



MARTIN

**Center of Excellence for  
Experimental Learning in  
Agricultural Science**

**FY 2019  
Annual Report**

**Department of Agriculture, Geosciences, and Natural Resources**

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# **Center of Excellence for Experimental Learning in Agricultural Science Mission Statement**

The mission of the Center of Excellence (COE) for Experimental Learning in Agricultural Science is to provide an innovative infrastructure through which existing and new experiential inter-disciplinary studies in production agriculture, the environment, and conservation techniques can take place. The COE in Agricultural Science is designed to create a model for quality teaching across various disciplines, while facilitating and increasing external grant and contract activities, increasing public/private partnerships, and increasing outreach efforts. Other goals of the COE in Agricultural Science involve collaboration with secondary institutions, expanding livestock, crops, equipment, natural resource areas and other facilities to enhance experiential learning and yielding a major impact on the economy of the State of Tennessee.

## Executive Summary

In accordance with the Center of Excellence (COE) for Experimental Learning in Agricultural Science mission statement, since January 2001, attention has been devoted to establishing a model field laboratory with facilities and resources to support experiential activities and research for students. This model field laboratory is used to promote and meet all goals of the COE mission statement. A major component of the COE is operation of a teaching and demonstration farm to complement ongoing academic programs in the Department of Agriculture, Geosciences, and Natural Resources (AGN) at the University of Tennessee at Martin (UTM). This endeavor was expanded effective January 1, 2006 when the Department of Agriculture, Geosciences, and Natural Resources assumed operational control of the entire 640 acres and associated buildings formerly operated by the Martin Experiment Station (University of Tennessee Institute of Agriculture). A major objective of this effort is to provide resources dedicated to the establishment of a quality experiential learning and applied research environment for the UTM campus and the citizens of Tennessee. This in turn meets the goals and objectives of the COE for Experimental Learning in Agricultural Science mission statement.

Presently, there are approximately 200 acres of COE property in field crop production with another 250 acres devoted to forage production and pasture for teaching herds/flocks of beef cattle, swine, horses, meat goats, and sheep. In addition, there are six outdoor research ponds (0.1 acre each) and ten indoor research tanks used for fisheries management. The COE also includes an alternative fuels (biofuels) laboratory, a wildlife biology field laboratory, a Tyson poultry facility, a companion animal laboratory, and two Veterinary Health Technology teaching laboratories. As a major thrust of the COE, the UTM Teaching and Demonstration Farm provides resources and facilities for public service activities and research to support public and private stakeholders involved in agricultural and natural resource sciences. Animals and facilities associated with the COE provide resources for training competitive teams for local, regional, and national competitions, as well as involvement in assisting collegiate and high school FFA and 4-H teams preparing for and competing in their respective interscholastic events across the state. This subsequently increases collaboration with secondary institutions and outreach efforts in accordance with the mission statement.

The University of Tennessee at Martin is an ideal location for the COE due to the existence of agricultural entities already in operation. The West Tennessee Agricultural Pavilion (Ned R. McWherter Agricultural Complex) serves as a hub of activity for clients in a variety of ways, ranging from livestock shows to the annual Santa's Village. The Santa's Village event has been in operation for the last 34 years and is a cooperation between the city of Martin and university faculty, staff, and students. The event provides great community outreach and community service through the collection of more than 18,000 canned goods and toy donations for the under-provided in our county. (Figure 1) The COE enables current and future faculty to not only serve the academic needs of current campus-based and online students, but also to expand opportunities for a statewide mixture of students in secondary schools as well as adult stakeholders through continuing-education offerings and events. The COE features applied research and external grant supported projects that complement the undergraduate and graduate teaching missions of the University of Tennessee at Martin.



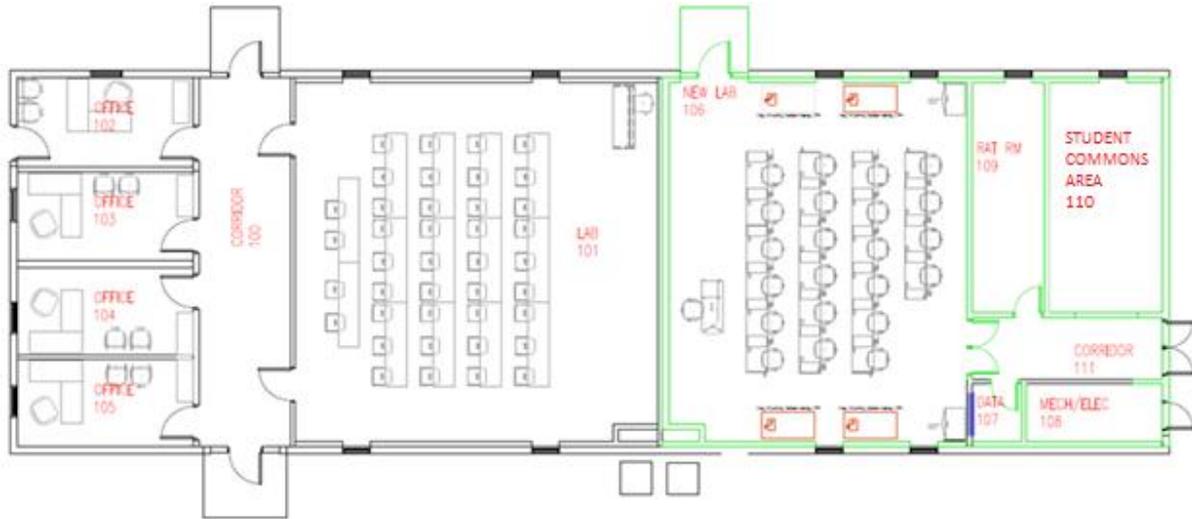
Figure 1. Santa's Village Display at the Ned R. McWherter Agricultural Complex

Funding provided by the Tennessee Department of Agriculture and the Tennessee Agriculture Enhancement Program funded the establishment and operation of a West Tennessee Animal Disease Diagnostic Laboratory (Figure 2) that opened on July 1, 2008. This laboratory serves as a satellite of the C.E. Kord Laboratory at the Ellington Agriculture Center in Nashville, Tennessee. Necropsies performed on animals used for food or fiber are performed at no charge to producers and public partners and all other lab services are performed on a fee schedule. The lab increases public and corporate partnerships with outreach efforts, in addition to being a valuable teaching tool. The lab is also used for instruction and demonstration for students and visiting groups that come to campus.



Figure 2. West Tennessee Animal Disease Diagnostic Laboratory.

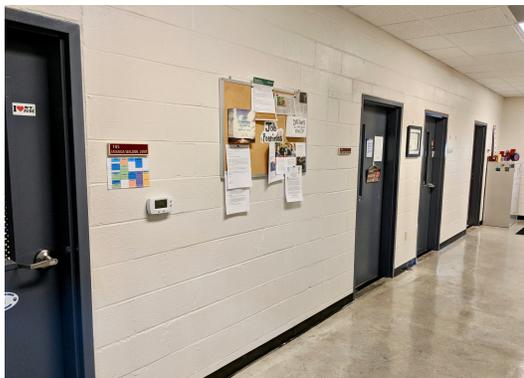
The Veterinary Health Technology Option in Animal Science provides students an opportunity to earn a 4-year degree with a major in Agriculture, while meeting all of the qualifications established by the American Veterinary Medical Association to sit for the National Licensing Exam for Veterinary Technicians. The Veterinary Health Technology Option received initial accreditation in May 2014 from the American Veterinary Medical Association and the Committee on Veterinary Technician Education and Activities (CVTEA). We had our CVTEA site accreditation visit in February 2019 and received full accreditation through 2024.



**Figure 3. Vet Health Tech Facility Floor Plan**

During spring 2015, a free stall barn adjacent to the Veterinary Technology Lab was partially renovated using Title III grant funds, as well as funds secured from a USDA RBEG grant. The Title III grant is providing over \$300,000 over five years and includes a four phase renovation (Figure 3) to the free stall barn. The barn was eventually renamed the Veterinary Health Technology Facility. Phase I work totaled approximately \$140,000 and the partial renovation created a new state of the art smart classroom equipped with ClearTouch Panel computing technology. Phase II and III renovations began in 2016 and were completed in the summer of 2018 to provide four office spaces (Figure 4) and a state of the art laboratory for Veterinary Technology students.

