



**KENTUCKY STATE
UNIVERSITY**

CHAPTER 9 -- COLLEGE OF AGRICULTURE, COMMUNITY, AND THE SCIENCES

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The College of Agriculture, Community, and the Sciences (CACS) works to uphold the mission of the University and Land Grant programs through its commitment to research, extension, and teaching in the food and agricultural sciences. The CACS includes the School of Agriculture, Communities, and the Environment; School of Aquaculture and Aquatic Sciences; School of Science, Technology, Engineering, and Mathematics; School of Education, Human Development, and Consumer Sciences; and the School of Nursing. Additionally, the Land Grant Program strengthens underserved communities, families, farmers, individuals and youth to improve their quality of life with state-of-the-art, research-based educational programs. The Land Grant research and extension programs work to resolve agricultural, educational, economic, and social problems of the people of the Commonwealth of Kentucky, especially limited-resource persons and families. The various programs of the college are supported by federal and state funds.

- School of Agriculture, Communities and the Environment (<https://kysu-public.courseleaf.com/undergraduate/agriculture-community-sciences/agriculture-communities-environment/>)
 - Agriculture Business Management Certificate (<https://kysu-public.courseleaf.com/undergraduate/agriculture-community-sciences/agriculture-communities-environment/agriculture-business-management-certificate/>)
 - Agriculture, Food and the Environment Bachelor of Science - Agricultural Systems Track (<https://kysu-public.courseleaf.com/undergraduate/agriculture-community-sciences/agriculture-communities-environment/agriculture-food-environment-bs-agricultural-systems-track/>)
 - Agriculture, Food and the Environment Bachelor of Science - Agriculture Business Track (<https://kysu-public.courseleaf.com/undergraduate/agriculture-community-sciences/agriculture-communities-environment/agriculture-food-environment-bs-agriculture-business-track/>)
 - Agriculture, Food and the Environment Bachelor of Science - Agriculture Communications Track (<https://kysu-public.courseleaf.com/undergraduate/agriculture-community-sciences/agriculture-communities-environment/agriculture-food-environment-bs-agriculture-communications-track/>)
 - Agriculture, Food and the Environment Bachelor of Science - Aquaculture Systems Track (<https://kysu-public.courseleaf.com/undergraduate/agriculture-community-sciences/agriculture-communities-environment/agriculture-food-environment-bs-aquaculture-systems-track/>)
 - Agriculture, Food and the Environment Bachelor of Science - Environmental Systems Track (<https://kysu-public.courseleaf.com/undergraduate/agriculture-community-sciences/agriculture-communities-environment/agriculture-food-environment-bs-environmental-systems-track/>)
 - Agriculture, Food and the Environment Bachelor of Science - Nutritional Sciences and Food Systems Track (<https://kysu-public.courseleaf.com/undergraduate/agriculture-community-sciences/agriculture-communities-environment/agriculture-food-environment-bs-nutritional-sciences-food-systems-track/>)
 - Agriculture, Food and the Environment Minor (<https://kysu-public.courseleaf.com/undergraduate/agriculture-community-sciences/agriculture-communities-environment/agriculture-food-environment-minor/>)
 - Animal Agriculture Certificate (<https://kysu-public.courseleaf.com/undergraduate/agriculture-community-sciences/agriculture-communities-environment/animal-agriculture-certificate/>)
 - Aquaculture Minor (<https://kysu-public.courseleaf.com/undergraduate/agriculture-community-sciences/agriculture-communities-environment/aquaculture-minor/>)
 - Aquaculture/Aquatic Sciences Certificate (<https://kysu-public.courseleaf.com/undergraduate/agriculture-community-sciences/agriculture-communities-environment/aquaculture-aquatic-sciences-certificate/>)
 - Environmental Measurements Certificate (<https://kysu-public.courseleaf.com/undergraduate/agriculture-community-sciences/agriculture-communities-environment/environmental-measurements-certificate/>)
 - Fermentation and Distillation Technology Certificate (<https://kysu-public.courseleaf.com/undergraduate/agriculture-community-sciences/agriculture-communities-environment/fermentation-distillation-technology-certificate/>)
 - Food Safety Certificate (<https://kysu-public.courseleaf.com/undergraduate/agriculture-community-sciences/agriculture-communities-environment/food-safety-certificate/>)
 - Geospatial Technology and Application Certificate (<https://kysu-public.courseleaf.com/undergraduate/agriculture-community-sciences/agriculture-communities-environment/geospatial-technology-application-certificate/>)
 - Geospatial Technology Minor (<https://kysu-public.courseleaf.com/undergraduate/agriculture-community-sciences/agriculture-communities-environment/geospatial-technology-minor/>)
 - Health Sciences Minor (<https://kysu-public.courseleaf.com/undergraduate/agriculture-community-sciences/agriculture-communities-environment/health-sciences-minor/>)
 - Human Health and Nutrition Certificate (<https://kysu-public.courseleaf.com/undergraduate/agriculture-community-sciences/agriculture-communities-environment/human-health-nutrition-certificate/>)

