture, Combined lecture and lab
Department/School: Ag Education Comm & Leadership

AGED 4113 Laboratory Instruction in Agricultural Education
Prerequisites: AGED 3101 and AGED 3203 and EPSY 3213 (or EPSY 3413) and SPED 3202 and concurrent enrollment in AGED 4103 and AGED 4200 and full admission to the University Professional Education program.
Description: Methods of teaching agricultural education in a laboratory setting. A study of laboratory safety instruction, methods of teaching, and application of technical agricultural skills to the secondary program.
Credit hours: 3
Contact hours: Lecture: 2 Lab: 2
Levels: Undergraduate
Schedule types: Lab, Lecture, Combined lecture and lab
Department/School: Ag Education Comm & Leadership
AGED 4200 Student Teaching in Agricultural Education
**Prerequisites:** AGED 4103; EPSY 3213 or EPSY 3413; SPED 3202; Concurrent enrollment in AGED 4113; full admission to the University Professional Education program.

**Description:** Full-time directed experience in an approved agricultural education department. Applications of methods and skills in agricultural education as related to selecting, adapting, utilizing, and evaluating curriculum materials and experiences to meet educational goals and facilitate learning for individual students. Roles, responsibilities, and organization and operation of school systems. Offered for variable credit, 1-9 credit hours, maximum of 9 credit hours.

**Credit hours:** 1-9

**Contact hours:** Other: 1

**Levels:** Undergraduate

**Schedule types:** Independent Study

**Department/School:** Ag Education Comm & Leadership

AGED 4203 Professional Development in Agricultural Education

**Prerequisites:** AGED 4103; EPSY 3213 or EPSY 3413; SPED 3202.

**Description:** Professional preparation and development for careers as agricultural educators. Professional correspondences, interviewing, networking, and other employability skills. Reflection and evaluation of instruction, project supervision and advising of youth leadership development organizations.

**Credit hours:** 3

**Contact hours:** Lecture: 3

**Levels:** Graduate, Undergraduate

**Schedule types:** Lecture

**Department/School:** Ag Education Comm & Leadership

AGED 4300 Agricultural Education Internship

**Prerequisites:** Consent of instructor.

**Description:** Supervised internship experience with approved enterprises in agriculture, natural resources, and/or youth development. Regular written reports and final presentation required. Offered for variable credit, 1-6 credit hours, maximum of 6 credit hours.

**Credit hours:** 1-6

**Contact hours:** Other: 1

**Levels:** Undergraduate

**Schedule types:** Independent Study

**Department/School:** Ag Education Comm & Leadership

AGED 4713 International Programs in Agricultural Education and Extension (I)

**Description:** World hunger and its root causes. The function of international agencies, organizations, foundation and churches in improving the quality of life for people of the developing nations. Roles of agricultural education and extension at all levels for enhancing the effectiveness of indigenous programs of rural development and adult education.

**Credit hours:** 3

**Contact hours:** Lecture: 3

**Levels:** Undergraduate

**Schedule types:** Lecture

**Department/School:** Ag Education Comm & Leadership

**General Education and other Course Attributes:** International Dimension

AGED 4803 International Study Tour in Agricultural Education (I)

**Prerequisites:** Consent of instructor.

**Description:** An experiential learning course featuring an international travel component. Provides an integrated approach to studying the agriculture, education, natural resources, culture, history, government, economy, and religion of a particular region. Special emphasis placed upon formal and informal educational programs focusing on agriculture and natural resources.

**Credit hours:** 3

**Contact hours:** Lecture: 3

**Levels:** Undergraduate

**Schedule types:** Lecture

**Department/School:** Ag Education Comm & Leadership

**General Education and other Course Attributes:** International Dimension

AGED 4890 Seminar and Problems in Agricultural Education

**Description:** Small group and/or individual study and research in problems relating to programs of occupational education in agriculture. Offered for variable credit, 1-3 credit hours, maximum of 6 credit hours.

**Credit hours:** 1-3

**Contact hours:** Other: 1

**Levels:** Graduate, Undergraduate

**Schedule types:** Independent Study

**Department/School:** Ag Education Comm & Leadership

AGED 5000 Research and Seminar

**Description:** Independent research and thesis under the direction and supervision of a major professor. Offered for variable credit, 1-6 credit hours, maximum of 6 credit hours.