Most recently, Title III grant funds were used for phase IV renovations on the rear section of the Veterinary Health Technology Facility to create a new teaching laboratory (Figure 5) for laboratory animals and a new student commons area for the growing Veterinary Health Technology Program. This project was started during the 2017-2018 academic year and was completed during the 2018-2019 academic year. This phase will help meet the growth of the Veterinary Health Technology option and will increase available research capacity for all Animal Science faculty.



**Figure 4. Offices at Vet Health Tech Facility**



**Figure 5. New Laboratory at Vet Health Tech Facility**

Another important experiential learning project that has been funded through the UTM Provost's Office, is the design and construction of a new Beef Evaluation Center. This center will provide experiential learning opportunities for animal science students utilizing and growing the current cow-calf herd. The Beef Evaluation Center will include a 1,245 ft<sup>2</sup> laboratory and a 250 ft<sup>2</sup> student commons area, (Figure 6 and 7) and a large covered livestock working facility. This laboratory will also increase available interdisciplinary research capacity for all Animal Science faculty. This project was expected to begin in Fall 2018, however it was delayed due to increased steel prices that carried the project total over budget. Fundraising is underway by Chancellor Craver and construction is tentatively slated to begin Fall 2020. Fencing will be added this year for farm production, research and pasture in preparation for construction.



Figure 6. Future Beef Evaluation Center location on Teaching and Demonstration Farm.

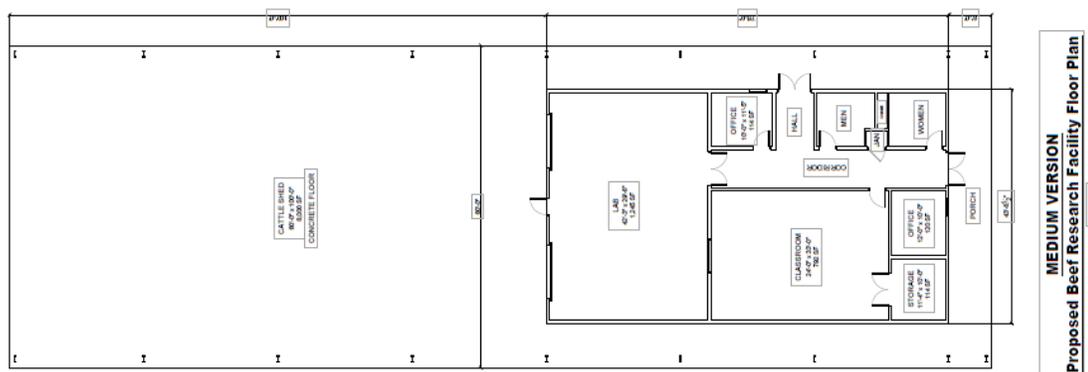


Figure 7. Beef Evaluation Center Floor Plan.

In 2012, alumni faculty member Dr. Bob Hathcock, with the support of current faculty member Dr. Joseph Mehlhorn and the Northwest Tennessee Beekeepers Association, installed a small 11-hive apiary on the north end of the UTM Teaching and Demonstration Farm. The purpose of this apiary was to provide a vehicle for instruction/outreach regarding best management practices in beekeeping for West Tennessee beekeepers. In 2016, Dr. Hathcock and the Association turned the apiary over to the Department of AGN for future use and upkeep. In 2017, the apiary was upgraded to 25 hives and the Department of AGN began to involve Teaching and Demonstration Farm student workers to complete apiary maintenance (see Figure 8). This provides a unique hands-on learning experience for these students. The apiary also allowed for cross-collaboration between the Department of AGN and other departments on campus such as faculty and students from the Department of Chemistry. Beginning September 2017, honey and lip balm from the apiary is being sold in the UTM Bookstore, at UTM football games, and at other public events on the UTM campus. This project continues to be successful and continues to grow.



**Figure 8. Student workers completing apiary maintenance.**

The Center of Excellence has hosted the Tennessee Governor’s School for the Agricultural Sciences (TGSAS) since 2004. (Figure 9) TGSAS provides exceptional agricultural experiential learning opportunity for Tennessee high school sophomores and juniors. The academic program is a 4-week residential program that covers a variety of agriculture and natural resource topics. Students complete college courses as well as learn research techniques through group study research projects. A copy of the 2019 TGSAS Annual Report can be found on the Center of Excellence web site.

<http://www.utm.edu/departments/agnr/coe.php>

With the tremendous success of the Tennessee Governor’s School for the Agricultural Sciences from a student recruitment standpoint, there was an excellent opportunity to develop an “honors” program specifically for AGN students. With this vision and the help of a dedicated group of AGN faculty, the Agriculture, Geosciences, and Natural Resources Fellows Research Program (AGN-FRP) was born. The program includes an additional 12 hours of course work tailored AGN-FRP to enhance students’ investigative skills and promote undergraduate research. The AGN-FRP provides an opportunity for outstanding AGN students to gain organized experiences in research and scholarship through a mentored relationship with an AGN faculty member. The primary goal of the AGN-FRP is to foster and enhance undergraduate research in a manner that is mutually beneficial for the student and the faculty mentor. The additional training from the FRP program has positioned the students to be successful in advanced academic fields.



**Figure 9. 2019 TGSAS students, counselors, and faculty.**

## UT Martin partners with Tyson Foods Inc.

The University of Tennessee at Martin has partnered with Tyson Foods Inc. to add chickens to the list of animals UT Martin students work with during agricultural production courses. Tyson will provide the birds, which will be housed in a renovated barn facility on the UT Martin Teaching Farm. The facility officially opened March 1. This facility will be used for teaching, research and career training. (Figure 10)



Figure 10 - New Tyson facility. Below is the ribbon cutting of the new Tyson facility at UTM



## Faculty and Staff of Center of Excellence for Experimental Learning in Agricultural Science

### Center of Excellence Faculty

Name	Title	Area of Expertise
Ary, Clint	Assistant Professor	Veterinary Science
Bird, Will	Assistant Professor	Agricultural Education
Buttrey, Emalee	Associate Professor	Animal Science
Chesnut, Matt	Lab Instructor	Veterinary Science
Cole, John	Assistant Professor	Agricultural Engineering
Darroch, Barbara	Assistant Professor	Plant and Soil Science
Gale, Paula	Professor	Soil Science
Kennedy, Kelly	Lab Instructor	Veterinary Science
Mehlhorn, Joey	Director	TGSAS
Mehlhorn, Sandy	Associate Professor	Agricultural Engineering
Morphis, Zach	Lab Instructor	Veterinary Science
Pelren, Eric	Professor	Wildlife Biology
Roberts, Jason	Professor	Veterinary Science
Simpson, Mark	Professor	Geosciences-GIS/Meteorology
Smartt, Philip	Professor	Natural Resources Management
Tewari, Rachna	Associate Professor	Agricultural Economics
Totten, Wes*	*Director/Professor	Plant and Soil Science
Waldon, Amanda	Lab Instructor	Veterinary Science
Walker, Danny	Associate Professor	Veterinary Science
Watson, Diana	Lecturer	Animal Science
Wolters, Bethany	Assistant Professor	Plant & Soil Science

### Center of Excellence Staff

Name	Title	Area of Expertise
Arant, Carrie	Business Manager	Budgets and Accounting/TGSAS
Bradford, Nathan	Teaching Farm Supervisor	Crop Management
Crockett, Jamie	Senior Farm Equipment Operator	Equipment Operation and Management
Cunningham-Corvin, Meghan	Equestrian Coach	Horsemanship
Jackson, Kim	Administrative Specialist	Student Support & Contracts
Jones, BeLynda	Administrative Specialist	Veterinary Health Technology /TGSAS
Leiter, Kim	Assistant Equestrian Coach	Horsemanship
Pierce, Mike	Farm Manager	Crop and Animal Management
Woods, Tara	Research Associate	Animal Care and Support

## **Student Information**

The Center of Excellence for Experimental Learning in Agricultural Science works closely with the Department of Agriculture, Geosciences, and Natural Resources to meet all student needs and the COE mission statement. The department has a current enrollment of approximately 1,050 students with areas of interest in Agricultural Business, Agricultural Science, Animal Science, Plant and Soil Science, Agricultural Engineering Technology, Geosciences, Wildlife Biology, Park Administration, Environmental Management, and Soil and Water Conservation. To see specific student awards and internships see Objective 8 on page 20.