- Sustainable Agriculture Systems Certificate (<https://kysu-public.courseleaf.com/undergraduate/agriculture-community-sciences/agriculture-communities-environment/sustainable-agriculture-systems-certificate/>)
- School of Education, Human Development, and Consumer Sciences (<https://kysu-public.courseleaf.com/undergraduate/agriculture-community-sciences/education-human-development-consumer-sciences/>)
 - Biology Bachelor of Science - Education Track (<https://kysu-public.courseleaf.com/undergraduate/agriculture-community-sciences/education-human-development-consumer-sciences/biology-bs-education-track/>)
 - Child Development and Family Relations Bachelor of Arts (<https://kysu-public.courseleaf.com/undergraduate/agriculture-community-sciences/education-human-development-consumer-sciences/child-development-family-relations-ba/>)
 - Child Development and Family Relations Minor (<https://kysu-public.courseleaf.com/undergraduate/agriculture-community-sciences/education-human-development-consumer-sciences/child-development-family-relations-minor/>)
 - Elementary Education Bachelor of Arts (<https://kysu-public.courseleaf.com/undergraduate/agriculture-community-sciences/education-human-development-consumer-sciences/elementary-education-ba/>)
 - Elements of Fashion and Home Décor Certificate (<https://kysu-public.courseleaf.com/undergraduate/agriculture-community-sciences/education-human-development-consumer-sciences/elements-fashion-home-dcor-certificate/>)
 - English Bachelor of Arts- Education Track (<https://kysu-public.courseleaf.com/undergraduate/agriculture-community-sciences/education-human-development-consumer-sciences/english-ba-education-track/>)
 - Family and Consumer Sciences Certificate (<https://kysu-public.courseleaf.com/undergraduate/agriculture-community-sciences/education-human-development-consumer-sciences/family-consumer-sciences-certificate/>)
 - Mathematics Bachelor of Science - Education Track (<https://kysu-public.courseleaf.com/undergraduate/agriculture-community-sciences/education-human-development-consumer-sciences/mathematics-bs-education-track/>)
 - Physical Education (non-teaching) Bachelor of Arts - Exercise Science Track (<https://kysu-public.courseleaf.com/undergraduate/agriculture-community-sciences/education-human-development-consumer-sciences/physical-education-non-teaching-ba-exercise-science-track/>)
 - Physical Education (non-teaching) Bachelor of Arts - Sports Management Track (<https://kysu-public.courseleaf.com/undergraduate/agriculture-community-sciences/education-human-development-consumer-sciences/physical-education-non-teaching-ba-sports-management-track/>)
 - Physical Education (teaching) Bachelor of Science (<https://kysu-public.courseleaf.com/undergraduate/agriculture-community-sciences/education-human-development-consumer-sciences/physical-education-teaching-bs/>)
 - Social Sciences Bachelor of Arts - Social Studies Education Track (<https://kysu-public.courseleaf.com/undergraduate/agriculture-community-sciences/education-human-development-consumer-sciences/social-sciences-ba-social-studies-education-track/>)
- School of Nursing (<https://kysu-public.courseleaf.com/undergraduate/agriculture-community-sciences/nursing-health-sciences/>)
 - Nursing Associate of Applied Science (<https://kysu-public.courseleaf.com/undergraduate/agriculture-community-sciences/nursing-health-sciences/nursing-aas/>)
 - Nursing Post-Licensure BSN (<https://kysu-public.courseleaf.com/undergraduate/agriculture-community-sciences/nursing-health-sciences/nursing-post-licensure-bsn/>)
 - Nursing Pre-Licensure BSN (<https://kysu-public.courseleaf.com/undergraduate/agriculture-community-sciences/nursing-health-sciences/nursing-pre-licensure-bsn/>)
- School of Science, Technology, Engineering, and Mathematics (<https://kysu-public.courseleaf.com/undergraduate/agriculture-community-sciences/science-technology-engineering-mathematics/>)
 - Biology Bachelor of Science - Biotechnology Track (<https://kysu-public.courseleaf.com/undergraduate/agriculture-community-sciences/science-technology-engineering-mathematics/biology-bs-biotechnology-track/>)
 - Biology Bachelor of Science - General Biology Track (<https://kysu-public.courseleaf.com/undergraduate/agriculture-community-sciences/science-technology-engineering-mathematics/biology-bs-general-biology-track/>)
 - Biology Bachelor of Science - Pre-Professional Track (<https://kysu-public.courseleaf.com/undergraduate/agriculture-community-sciences/science-technology-engineering-mathematics/biology-bs-pre-professional-track/>)
 - Biology Minor (<https://kysu-public.courseleaf.com/undergraduate/agriculture-community-sciences/science-technology-engineering-mathematics/biology-minor/>)
 - Chemistry Bachelor of Science (<https://kysu-public.courseleaf.com/undergraduate/agriculture-community-sciences/science-technology-engineering-mathematics/chemistry-bs/>)
 - Chemistry Minor (<https://kysu-public.courseleaf.com/undergraduate/agriculture-community-sciences/science-technology-engineering-mathematics/chemistry-minor/>)
 - Computer Gaming Minor (<https://kysu-public.courseleaf.com/undergraduate/agriculture-community-sciences/science-technology-engineering-mathematics/computer-gaming-minor/>)
 - Computer Information Systems Minor (<https://kysu-public.courseleaf.com/undergraduate/agriculture-community-sciences/science-technology-engineering-mathematics/computer-information-systems-minor/>)
 - Computer Science Bachelor of Science - Computer Information Security Track (<https://kysu-public.courseleaf.com/undergraduate/agriculture-community-sciences/science-technology-engineering-mathematics/computer-science-bs-computer-information-security-track/>)
 - Computer Science Bachelor of Science - Game Development Track (<https://kysu-public.courseleaf.com/undergraduate/agriculture-community-sciences/science-technology-engineering-mathematics/computer-science-bs-game-development-track/>)
 - Computer Science Bachelor of Science - Information Systems Track (<https://kysu-public.courseleaf.com/undergraduate/agriculture-community-sciences/science-technology-engineering-mathematics/computer-science-bs-information-systems-track/>)
 - Computer Science Bachelor of Science - Mathematics Track (<https://kysu-public.courseleaf.com/undergraduate/agriculture-community-sciences/science-technology-engineering-mathematics/computer-science-bs-mathematics-track/>)