**Credit hours:** 1-6

**Contact hours:** Other: 1

**Levels:** Graduate

**Schedule types:** Independent Study

**Department/School:** Ag Education Comm & Leadership

AGED 5101 Orientation to Graduate Programs in Agricultural Education, Communications and Leadership

**Prerequisites:** Graduate standing.

**Description:** Orientation to graduate programs in agricultural education and communications including degree expectation, understanding scholarship, orientation to the discipline, introduction to research agendas, and identification of support systems. Same course as AGCM 5101.

**Credit hours:** 1

**Contact hours:** Lecture: 1

**Levels:** Graduate

**Schedule types:** Lecture

**Department/School:** Ag Education Comm & Leadership

AGED 5102 Creative Component in Agricultural Education

**Prerequisites:** AGED 5983 or equivalent; consent of instructor.

**Description:** Independent research or project management under the direction and supervision of a major adviser.

**Credit hours:** 2

**Contact hours:** Lecture: 2

**Levels:** Graduate

**Schedule types:** Lecture

**Department/School:** Ag Education Comm & Leadership

AGED 5103 International Study Tour in Agricultural Education (II)

**Description:** An experiential learning course featuring an international travel component. Provides an integrated approach to studying the agriculture, education, natural resources, culture, history, government, economy, and religion of a particular region. Special emphasis placed upon formal and informal educational programs focusing on agriculture and natural resources.

**Credit hours:** 3

**Contact hours:** Lecture: 3

**Levels:** Undergraduate

**Schedule types:** Lecture

**Department/School:** Ag Education Comm & Leadership

**General Education and other Course Attributes:** International Dimension

AGED 5104 Seminar and Problems in Agricultural Education

**Description:** Small group and/or individual study and research in problems relating to programs of occupational education in agriculture. Offered for variable credit, 1-3 credit hours, maximum of 6 credit hours.

**Credit hours:** 1-3

**Contact hours:** Other: 1

**Levels:** Graduate, Undergraduate

**Schedule types:** Independent Study

**Department/School:** Ag Education Comm & Leadership

AGED 5105 Professional Development in Agricultural Education

**Prerequisites:** AGED 5000; AGED 5104; AGCM 4990 or equivalent; consent of instructor.

**Description:** Professional preparation and development for careers as agricultural educators. Professional correspondences, interviewing, networking, and other employability skills. Reflection and evaluation of instruction, project supervision and advising of youth leadership development organizations.

**Credit hours:** 3

**Contact hours:** Lecture: 3

**Levels:** Graduate, Undergraduate

**Schedule types:** Lecture

**Department/School:** Ag Education Comm & Leadership

AGED 5106 Research and Seminar

**Description:** Supervised research experience with approved enterprises in agriculture, natural resources, and/or youth development. Regular written reports and final presentation required. Offered for variable credit, 1-6 credit hours, maximum of 6 credit hours.

**Credit hours:** 1-6

**Contact hours:** Other: 1

**Levels:** Graduate

**Schedule types:** Independent Study

**Department/School:** Ag Education Comm & Leadership

AGED 5107 Orientation to Graduate Programs in Agricultural Education, Communications and Leadership

**Prerequisites:** Graduate standing.

**Description:** Orientation to graduate programs in agricultural education and communications including degree expectation, understanding scholarship, orientation to the discipline, introduction to research agendas, and identification of support systems. Same course as AGCM 5107.

**Credit hours:** 1

**Contact hours:** Lecture: 1

**Levels:** Graduate

**Schedule types:** Lecture

**Department/School:** Ag Education Comm & Leadership

AGED 5108 Creative Component in Agricultural Education

**Prerequisites:** AGED 5984 or equivalent; consent of instructor.

**Description:** Independent research or project management under the direction and supervision of a major adviser.

**Credit hours:** 2

**Contact hours:** Lecture: 2

**Levels:** Graduate

**Schedule types:** Lecture

**Department/School:** Ag Education Comm & Leadership
AGED 5123 Adult Programs in Agricultural and Extension Education
**Description:** Determining adult needs, priorities, participation in educational activities, and adoption of new ideas and practices. Designing, organizing, conducting, and evaluating adult education programs in agricultural and extension education.
**Credit hours:** 3
**Contact hours:** Lecture: 3
**Levels:** Graduate
**Schedule types:** Lecture
**Department/School:** Ag Education Comm & Leadership