## Planned Program Activity in FY2019

Activities of the Center for each general objective will include, but are not limited to:

**Objective 1:** Continue renovation of the Veterinary Health Technology Facility.

**Target:** Complete Phase IV of the facility renovation which includes a student commons area, an animal laboratory, improved parking area, and external renovations to improve the appearance of the building.

**Response:** Phase IV on the Veterinary Health Technology Facility is complete and in full use.

**Objective 2:** Submit external grants seeking to support the Center of Excellence and its activities consistent with the mission and objectives of the Center of Excellence.

**Target:** Efforts will be directed at adding \$100,000 in new grants and contracts during FY 2018-19 and maintaining or continuing existing grants and contracts.

**Response:** During the 15th year of operation, faculty members of the Center of Excellence were successful in acquiring a total of \$895,236 in active grants (Appendix A). The continued success in acquiring external funding is due primarily to faculty appointments in the Department of Agriculture, Geosciences, and Natural Resources. The faculty identified potential funding sources and subsequently prepared grants and contracts from six different funding agencies in FY2019. Along with this funding the faculty continued research from grants and contracts established with five different funding agencies in prior fiscal years. A full report of all grants funded can be found on the Center of Excellence web site.

<http://www.utm.edu/departments/agnr/coe.php>

**Objective 3:** Continue with the planning and design phase of a \$1.5 million Beef Evaluation Center construction project.

**Target:** A new Beef Evaluation Center to support academics, cow-calf operation, and research and scholarly activity is underway for FY 2017-18. This facility will be comprised of a 40-seat state of the art classroom, a student commons area, and a large cattle working facility. This laboratory will aid in student instruction but will also provide needed research space for undergraduate, graduate and faculty research projects in all areas of animal science. This project is tentatively slated to be completed by end of summer 2020.

**Response:** This project was expected to begin construction in fall 2018, but was delayed due to increase in steel prices, which raised project cost over budget. Efforts are being made to fundraise to cover increased cost of the project.

**Objective 4:** Partner with agronomic companies desiring demonstration areas for seed and chemical applications on a cost-sharing basis.

**Target:** Continue field operations for the 200 acres of crops currently in production, emphasizing variety trials and demonstration plots for alternative crops. Complete a systematic review of all agricultural production areas of the COE and amend where necessary to ensure optimum productivity (pH, fertilization, organic matter, etc.. Identify new partnerships for field trials and alternative crops to enhance area agricultural enterprises. Continue to offer producer-oriented field day programs in cooperation with area equipment dealers, chemical companies, and/or seed companies.

**Response:** Field operations continued for approximately 200-acres of field crops, including corn, soybeans, and wheat as principal cash crops. Research plots for corn and soybean trials were established under the direction of Drs. Barbara Darroch and Paula Gale of the teaching faculty. Financial assistance from the Tennessee Soybean Promotion Council assists with soybean field trial research, and variety trial information is collected in cooperation with personnel from the University of Tennessee Institute of Agriculture Extension Service. Syngenta Corporate once again, played a major role in the research operations of the UT Martin farm this past year with several research trials that concluded in a field day for producers and other agricultural company personnel.

The Center of Excellence faculty and staff continue their relationships with H&R AgriPower and Tennessee Tractor, LLC for hosting equipment demonstrations and field day events on the Teaching Farm property. Companies providing seed and other planting materials to establish trials plots include:

- Agrigold
- Bayer CropSciences
- Beck's Hybrids
- Helena Chemical
- Nutrien Ag
- Syngenta
- Warren Seed
- Weakley County Farmers Co-op
- Winfield Solutions

**Objective 5:** Generate timely, state-of-the-art information on key topics related to food, agriculture, and the environment with special attention to emerging issues that might have long-term implications for production of agricultural commodities while protecting natural resources in Tennessee.

**Target:** Seek to sponsor at least 30 speakers/programs that will be directed at enhancing knowledge of emerging issues in the agricultural sciences to include natural resources.

**Response:**

1. Darrin Holder, Sprayers and Spray Tips, Agronomy Manager, Winfield Solutions, Land O'Lakes
2. Dr. Heather Kelly, Diseases of Field Crops, UT Extension
3. Brad McAlpin, Syngenta
4. Dr. Mark Gadlage, Advances in Plant Breeding, Corteva Agriscience
5. Ciera Rhodes, Quail Forever Biologist
6. Michael Clark, TWRA Fisheries Biologist
7. Darren Rider, TWRA Chief of Law Enforcement
8. Buddy Brien, Wade Hendren, Robert Shannon, Roy Logan, TWRA Wildlife Officers
9. Brian Thompson, TWRA Law Enforcement Major
10. Barron Crawford, USFWS Director TN National Wildlife Refuge
11. Chris Richardson, TWRA Assistant Director
12. Don McKenzie, Coordinator, National Bobwhite Conservation Initiative
13. Larry Armstrong, TWRA Habitat Manager
14. Damon Hollis, TWRA Forester
15. Jim Byford, UTM CAAS Dean Emeritus
16. Gordon Counts, Quail Forever Biologist
17. Mr. Hal Bynum, Nutrien Ag Solutions, Union City
18. Brennan Booker, AgriSoil Consulting
19. Ben White, Greenpoint Ag
20. Curt Cochran, MidSouth Precision Agronomy
21. Nate Rottero, Beck's Seed
22. Matt Carroll, H&R Agripower
23. Alex Jewell, Workman Consulting
24. Jody Watson, ACI Distributors
25. Jim Brett, Mississippi State College of Veterinary Medicine
26. Doug Tindall, University of Missouri College of Veterinary Medicine
27. Ruth Schroeder, Ross University College of Veterinary Medicine
28. David Haggard, West Tennessee Regional Interpretive Specialist, Tennessee State Parks
29. Dr. Daniel Combs, Professor of Biology, Tennessee Technological University
30. Dr. Jenny Paul, Biology Instructor, Cleveland State Community College
31. John Froeschauer, Retired Tennessee State Parks Ranger & Naturalist
32. Shawn Hughes, Park Ranger, Standing Stone State Park
33. David Harris, Park Ranger, Standing Stone State Park
34. Bridgette Butler, Park Ranger, Chickasaw State Park
35. Bob Tarter, Natural History Educational Company of the Midsouth
36. Seth Krantz, Veterinarian Tosh Farms
37. Rob Brown, Tyson Foods
38. Erin Robbins LVT, Auburn College of Veterinary Medicine
39. Jennifer Taintor DVM, Auburn College of Veterinary Medicine - Ambulatory and LA anesthesia
40. Becky Legere DVM, Auburn College of Veterinary Medicine - Equine Medicine
41. Lorin Hillman DVM, MVS- Oncology
42. Amy Walsh DVM, Memphis Veterinary Specialty - Pain Management and Critical Care
43. Robert Brady DVM, Memphis Veterinary Specialty - Surgery
44. Tina Brown DVM, Memphis Veterinary Specialty - Dermatology
45. Dr. Scott Stewart, Cotton IPM, UT Extension
46. Dr. Alan Windham, Turf and Ornamental IPM, UT Extension
47. Dr. Jack Grubaugh, Mosquito IPM, UTM
48. Mr. Jay Yeargin, Yeargin Farms

**Objective 6:** Communicate the objectives of the COE and related action programs to raise public awareness of the importance of the agricultural sciences and natural resources to the economic wellbeing of Tennessee and the surrounding areas.

**Target:** Continue to utilize technology to enhance education for on-campus and distance students. Endeavor to offer at least one new program promoting agriculture and natural resources in Tennessee. Maintain and enhance course offerings for dual enrollment programs with Tennessee high schools. Offer at least five department courses for online delivery.