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- Computer Science Bachelor of Science - Network Engineering Track (<https://kysu-public.courseleaf.com/undergraduate/agriculture-community-sciences/science-technology-engineering-mathematics/computer-science-bs-network-engineering-track/>)
 - Computer Science Minor (<https://kysu-public.courseleaf.com/undergraduate/agriculture-community-sciences/science-technology-engineering-mathematics/computer-science-minor/>)
 - Computer Technician Certificate (<https://kysu-public.courseleaf.com/undergraduate/agriculture-community-sciences/science-technology-engineering-mathematics/computer-technician-certificate/>)
 - Cyber Security Certificate (<https://kysu-public.courseleaf.com/undergraduate/agriculture-community-sciences/science-technology-engineering-mathematics/cyber-security-certificate/>)
 - Mathematics Bachelor of Arts - Pure Mathematics (closed to new enrollment July 1, 2023) (<https://kysu-public.courseleaf.com/undergraduate/agriculture-community-sciences/science-technology-engineering-mathematics/mathematics-ba-pure-mathematics/>)
 - Mathematics Bachelor of Science - Applied Mathematics Pre-Engineering Track (closed to new enrollment July 1, 2023) (<https://kysu-public.courseleaf.com/undergraduate/agriculture-community-sciences/science-technology-engineering-mathematics/mathematics-bs-applied-mathematics-pre-engineering-track/>)
 - Mathematics Bachelor of Science - Education Track (<https://kysu-public.courseleaf.com/undergraduate/agriculture-community-sciences/science-technology-engineering-mathematics/mathematics-bs-education-track/>)
 - Mathematics Bachelor of Science - Pre-Engineering Biosystems Track (closed to new enrollment July 1, 2023) (<https://kysu-public.courseleaf.com/undergraduate/agriculture-community-sciences/science-technology-engineering-mathematics/mathematics-bs-pre-engineering-biosystems-track/>)
 - Mathematics Bachelor of Science - Pre-Engineering Chemistry Track (closed to new enrollment July 1, 2023) (<https://kysu-public.courseleaf.com/undergraduate/agriculture-community-sciences/science-technology-engineering-mathematics/mathematics-bs-pre-engineering-chemistry-track/>)
 - Mathematics Bachelor of Science - Pre-Engineering Materials Track (closed to new enrollment July 1, 2023) (<https://kysu-public.courseleaf.com/undergraduate/agriculture-community-sciences/science-technology-engineering-mathematics/mathematics-bs-pre-engineering-materials-track/>)
 - Mathematics Bachelor of Science - Pure Mathematics (closed to new enrollment July 1, 2023) (<https://kysu-public.courseleaf.com/undergraduate/agriculture-community-sciences/science-technology-engineering-mathematics/mathematics-bs-pure-mathematics/>)
 - Mathematics Minor (<https://kysu-public.courseleaf.com/undergraduate/agriculture-community-sciences/science-technology-engineering-mathematics/mathematics-minor/>)
 - Network Associate Certificate (<https://kysu-public.courseleaf.com/undergraduate/agriculture-community-sciences/science-technology-engineering-mathematics/network-associate-certificate/>)