AGED 5203 Grant Seeking
**Prerequisites:** Graduate standing or consent of instructor.
**Description:** Conceptualizing projects, identifying funding sources, and develop proposals that follow RFP guidelines including a literature review, need for the project, approach, timeline and budget. Previously offered as AGED 5202.
**Credit hours:** 3
**Contact hours:** Lecture: 3
**Levels:** Graduate
**Schedule types:** Lecture
**Department/School:** Ag Education Comm & Leadership

AGED 5500 Directing Programs of Supervised Experience
**Prerequisites:** Consent of instructor.
**Description:** Determining the supervised training needs and opportunities of individual students. Planning for supervision of agricultural education training programs and 4-H club projects. Analysis of training opportunities in production agriculture, agricultural businesses and individual career development. Offered for variable credit, 1-3 credit hours, maximum of 6 credit hours.
**Credit hours:** 1-3
**Contact hours:** Other: 1
**Levels:** Graduate
**Schedule types:** Independent Study
**Department/School:** Ag Education Comm & Leadership

AGED 5623 Volunteer Management in Agricultural and Extension Education
**Prerequisites:** Graduate standing.
**Description:** Concepts, theories and practices relevant to the management of volunteers with an emphasis on recruiting, managing, and training in formal or non-formal educational settings.
**Credit hours:** 3
**Contact hours:** Lecture: 3
**Levels:** Graduate
**Schedule types:** Lecture
**Department/School:** Ag Education Comm & Leadership

AGED 5703 Cultural Competency for Working in Agricultural and Extension Education
**Prerequisites:** Graduate standing.
**Description:** Examination of strategies to increase intercultural intelligence, and cultural competence. Focus on concepts of cultural values and stereotypes, intercultural sensitivity, cultural differences, cultural transitions, and intercultural theories for agricultural and extension educators.
**Credit hours:** 3
**Contact hours:** Lecture: 3
**Levels:** Graduate
**Schedule types:** Lecture
**Department/School:** Ag Education Comm & Leadership

AGED 5803 International Study Tour in Agricultural Education for Graduate Students
**Prerequisites:** Consent of instructor.
**Description:** Experiential learning course for graduate students featuring an international travel component. Provides an integrated approach to studying the agriculture, education, natural resources, culture, history, government, economy, and religion of a particular region. Special emphasis placed upon formal and informal educational programs focusing on agriculture and natural resources.
**Credit hours:** 3
**Contact hours:** Lecture: 3
**Levels:** Graduate
**Schedule types:** Lecture
**Department/School:** Ag Education Comm & Leadership

AGED 5813 College Teaching of Agriculture and Natural Resources
**Prerequisites:** Consent of instructor.
**Description:** Facets of the teaching-learning process used to teach agriculture and natural resources in higher education including teaching methods, instructional skills, application of instructional technology, student motivation, and evaluation of learning. Previously offered as AGED 6120.
**Credit hours:** 3
**Contact hours:** Lecture: 3
**Levels:** Graduate
**Schedule types:** Lecture
**Department/School:** Ag Education Comm & Leadership

AGED 5823 Advanced Methods of Teaching Agriculture
**Description:** Advanced concepts and methods relevant for both formal and informal presentations. Effects methods may have on individuals involved in the learning experience. Demonstrations of proficiency in use of various advanced methodologies, technologies and concepts.
**Credit hours:** 3
**Contact hours:** Lecture: 3
**Levels:** Graduate
**Schedule types:** Lecture
**Department/School:** Ag Education Comm & Leadership

AGED 5863 Methods of Technological Change
**Description:** Processes by which professional change agents influence the introduction, adoption, and diffusion of technological change. Applicable to persons who work closely with people in formal and non-formal educational settings. Previously offered as AGED 5862.
**Credit hours:** 3
**Contact hours:** Lecture: 3
**Levels:** Graduate
**Schedule types:** Lecture
**Department/School:** Ag Education Comm & Leadership

AGED 5900 Graduate Internship in Agriculture
**Prerequisites:** Admission to Master of Agriculture program; consent of graduate coordinator.
**Description:** Supervised internship in agricultural education, government agency, industry, Cooperative Extension, or not-for-profit organizations. Offered for variable credit, 1-6 credit hours, maximum of 6 credit hours.
**Credit hours:** 1-6
**Contact hours:** Other: 1
**Levels:** Graduate
**Schedule types:** Independent Study
**Department/School:** Ag Education Comm & Leadership
AGED 5983 Social Science Research in Agricultural Sciences and Natural Resources
Description: Research methods presented in support of decision making in a scientifically literate world. Literature, logic, and research approaches in quantitative and qualitative paradigms. Context is the social sciences associated with agricultural sciences and natural resources. Addresses preparation of proposals for theses, dissertations, formal reports, and creative components.
Credit hours: 3
Contact hours: Lecture: 3
Levels: Graduate
Schedule types: Lecture
Department/School: Ag Education Comm & Leadership