**Response:** The following courses were taught for high school dual enrollment credit in the 2018-19 academic year and below is the current flier that was distributed to the high schools.

- AGEC 110 Introduction to Agricultural Business
- AGEC 250 Introduction Agricultural Sales
- ANSC 110 Introduction Animal Science
- ANSC 210 Introduction Horse Science
- ANSC 230 Exotic & Companion Animal Management
- ANSC 260 Behavior Farm & Companion Animal
- ANSC 270 Animal Welfare and Ethics
- GEOL 110 Introduction Physical Geology
- GEOL 120 Environmental Geology
- PLSC 110 Introduction Plant & Soil Science

In addition to the dual credit courses, many courses were offered for online delivery as well. All Agriculture Business courses are now offered online, in addition to numerous courses in all programs in agriculture and natural resources within the AGN department. New courses are being developed and added online yearly by COE faculty.

## AGRICULTURE PATHWAY FOR DUAL ENROLLMENT STUDENTS

Dual enrollment students are encouraged to satisfy general education requirements **prior** to taking agriculture-specific concentration courses.  
*Students can earn up to 30 hours which could allow them to graduate college in three years.*

**GENERAL EDUCATION**

<p><b>English (9 hrs):</b> ENGL 111, 112* COMM 230*</p>	<p><b>Mathematics (6 hrs):</b> MATH 140* MATH 210*</p>	<p><b>Social Science (6 hrs):</b> POSC 210, 220 PSYC 101 SOC 201, 202</p>
<p><b>Eine Arts (3 hrs):</b> ARTH 110 ARTH 211 MUS 111, 112 THEA 110, 111</p>	<p><b>Physical Systems (8 hrs):</b> GEOS 110/110L GEOS 130/130L*</p>	
<p><b>Humanities (9 hrs)</b> HIST 121, 122 HIST 201, 202 PHIL 110, 120</p>		

**CONCENTRATION-SPECIFIC**

<p><b>Agribusiness or Farm &amp; Ranch Mgt. (6 hrs):</b> AGEC 110 AGEC 250 AGEC 271</p>	<p><b>Animal &amp; Vet Science (6 hrs):</b> ANSC 110 ANSC 210 ANSC 230 ANSC 260</p>	<p><b>Plant Science (6 hrs):</b> PLSC 110 HRM 101 MATH 140* PSYC 101 SOC 201, 202</p>
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Courses in *ITALICS* can also be used for multiple concentrations. (Example: AGECE 110 can be used in the Animal & Vet Science, Agribusiness, and Farm & Ranch Management concentration)

FOR MORE INFORMATION, CONTACT:

Dr. Wes Totten (731)881-7262   wtotten@utm.edu	Erica Bell (731)881-7089   ebell@utm.edu
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### COURSE TITLES

Courses from the front page are listed below with their full class title.

**GENERAL EDUCATION**

ART 110- Understanding Visual Art  
ARTH 111- The History of Art  
COMM 230\*- Public Speaking  
ENGL 111- English Composition  
ENGL 112\*- English Composition  
GEOS 110/110L- Geoscience in Everyday Life  
GEOS 130/130L\*- Global Change and Earth History  
HIST 121- Development of World Civilization I  
HIST 122- Development of World Civilization II  
HIST 201- History of the United States I  
HIST 202- History of the United States II  
MATH 140\*- College Algebra and Elementary Functions

**CONCENTRATION**

AGEC 110- Introduction to Agricultural Business  
AGEC 250- Introduction to Agricultural Sales  
AGEC 271- Farm Management  
ANSC 110- Introduction to Animal Science  
ANSC 210- Introduction to Horse Science  
ANSC 230- Exotic and Companion Animal Management  
ANSC 260- Behavior of Farm and Companion Animals

MATH 210\*- Elementary Statistics and Probability  
MUS 111- Masterpieces of Music  
MUS 112- Music in Our Time  
PHIL 110- Adventure of Ideas: Historical  
PHIL 120- Adventure of Ideas: Contemporary  
POSC 210- American Government and Politics  
POSC 220- American Political Institutions and Policy  
PSYC 101- Introduction to Psychology  
SOC 201- General Sociology  
SOC 202- Social Problems  
THEA 110- Understanding Theatre  
THEA 111- Understanding Theatre

ANSC 270- Animal Welfare and Ethics  
MATH 140\*- College Algebra and Elementary Functions  
NRM 101- Wildlife, Conservation and Environmental Issues  
PLSC 110- Introductory Plant and Soil Science  
PSYC 101- Introduction to Psychology  
SOC 201- General Sociology  
SOC 202- Social Problems

\*Prerequisites:  
ENGL 112-C or higher in ENGL 111.  
COMM 230-C or higher in ENGL 111.  
GEOS 130/130L-GEOS 110/110L or any 2 semesters of university-level lab science.  
MATH 140\*-Two units of high school algebra and a 20 ACT Math score.  
MATH 210-MATH 100-110, or 140, or 170, or 185, or 251 or a 24 ACT Math score.

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**Objective 7:** Provide a forum for dialogue, debate, information sharing, and consensus building among policymakers, researchers, and leaders in non-governmental organizations, the private sector, and media through seminars, workshops, conferences, service learning, and publications.

**Target:** Plan and present at least 8 seminars/workshops on current topics of interest to animal and crop producers as well as programs in natural resource management.

**Response:**

**1). Seminars/Workshops**

**Mike Pierce.** Nov. 2018. Bee Presentation. TAFCE in McKenzie, TN

**Mike Pierce.** Feb. 7, 2019. Bee Presentation. Northwest TN Cattleman's Association in Union City, TN

**Mike Pierce.** Feb.12, 2019. Farm and Bee Presentation to Obion County FFA. UT Martin, Martin, TN.

**Mike Pierce.** April 11, 2019. Bee Presentation to UT Foundation, UT Martin, Martin, TN

**Mike Pierce.** 2019. Bee Presentation to UT Board, UT Martin, Martin, TN

Beck's. July 25, 2018 Field Day for growers in the field plots on UT Martin campus  
**Nathan Bradford**

Syngenta conducted a field day for Helena, July 30, 2018. UTM Champions Club and field plots on UT Martin, Martin, TN **Nathan Bradford**

Syngenta conducted a field day for Nutrien Ag, July 31, 2018. UTM Champions Club and field plots on UT Martin, Martin, TN **Nathan Bradford**

Syngenta conducted a field day for growers on January 22, 2019. UTM Champions Club, UT Martin, Martin, TN **Nathan Bradford**

**Jason Roberts.** August 27, 2018 WestTeach West Tennessee Diagnostic Lab, UT Martin, Martin, TN

**Jason Roberts and Wes Totten.** Oct. 24, 2018. WestStar FutureStar Leadership Summit UT Martin, Martin TN

Hosted Tennessee Veterinary Technician Association (West) November, 2018 UT Marin, Marin, TN **Amanda Waldon, Zach Morphis and Erica Carroll**

## 2). Conferences attended by faculty and students

National Association for Interpretation National Conference, New Orleans, LA, Nov. 26-30, 2018.

National Association for Interpretation Sunny Southeast Regional Workshop, Burns, TN, April 2-5, 2019. Students attended as well.

Standing Stone State Park's Nature Rally, Livingston, TN April 12-13, 2019. Students attended as well.

Music City Veterinary Conference, Murfreesboro, TN Feb. 22-24, 2019. Veterinary Sciences faculty and students attended.

Tennessee Academy of Science Conference November 22nd, 2018 at Columbia State Community College in Columbia, TN. Meera Patel(student) and Dr. Clint Ary.

Tennessee Association of Professional Surveyors Annual Meeting, March 2019, Murfreesboro, TN.

League of Agriculture & Equine Centers, Footing Academy and Annual Conference, Dec. 4-7, 2018. Tulsa, OK.

March 2019. Field Day on Climate Change Adaptation and Cover Crops; Milan Research and Education Center, Milan, TN.