- Network Professional Certificate (<https://kysu-public.courseleaf.com/undergraduate/agriculture-community-sciences/science-technology-engineering-mathematics/network-professional-certificate/>)
- Physics Minor (<https://kysu-public.courseleaf.com/undergraduate/agriculture-community-sciences/science-technology-engineering-mathematics/physics-minor/>)

Research

The CACS has nationally and internationally recognized research programs in aquaculture, organic agriculture, sustainable biofuel feedstock production, alternative fruit and nut crops, ecological entomology, alternative pesticides and water quality, goat production, obesity and human health, apiculture, and geospatial sciences. The Aquaculture Program, KSU's "Program of Distinction," is widely recognized as a leader in the areas of paddlefish culture, freshwater prawn culture, Koi breeding, production of feed-trained largemouth bass, and fish meal replacement research. KSU boasts the largest multidisciplinary organic agriculture program in the 1890's Land Grant system.

The Community Research Service (CRS) encompasses all areas of research in the CACS and 1890's Land Grant Program. Our mission is to develop, advance, and disseminate scientific knowledge, improve agricultural productivity, preserve plants and animals, protect the environment, and enhance the health and economic opportunities of the people of the Commonwealth of Kentucky, as well other stakeholders around the world. The CRS also supports the mentoring of undergraduate and graduate students in research opportunities through internship and assistantship programs. The Atwood Research Facility contains approximately 34,000 square feet of classroom, laboratory, and office space, including a molecular genetics laboratory and nutrition laboratory. KSU's Aquaculture Research Center (ARC) includes 33 research ponds, a 3,000-square-foot hatchery houses spawning, holding, and experimental tanks, and state-of-the art histology and genetics laboratories. The Production Technology Building houses a 10,000 square foot wet lab for the study and development of aquaponics, bio floc and other intensive recycle systems.

Augmenting these facilities are KSU's 300-acre Harold R. Benson Research and Demonstration Farm and the 300-acre Environmental Education and Research Center. The Harold R. Benson farm has goat, beef, poultry, and fruit and vegetable trials, and 11 acres of certified organic land, which hosts a range of projects in organic agriculture.

Extension and Outreach

The Cooperative Extension Program (CEP) in the CACS provides education and technical assistance to limited resource families and communities by meeting the needs of farmers, youth, entrepreneurs, and many others. Some extension programs provide one to-one opportunities where paraprofessionals work directly with family members. The CEP has renowned programs in: family and consumer sciences, family development and management, family financial management and consumer education, small farmer outreach training and technical assistance, apiculture, goat production, community resource development, entrepreneurship, 4-H youth development, and Hispanic initiatives.

Extension program facilities include the Center for Sustainability of Farms and Families, a 12,000 square foot, 600-seat building at the KSU Research and Demonstration Farm. The Cooperative Extension Building,

which houses a Television Production Studio, is supported by an Uplink/ Downlink Satellite Truck and state-of-the-art communications equipment available for use by all of CACS. The geographic information systems (GIS) laboratory is also located in the Cooperative Extension Building and is utilized by students, faculty and by agricultural research and CEP staff to support their activities.

Statewide Articulation Agreement for Agricultural Education

Kentucky State University is part of the Statewide Articulation Agreement for Agricultural Education. This agreement permits high school students to earn up to six (6) credit hours toward the Bachelor of Science in Agriculture, Food, and Environment while still in high school. The articulation agreement is very significant, because students in agricultural education who complete at least three (3) high school credits in either animal science systems or horticulture/plant science systems majors (with a grade of B or better in all three (3) classes) and who also pass the appropriate Skill Standards Assessment for that major area, will receive three (3) credit hours in either animal science or plant science.