AGED 5990 Problems in Agricultural and Extension Education
Description: Securing and analyzing data related to special problems or investigation in designated areas of agricultural education. Offered for variable credit, 1-3 credit hours, maximum of 8 credit hours.
Credit hours: 1-3
Contact hours: Other: 1
Levels: Graduate
Schedule types: Independent Study
Department/School: Ag Education Comm & Leadership

AGED 5993 Data Analysis and Interpretation in Agricultural Education
Prerequisites: Graduate standing; AGED 5983 or equivalent; REMS 5953 or equivalent.
Description: A course designed for Agricultural Education students, who have gathered or are gathering data for a research study, to analyze and interpret that data. Both quantitative and qualitative data analysis techniques will be studied. The discovery method will allow the students and instructor to work together to identify resources to analyze and interpret the data sets.
Credit hours: 3
Contact hours: Lecture: 3
Levels: Graduate
Schedule types: Lecture
Department/School: Ag Education Comm & Leadership

AGED 6000 Research in Agricultural Education
Prerequisites: Approval of major adviser.
Description: Open to students pursuing graduate study beyond the requirements for a master’s degree. Independent research and thesis under the direction and supervision of a major professor. Offered for variable credit, 1-16 credit hours, maximum of 16 credit hours.
Credit hours: 1-16
Contact hours: Other: 1
Levels: Graduate
Schedule types: Independent Study
Department/School: Ag Education Comm & Leadership

AGED 6100 Graduate Seminar in Agricultural Education
Description: Discussion of issues, problems and trends in agricultural education. Offered for variable credit, 1-3 credit hours, maximum of 6 credit hours.
Credit hours: 1-3
Contact hours: Other: 1
Levels: Graduate
Schedule types: Independent Study
Department/School: Ag Education Comm & Leadership

AGED 6103 History and Philosophical Foundations of Agricultural and Extension Education
Prerequisites: Graduate standing.
Description: History and philosophical foundations of agricultural and extension education. Philosophy and its role in life, rise of education in America, philosophical foundations of education in America, legislation having an impact on agricultural and extension education, education in agriculture and current issues in agricultural extension education. Previously offered as AGED 5820.
Credit hours: 3
Contact hours: Lecture: 3
Levels: Graduate
Schedule types: Lecture
Department/School: Ag Education Comm & Leadership

AGED 6223 Program Evaluation in Agriculture and Extension
Prerequisites: Graduate standing.
Description: Program evaluation theory and methodology (quantitative and qualitative) presented through a service learning framework. Problem-based approach having students submit a proposal that addresses an evaluation need presented by a community-based program. Previously offered as AGED 6220.
Credit hours: 3
Contact hours: Lecture: 3
Levels: Graduate
Schedule types: Lecture
Department/School: Ag Education Comm & Leadership

AGED 6983 Qualitative Research Methods in Agricultural Education
Prerequisites: Graduate standing, AGED 5983 or other graduate level social science research methods course.
Description: A comprehensive examination of qualitative research methods including identifying a problem, data collection, interpretative analysis, ensuring trustworthiness, theory construction and reporting. Previously offered as AGED 5303.
Credit hours: 3
Contact hours: Lecture: 3
Levels: Graduate
Schedule types: Lecture
Department/School: Ag Education Comm & Leadership

AGED 6985 Research Methods in Agricultural Education
Prerequisites: Graduate standing.
Description: A course designed for Agricultural Education students, who have gathered or are gathering data for a research study, to analyze and interpret that data. Both quantitative and qualitative data analysis techniques will be studied. The discovery method will allow the students and instructor to work together to identify resources to analyze and interpret the data sets.
Credit hours: 3
Contact hours: Lecture: 3
Levels: Graduate
Schedule types: Lecture
Department/School: Ag Education Comm & Leadership

AGED 6987 Research Methods in Agricultural Education
Prerequisites: Graduate standing.
Description: A course designed for Agricultural Education students, who have gathered or are gathering data for a research study, to analyze and interpret that data. Both quantitative and qualitative data analysis techniques will be studied. The discovery method will allow the students and instructor to work together to identify resources to analyze and interpret the data sets.
Credit hours: 3
Contact hours: Lecture: 3
Levels: Graduate
Schedule types: Lecture
Department/School: Ag Education Comm & Leadership