UT Extension Farm School; attended three meetings of the four meetings that were held Mondays in February. These meetings focused on weed control, disease and insect control, and variety selection. Several students came along each week. February 2019.

Tennessee Soybean Promotion Board Annual Meeting, Pigeon Forge, TN. January 2019.

International Annual Meetings of the American Society of Agronomy, Crop Science Society of America, and Canadian Society of Agronomy. Baltimore, MD. Nov. 4-7, 2018. Eight students also attended and participated in SASES (Students of Agriculture, Soils, and Environmental Sciences) activities. November 2018.

Cotton Field Day, West Tennessee Research and Education Center, Jackson, TN – several students attended with Barb Darroch. September 2018.

Soybean Disease Field Day, Milan Research and Education Center, Milan, TN – several students attended with Barb Darroch. September 2018.

2018 Summer Grazing Workshop, Obion County Soil Conservation District, Troy, TN. Animal Science faculty and students. August 2018.

Agroecosystems Field School; participated in this intensive, one-week field school hosted by Arkansas State University, Jonesboro, AR. Participants included faculty and students from Arkansas State University, Southeast Missouri State University, and University of Tennessee at Martin. Several UTM students participated. July 2018.

Milan No-Till Field Day; Milan Research and Education Center, Milan, TN. July 2018 International Meeting Soil Science Society of America. 3 students along with Paula Gale– San Diego, CA, Jan.7-10, 2019.

Attended SE Association of Fish and Wildlife Agencies Annual Conference, Mobile, AL. 20 students along with Eric Pelren

Attended 2018 SE Wildlife Conclave. 19 students with Eric Pelren.

Attended 2018 TN Chapter of The Wildlife Society annual meeting. 10 students with Eric Pelren.

NACTA (North American Colleges and Teachers of Agriculture) judging contest (Murray, KY, April 2019). Multiple faculty and students attended.

Southern Ag Econ Association Annual Meetings (Mobile, AL, April 2019) Agribusiness conference, Arkansas State University, Jonesboro, Arkansas (February 2019). Multiple faculty and students attended.

Minorities in Agriculture, Natural Resources, and Applied Science National conference. Meera Patel, Student.

Southern Regional Honors Conference. Meera Patel, Student.

American Pre-Veterinary Medicine Association Symposium, State College, PA – 11 Pre-Vet Students attended.

### 3.) Presentations

**Jason Roberts, Clint Ary, Will Bird, Joey Mehlhorn** and Kimberly Inman. November 17, 2018. "Assessing cattle producer perceptions of calving management strategies". Tennessee Academy of Science, Austin Peay State University, Clarksville, TN.

**Jason Roberts, Joseph Mehlhorn**, Scott Parott and Meera Patel. November 17, 2018. "Using data from nursing programs and the NCLEX as a model to predict success on the Veterinary Technician National Exam (VTNE)". Tennessee Academy of Science, Austin Peay State University, Clarksville, TN.

**Clint Ary, Jason Roberts, Joey Mehlhorn, Will Bird**, and Kimberly Inman, June 19, 2019. "Using Continuous Monitoring Technology to Improve Cattle Production Success". North American Colleges and Teachers of Agriculture Conference, Twin Falls, ID.

**Clint Ary, Jason Roberts, and Joey Mehlhorn**, June 20, 2019. "Combining Veterinary Science and Business Through Teach Teaching of a Course". North American Colleges and Teachers of Agriculture Conference, Twin Falls, ID.

**Paula Gale**, Samantha Barrow, Michael Singer, AJ Clayton, Will Bratton. February 27-28, 2019. West Tennessee Water Resources Symposium - Pickwick Landing, Counce, TN.

**Rachna Tewari** (collaborator), **Joey Mehlhorn**, R. Pruitt, P. Nelson, M. Leffew, H. Pepper, and S. Dalton. Business Planning and Marketing Education for Tennessee Farmers. Funded through Southern Risk Management Education Center, Jackson, TN.

#### 4.) Scholarly Activity - Publications

Kimberly Inman, **Clint Ary, Will Bird, Jason Roberts, and Joey Mehlhorn.**

“Assessing cattle producer perceptions of calving management strategies. Selected as an oral presentation at the Tennessee Academy of Science, Austin Peay State University, Clarksville, TN November 17, 2018.

Meera Patel, **Jason Roberts, Joseph Mehlhorn,** and Scott Parrott. “Using data from nursing programs and the NCLEX as a model to predict success on the Veterinary Technician National Exam (VTNE)” Selected as an oral presentation at the Tennessee Academy of Science, Austin Peay State University, Clarksville, TN November 17, 2018.

Walker, Ben, **Joey Mehlhorn, Sandy Mehlhorn, Rachna Tewari, and Philip Smartt,** “Student Perceptions of the Importance of Athletic Teams in Creating Soft Skills: The Case of Rodeo”, Business and Economic Research, BER 8 [S.1.], v. 8, n. 4, p. 52-62, Oct. 2018. Available at: <http://www.macrothink.org/journal/index.php/ber/issue/view/766>.

**Mehlhorn, Sandy,** “A Snapshot of the Surveying Profession in Tennessee”, Tennessee Surveyor magazine, Winter 2018 edition, pp. 23-24. Available at [https://www.flipsnack.com/9AD8A758B7A/taps\\_win18\\_final.html](https://www.flipsnack.com/9AD8A758B7A/taps_win18_final.html).

**Objective 8:** Provide enhanced laboratory facilities and resources to support experiential learning.

**Target:** Expand experiential learning experience for students with at least one international travel course and offer at least 40 opportunities for internship participation. Identify opportunities for international study or internships.

**Response:** Student Internships/Experiential Learning Experiences and their respective Hosts:

1. Kate Armstrong - UT Institute of Agriculture, West Tennessee AgResearch and Education Center
2. Sydney Baker - UT Institute of Agriculture, West Tennessee AgResearch and Education Center
3. Wesley Ball - Crop Production Services
4. Maggie Brazier - University of Kentucky Research and Education Center at Princeton, KY
5. Matt Davis - UT Institute of Agriculture, West Tennessee AgResearch and Education Center
6. Seth Permenter - Agrigold
7. Michael Singer - Natural Resources Conservation Service
8. Brandon Weber - USFWS: Eider Crew, Utqiagvik, AK
9. Colten Snyder - Tennessee Wildlife Resources Agency, Wolf River WMA
10. Olivia Naifeh - Reelfoot State Park , Tiptonville, TN
11. Bethany Watson - Tennessee Wildlife Resources Agency at Laurel Hill WMA.
12. Bradley Harris - Tennessee Wildlife Resources Agency, West TN (Region 1 Wildlife Diversity)
13. Collin Stanley - U.S. Fish and wildlife service at Big muddy national wildlife refuge in Boonville MO
14. Jerod Grooms - Tennessee Wildlife Resources Agency, Larval Asian Carp internship
15. David Hale -Tennessee Wildlife Resources Agency. Gallatin, TN. Mussel Ecology, Cumberland River Aquatic Center
16. Matt Bridgers - Tennessee Wildlife Resources Agency. Gallatin, TN. Mussel Ecology, Cumberland River Aquatic Center
17. Austin Phillips - Tennessee Wildlife Resources Agency at Meeman
18. Shelby Forest - WMA
19. Andre Delcalzo - USDA Forest Service, Montana
20. Austin Hill - Tennessee Department of Transportation, Jackson, TN
21. Hunter Winstead - U.S. Fish and Wildlife at Tennessee National Wildlife Refuge
22. Koltin Winstead - Curtis Electric Riply, TN
23. Chris Jackson - Arizona Dairy Mesa, Arizona
24. Michael Singer - NRCS
25. Samantha Barrow - NRCS
26. Emily Lewis - Kord Labs
27. Brennan Brown - Sea Life Park, Hawaii
28. Matthew Katzmarek - Tri County Animal Hospital
29. Amanda Lund - Vanderbilt Children's Hospital
30. Colton Barber - Tennessee Wildlife Resources Agency, Wolf River WMA
31. Elizabeth R. Booth - Tennessee State Parks
32. Autumn Winchester- Mineral Wells Animal Clinic - Paris, TN
33. Caylin Potter - Kord Labs
34. Elizabeth R. Booth - Tennessee State Parks

35. Autumn Winchester- Mineral Wells Animal Clinic - Paris, TN
36. Caylin Potter - Kord Labs
37. Elizabeth R. Booth - Tennessee State Parks
38. Levi A. Hinson - Tennessee State Parks
39. Ethan J. Kreuziger - Tennessee State Parks
40. Canon T. Smith - Tennessee State Parks
41. Alyssa K. Tapley -Tennessee State Parks
42. Marley M. Williams - Tennessee State Parks
43. Amanda Smith - Tri-County Vet Clinic, McKenzie, TN
44. Jackie Glover- Memphis Veterinary Specialist
45. Averi Yalda - Auburn Vet School - Auburn, AL
46. Stephanie Carter- Murfreesboro Animal Clinic
47. Autumn Winchester- Mineral Wells Animal Clinic - Paris, TN
48. Keri Damore - Memphis Veterinary Specialist
49. Samantha Conner- Memphis Veterinary Specialist
50. Helen Sims - Knoxville Veterinary Specialist
51. Kamryn Gitchell - UTK Vet School
52. Kaitlin Bruce- Memphis Veterinary Specialist and Masterson Farms, Somerville, TN
53. Rachel Metzger- Auburn Vet School
54. Morgan Kyle- Auburn Vet School
55. Joy Winstead- Auburn Vet School
56. Emily Sharp- Collierville Animal Clinic
57. Abby Dixon - Collierville Animal Clinic
58. Elizabeth Gibson - Idexx Lab- Memphis
59. Mindy Knight – Memphis Veterinary Specialist
60. Hanna Crawford - Ward Animal Clinic- Fulton, KY
61. Alison Loftis - Arkansas Veterinary Specialists- Little Rock, AK
62. Melda White - Blue Pearl- San Antonio, TX
63. Alexandra Proffitt - UTK Vet School
64. Rebecca Rose - All Animal Hospital- Jackson, TN
65. Marissa Howard - Huntingdon Animal Clinic, Huntingdon, TN

**Objective 9:** Support local, regional, and national competitions.

**Target:** Continue to host or participate in a minimum of 10 local, regional and/or national competitions by UT Martin students and faculty.

**Response:**

**Competitions**

1. Judged at the National FFA Convention in October 2018 Amanda Waldon and Erica Carroll.
2. Hosted VET Science CDE in May 2019 (state) Amanda Waldon.
3. UT Martin Crops Team competed in the Crops Contest at the NACTA (North American Colleges and Teachers of Agriculture) Annual Judging Conference in April. Barb Darroch.
4. UT Martin Horticulture Team competed in the Horticulture Contest at the NACTA Annual Judging Conference in April. Barb Darroch.
5. Sarah Dodd and Michael Singer competed in the Research Poster Contest at the NACTA Annual Judging Conference in April.
6. Four Students participated in the SASES Crops Judging Showcase competition at the 2018 at the International Annual Meetings of the American Society of Agronomy, Crop Science Society of America, and Canadian Society of Agronomy (November 2018). Barb Darroch.
7. UT Martin Weeds Team competed at the Southern Weeds Science Society Weeds Contest in August 2018. Barb Darroch.
8. Southern Ag Econ Association Annual Meetings Quiz bowl (Mobile, AL, 2019) Rachna Tewari.
9. Oral Presentations Session Chair, Agriculture, Tennessee Academy of Sciences Annual Meeting, 2018 Rachna Tewari.
10. Judge – Poster Presentations Agriculture, Tennessee Academy of Sciences Annual Meeting, 2018 Rachna Tewari.
11. UT Martin Wildlife Society participated in competitions at regional meeting: SE Wildlife Student Conclave Eric Pelren and 19 students.
12. SE Regional Soils contest – Bowling Green KY, Oct. 16, 2018 – seven student competitors with Paula Gale.
13. NACTA Soil Judging contest – Murray, KY, April 12, 2019 – six student competitors with Paula Gale.
14. Hosted student research symposium for tri-state soil sustainability project. Participating schools included UT Martin, Arkansas State Univ., and SE Missouri State. There were 30 student and faculty participants.

## **Student Awards**

1. Kamryn Gitchell - Dr. Gresham Memorial Scholarship
2. Amanda Smith - Jackson Wyatt Gallimore Memorial Scholarship
3. Averi Yalda - Memphis Veterinary Specialist – Leadership Scholarship
4. McKenzie Sewell - Memphis Veterinary Specialist Highest GPA Scholarship
5. Mindy Knight - Memphis Veterinary Specialist Highest GPA Scholarship
6. Joy Winstead - Memphis Veterinary Specialist – Leadership Scholarship
7. Alex Proffitt - Walker Family Scholarship
8. Abby Dixon- Jackson Wyatt Gallimore Memorial
9. Morgan Kyle - Dr. Gresham Memorial Scholarship
10. Deja Patterson - TVMA Scholarship
11. Sarah Dodd - Golden Opportunity Scholar, American Society of Agronomy
12. Sarah Dodd - UTM Outstanding Senior in Agronomy, American Society of Agronomy and Students of Agronomy, Soils, and Environmental Sciences
13. Lauren Hutchinson, Hallie McCurdy (1st and 2nd place Teams), Southern Ag Econ Association Annual Quiz Bowl, Mobile, AL, February 2019
14. Sam Luker, Innovative idea- poster (1st place), NACTA (North American Colleges and Teachers of Agriculture) judging contest, Murray, KY (April 2019)
15. Sam Luker, Hunter Palmer, Martin Grissom, Amos Wilson - Ag computers contest (2nd place), NACTA (North American Colleges and Teachers of Agriculture) judging contest, Murray, KY (April 2019)
16. Sam Luker, Colin Myrick, George Carroll, Skyhawk Venture Challenge (2nd place), UT Martin, April 2019
17. Brandon Weber - AGN Outstanding NRM student
18. Colton Barber - UTM Byford Conservation Award
19. Kenley Schwartz and Andre Delcalzo, AGN Outstanding Wildlife and Fisheries Biology Students
20. Luke Adams - AGN Outstanding Freshman
21. Jared Grooms - UTM-TWS Outstanding Senior
22. Blame Rummage - UTM-TWS Walking Stick Award
23. Conner Murley - UTM-TWS Roadkill Award
24. Luke Wren - UTM-TWS Outstanding Freshman
25. Marissa, Cawthon - UTM-TWS Outstanding Middle-Classman
26. Andre Delcalzo - SETWS Conclave Air Rifle, 2nd place
27. Dillon Mooney - SETWS Conclave Field Photography, 3rd place
28. Ben Chrestman, Collin Stanley and Ethan Brown - SETWS Conclave Obstacle Course, 1st place
29. Andre Delcalzo, Brandon Weber, Colton Barber and Clint Beel - SETWS Conclave Quiz Bowl 2nd place UTM Wildlife Society, UTM Outstanding Student Organization Award
30. Jackson Baxter - Outstanding AGET student for 2018-19-departmental award
31. Amanda Grimes - Project GO scholarship winner and participant in Project GO Russian Intensive Summer Language Program at San Diego State University
32. Meera Patel - 3rd place Southern Regional Honors Conference
33. Emily Hedges - Silver Park Outstanding Sr. in PARK
34. Megan Kitchen - Leslie Duke Award

**Objective 10:** Provide enhanced resources to assist in the operation of the Tennessee Governor’s School for the Agricultural Sciences.

**Target:** Continue to seek new experiential learning opportunities for the Tennessee Governor’s School for the Agricultural Sciences.

**Response:** The Department of Agriculture, Geosciences, and Natural Resources hosted the 2019 Tennessee Governor’s School for the Agricultural Sciences (TGSAS) on campus from June 1 – June 28, 2019. The program consisted of 34 scholars from across the state of Tennessee. Scholars completed three hours of college coursework. Courses taught included AGECE 110: Introduction to Agricultural Business or NRM 100: Introduction to Natural Resource Management. Scholars also participated in research activities through Group Study Projects (GSP). The GSP’s covered precision agriculture and veterinary medicine. All GSP’s covered the scientific method and focused on experimental research activities.