AGED 6989 Research Methods in Agricultural Education
Prerequisites: Graduate standing.
Description: A course designed for Agricultural Education students, who have gathered or are gathering data for a research study, to analyze and interpret that data. Both quantitative and qualitative data analysis techniques will be studied. The discovery method will allow the students and instructor to work together to identify resources to analyze and interpret the data sets.
Credit hours: 3
Contact hours: Lecture: 3
Levels: Graduate
Schedule types: Lecture
Department/School: Ag Education Comm & Leadership

Undergraduate Programs
• Agricultural Education: Agricultural Business and Economics, BSAG (http://catalog.okstate.edu/agricultural-sciences-natural-resources/agricultural-education/agricultural-business-economics-option-bsag)
• Agricultural Education: Agricultural Communications, BSAG (http://catalog.okstate.edu/agricultural-sciences-natural-resources/agricultural-education/agricultural-communications-bsag)
• Agricultural Education: Animal Agriculture, BSAG (http://catalog.okstate.edu/agricultural-sciences-natural-resources/agricultural-education/animal-agriculture-bsag)
• Agricultural Education: Horticultural Sciences, BSAG (http://catalog.okstate.edu/agricultural-sciences-natural-resources/agricultural-education/horticultural-sciences-bsag)
• Agricultural Education: Multidisciplinary, BSAG (http://catalog.okstate.edu/agricultural-sciences-natural-resources/agricultural-education/multidisciplinary-bsag)
• Agricultural Education: Natural Resources, BSAG (http://catalog.okstate.edu/agricultural-sciences-natural-resources/agricultural-education/natural-resources-bsag)
Graduate Programs

Graduate programs in Agricultural Education are designed to

1. prepare students for entry into or advancement in teaching careers and
2. provide for further development of professional leadership skills for other educational careers in agriculture, agribusiness, government service, extension, or adult education.

To meet the needs of both international and domestic students, plans of study are developed for academic excellence specific to students’ career goals. The selection and organization of courses are made in consultation with the adviser and the student’s advisory committee.

The Master of Science program offers students three options for completion of the degree: thesis option, formal report option, and creative component option. The thesis option requires 30 approved credit hours of course work, which includes a six credit hour formal thesis following the graduate college format. The formal report and creative component options require 32 approved semester credit hours of course work, including a two credit hour formal report or creative component.

The Doctor of Philosophy program is designed to prepare graduates for careers in professional education, supervision, administration, curriculum development and other areas of professional leadership in Agriculture, Agricultural Extension, Career and Technology, and Agricultural Communications. Within the minimum 60 credit hour requirement, 15 credit hours must be completed in Agricultural Education. In addition, 15 credit hours must be completed in an area of specialization such as Agricultural Extension, Technical Agriculture, Educational Administration, or other similar areas. The additional hours include 15 hours of research design and statistics and 15 hours for the dissertation.

Admission Requirements

Students seeking admission to the master’s degree program must have earned a bachelor’s degree in Agricultural Education, Agriculture or Education. A student with background deficiencies must compensate for such deficiencies before completing the masters degree. Evidence of academic ability (2.80 GPA or above) in undergraduate course work is required. Three letters of reference and a statement of purpose are also required. Graduate Record Exam (GRE) scores are required for students seeking admission to the Master of Science degree program.

Admission to the doctoral degree program is based upon evidence that the applicant meets the general requirements of the Graduate College, has demonstrated superior achievement, and can successfully complete a doctoral program as evidenced by three letters of recommendation, GRE scores, a minimum of 2.80 undergraduate grade-point average and 3.00 graduate grade-point average, three years of successful professional experience, and a philosophy statement and goals. Alternative criteria may be considered by the graduate committee for those who submit ample supportive evidence of other exemplary qualifications.

Faculty

Robert Terry, Jr., PhD—Professor and Head

Professors: D. Dwayne Cartmell, PhD; M. Craig Edwards, PhD; James P. Key, EdD (emeritus); J. Shane Robinson, PhD; Shelly R. Silton, PhD; Penny L. Weeks, PhD; William G. Weeks, PhD

Associate Professors: Jon W. Ramsey, PhD; Jeff Sallee, PhD

Assistant Professors: Marshall Baker, PhD; Angel Riggs, PhD