Several educational study tours were incorporated throughout the 4-week program. These included field trips to the following:

1. Yeargin Farms Tour, Greenfield, TN
2. Woolfolk Farms, Medina, TN
3. AgriCenter International, Memphis, TN
4. Ducks Unlimited, Memphis, TN
5. Tosh Farms, Henry, TN
6. Batey Farms, Murfreesboro, TN
7. Tyson Foods, Union City, TN
8. University of TN College of Veterinary Medicine, Knoxville, TN
9. Farm Bureau Headquarters, Columbia, TN
10. Tennessee State Capital, Nashville, TN
11. Tennessee Department of Agriculture, Nashville, TN

## Planned Program Activity in FY2020

Activities of the Center of Excellence for each general objective will include, but are not limited to:

**Objective 1:** Submit external grants seeking to support the Center of Excellence and its activities consistent with the mission and objectives of the Center of Excellence.

**Target:** Efforts will be directed at adding \$100,000 in new grants and contracts during FY 2019-20 and maintaining or continuing existing grants and contracts.

**Objective 2:** Continue with the planning and design phase of a \$1.5 million Beef Evaluation Center construction project.

**Target:** Renewed planning and fundraising for a new Beef Evaluation Center to support academics, cow-calf operation, and research and scholarly activity is underway for FY 2019-20. This facility will be comprised of a 40-seat state of the art classroom and student commons area. This laboratory will aid in student instruction but will also provide needed research space for undergraduate, graduate, and faculty research projects in all areas of animal science. This project should begin by end of summer 2021

**Objective 3:** Partner with agronomic companies desiring demonstration areas for seed and chemical applications on a cost-sharing basis.

**Target:** Continue field operations for the 200-acres of crops currently in production emphasizing variety trials and demonstration plots for alternative crops. Complete a systematic review of all agricultural production areas of the COE and amend where necessary to ensure optimum productivity (pH, fertilization, organic matter, etc.). Identify new partnerships for field trials and alternative crops to enhance area agricultural enterprises. Continue to offer producer-oriented field day programs in cooperation with area equipment dealers, chemical companies, and/or seed companies.

**Objective 4:** Generate timely, state-of-the-art information on key topics related to food, agriculture, and the environment with special attention to emerging issues that may have long-term implications for production of agricultural commodities while protecting natural resources in Tennessee.

**Target:** Seek to sponsor at least 30 speakers/programs that will be directed at enhancing knowledge of emerging issues in the agricultural sciences to include natural resources.

**Objective 5:** Communicate the objectives of the COE and related action programs to raise public awareness of the importance of the agricultural sciences and natural resources to the economic wellbeing of Tennessee and the surrounding areas.

**Target:** Continue to utilize technology to enhance education for on-campus and off-campus students. Endeavor to offer at least one new program promoting agriculture and natural resources in Tennessee. Maintain and enhance course offerings for dual enrollment programs with high school students in Tennessee. Offer at least ten department courses for online delivery.

**Objective 6:** Provide a forum for dialogue, debate, information sharing, and consensus building among policymakers, researchers, and leaders in non-governmental organizations, the private sector, and media through seminars, workshops, conferences, service learning, and publications.

**Target:** Plan and present at least 8 seminars/workshops on current topics of interest to animal and crop producers, as well as programs in natural resource management.

**Objective 7:** Provide enhanced laboratory facilities and resources to support experiential learning.

**Target:** Expand experiential learning experience for students with at least one international travel course and offer at least 40 opportunities for internship participation. Identify opportunities for international study or internships.

**Objective 8:** Support local, regional, and national competitions.

**Target:** Continue to host or participate in a minimum of 10 local, regional, and/or national competitions by UT Martin students and faculty.

**Objective 9:** Provide enhanced resources to assist in the operation of the Tennessee Governor's School for the Agricultural Sciences.

**Target:** Continue to seek new experiential learning opportunities for the Tennessee Governor's School for the Agricultural Sciences.

Schedule 7

CENTERS OF EXCELLENCE ACTUAL, PROPOSED, AND REQUESTED BUDGET

Institution:

University of Tennessee at Martin

Center:

Experimental Learning in Agricultural Science

Expenditures	FY 2018-19 Actual			FY 2019-20 Proposed			FY 2020-21 Requested		
	Matching	Appopr.	Total	Matching	Appopr.	Total	Matching	Appopr.	Total
<b>Expenditures</b>	\$ 506,937	\$ 300,476	\$ 807,413	\$ 340,594	\$ 304,681	\$ 645,275	\$ 357,624	\$ 319,915	\$ 677,539
<b>Salaries</b>									
Faculty	\$ 13,115	\$ 53,116	\$ 66,231		\$ 46,000	\$ 46,000		\$ 48,300	\$ 48,300
Other Professional	65,715	60,000	125,715	13,000	60,000	73,000	13,650	63,000	76,650
Clerical/ Supporting	3,506	30,000	33,506		20,000	20,000		21,000	21,000
Assistantships	115,743		115,743	60,000	10,000	70,000	63,000	10,500	73,500
<b>Total Salaries</b>	\$ 198,079	\$ 143,116	\$ 341,195	\$ 73,000	\$ 136,000	\$ 209,000	\$ 76,650	\$ 142,800	\$ 219,450
Longevity	3,328		3,328	4,000		4,000			-
Fringe Benefits	22,767	80,000	102,767	15,000	80,000	95,000	15,750	84,000	99,750
<b>Total Personnel</b>	\$ 224,174	\$ 223,116	\$ 447,290	\$ 92,000	\$ 216,000	\$ 308,000	\$ 92,400	\$ 226,800	\$ 319,200
<b>Non-Personnel</b>									
Travel	\$ 9,373	\$ 20,000	\$ 29,373	\$ 12,000	\$ 15,000	\$ 27,000	\$ 12,600	\$ 15,750	\$ 28,350
Software			-			-			-
Books & Journals			-			-			-
Other Supplies	191,891	52,360	244,251	156,594	68,681	225,275	168,624	72,115	240,739
Equipment	4,000		4,000	15,000		15,000	15,750		15,750
Maintenance	14,451		14,451	10,000		10,000	10,500		10,500
Scholarships	5,100		5,100			-			-
Consultants	31,571		31,571	35,000		35,000	36,750		36,750
Renovation			-			-			-
Other (Specify):			-			-			-
Utilities and Fuel	12,943	5,000	17,943	10,000	5,000	15,000	10,500	5,250	15,750
Rental and Insurance	13,435		13,435	10,000		10,000	10,500		10,500
			-			-			-
<b>Total Non-Personnel</b>	\$ 282,764	\$ 77,360	\$ 360,124	\$ 248,594	\$ 88,681	\$ 337,275	\$ 265,224	\$ 93,115	\$ 358,339
<b>GRAND TOTAL</b>	\$ 506,937	\$ 300,476	\$ 807,413	\$ 340,594	\$ 304,681	\$ 645,275	\$ 357,624	\$ 319,915	\$ 677,539
<b>Revenue</b>									
New State Appropriation		\$ 300,476	\$ 300,476		\$ 304,681	\$ 304,681		\$ 319,915	\$ 319,915
Carryover State Appropriation			-			-			-
New Matching Funds	\$ 506,937		\$ 506,937	\$ 340,594		\$ 340,594	\$ 357,624		\$ 357,624
Carryover from Previous Matching Funds			-			-			-
<b>Total Revenue</b>	\$ 506,937	\$ 300,476	\$ 807,413	\$ 340,594	\$ 304,681	\$ 645,275	\$ 357,624	\$ 319,915	\$ 677,539

## **Staffing of the Center of Excellence for Experimental Learning in Agricultural Science**

The staffing strategy for the COE focuses on bringing a diversity of talent to the Center of Excellence to better meet the goals and objectives of the Center of Excellence. This is accomplished by offering staffing appointments ranging from 25 percent to 50 percent to faculty and staff of the Department of Agriculture, Geosciences, and Natural Resources. Staffing includes a Director (25 percent appointment) and Business Manager (25 percent appointment) and faculty who are selected through a proposal process (25 percent appointments and one cooperating faculty member with no formal assigned appointment) and the Director of the Tennessee Governor’s School for the Agricultural Sciences. Three support staff members are also assigned to the COE. Staffing assignments (with COE appointment percent) include:

### **Administration:**

Dr. Wes Totten	Director (25%)
Mrs. Carrie Arant	Business Manager (25%)

### **2018-19 RFP Faculty:**

Dr. Clint Ary	Animal Diagnostic Lab (25%)
Dr. Philip Smartt	Park and Recreation and Forestry (25%)

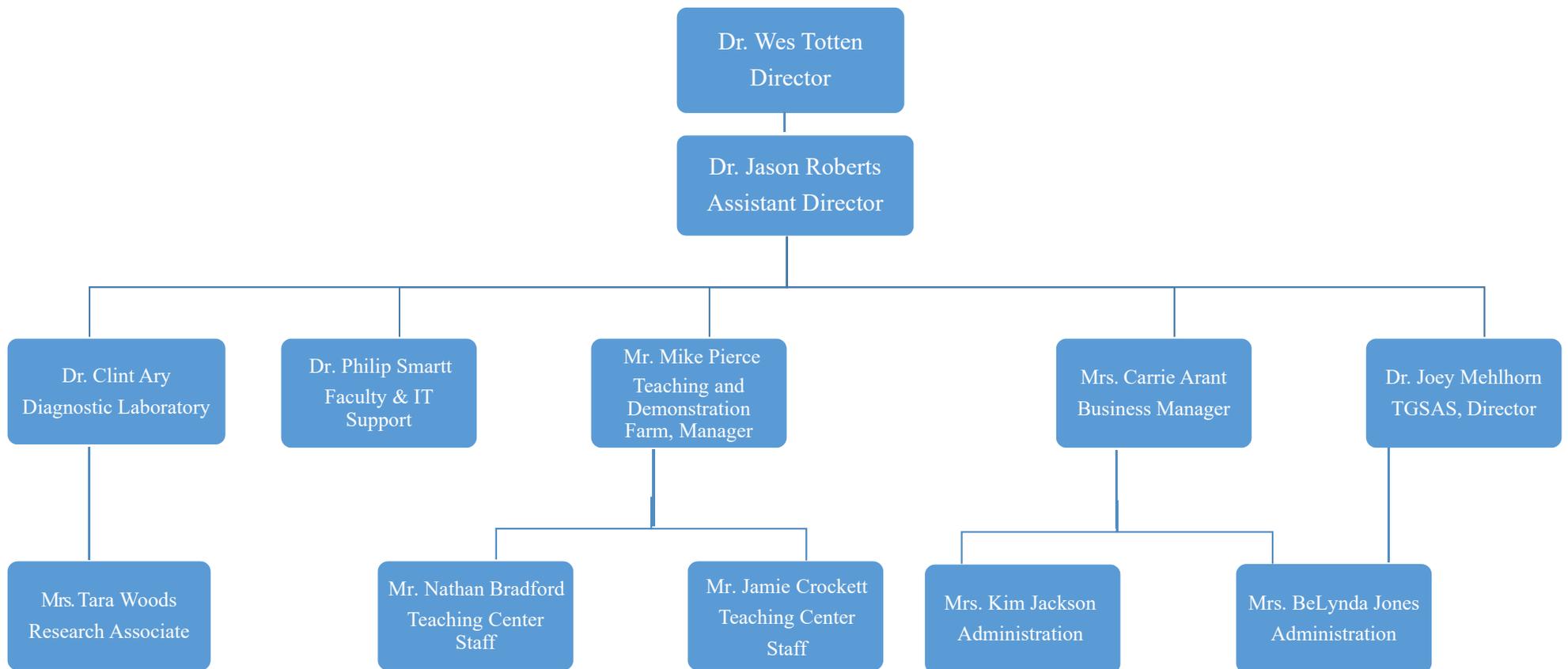
### **Staff:**

Mr. Michael Pierce	Teaching and Demonstration Farm/Ag Pavilion (100%)
Mr. Nathan Bradford	Teaching and Demonstration Farm/Ag Pavilion (100%)
Mr. Jamie Crockett	Teaching and Demonstration Farm/Ag Pavilion (100%)
Mrs. Tara Woods	Research Associate/Diagnostic Laboratory (100%)

A complete Faculty/Staff listing is on page 9.  
An organizational staffing chart is included.

# Center of Excellence for Experimental Learning in Agricultural Science

## Organizational Staffing



## Contact Information



Dr. Wes Totten  
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## Appendix A

### Summary of Contract, Grant and Unrestricted Gift Activity

- Ary, Clint. Funding for operation of West Tennessee Animal Disease Diagnostic Laboratory. State of Tennessee, Department of Agriculture \$105,000 (Funded)
- Darroch, Barbara. “Effect of seed-applied inoculants on soybean yield.” Tennessee Soybean Promotion Board \$11,000 (Funded)
- Darroch, Barbara. “Effect of Planting Date and Maturity Group on Plant Development and Yield of Soybean.” Tennessee Soybean Promotion Board \$13,340 (Funded)
- Darroch, Barbara. “Capacity Building for Enhanced Research and Experiential Education: Resilient Cropping Systems for the Upper Mid-South.” United States Department of Agriculture, National Institute of Food and Agriculture \$148,589 (Funded)
- Darroch, Craig. “Utilization of soy hulls for reduction of ammonia and pathogens in broiler houses.” Tennessee Soybean Promotion Board \$12,200 (Funded)
- Gale, Paula. “Capacity Building Across Upper Mid-South Institutions: Enhancing Teaching and Research (ETR) Through Cover Crop Management.” United States Department of Agriculture, National Institute of Food and Agriculture \$40,367 (Funded)
- Gale, Paula. “Increasing the Resilience of Agricultural Production in the Tennessee and Cumberland River Basins through More Efficient Water Resource Use.” National Institute of Food and Agriculture \$22,951 (Funded)
- Gale, Paula. “An Ecosystem Approach to Classification of Impacted Low Gradient Floodplains in MLRA 134: Connecting Soils, Landforms and Vegetation.” United States Department of Agriculture, Natural Resources Conservation Service \$80,136 (Funded)
- Gale, Paula. “Investigating Benchmark Soil Landscape in the South: Linking soils, landscapes, vegetation and hydrology.” United States Department of Agriculture, Natural Resources Conservation Service \$100,000 (Funded)
- Gale, Paula. “Nutrient Dynamics in Soils Along the Forked Deer River, North Jackson Restoration Site.” State of Tennessee, West Tennessee River Basin Authority \$32,000 (Funded)
- Gale, Paula. “Quantitative Tools for Developing Ecological Sites in the Southeastern U.S.” United States Department of Agriculture, Natural Resources Conservation Service \$18,907 (Funded)
- Grubaugh, Jack and Barb Darroch. “Pest Detection Survey 2019.” United States Department of Agriculture, Animal and Plant Health Inspection Service, Plant Protection and Quarantine \$22,000 (Funded)
- Mehlhorn, Joseph. “Tennessee Governor’s School for Agricultural Sciences” State of Tennessee, Department of Education \$156,000 (Funded)

Mehlhorn, Sandy. "Assessing Soybean Plant Stand using UASs." Tennessee Soybean Promotion Board \$2,724 (Funded)

Mehlhorn, Sandy. "Development of Unmanned Aerial Systems in Precision Agriculture." Tennessee Soybean Promotion Board \$6,000 (Funded)

Mehlhorn, Sandy and Philip Smartt. "RTOT: Enhancing Unmanned Aerial System-based Precision Agriculture Education by Integrating Research, Teaching and Outreach in Tennessee" Sub-awardee with Middle Tennessee State University, United States Department of Agriculture, National Institute of Food and Agriculture \$27,597 (Funded)

Pruitt, J. Ross. "Finding Specialty Niche Markets for Farmers Using Social Aspects of Food." United States Department of Agriculture, National Institute of Food and Agriculture \$96,425 (Funded)