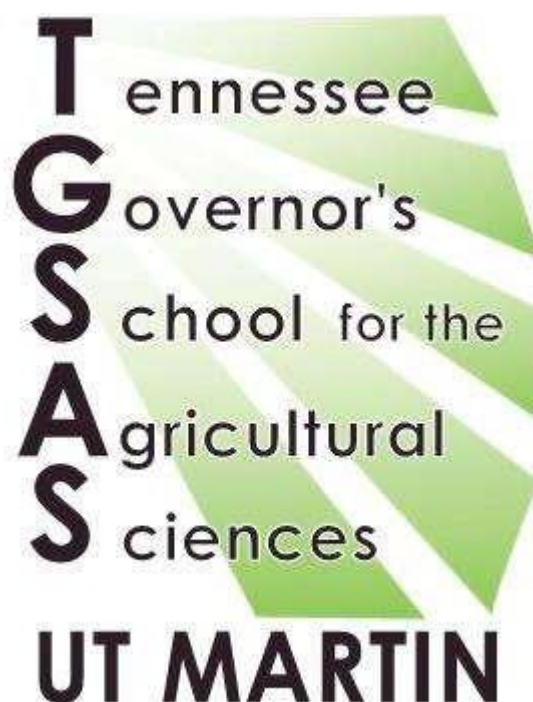


**Tennessee Governor's School
for the Agricultural Sciences**

2022 Annual Report



Class of 2022

Dr. Joey E. Mehlhorn, Director

The Tennessee Governor's School for the Agricultural Sciences is funded by:

**Tennessee Department of Education
Division of Special Programs
and
Tennessee Department of Agriculture
Ag Tag Program**

Presented by:

**The University of Tennessee at Martin
Department of Agriculture, Geosciences, and Natural Resources**

Tennessee Governor’s School for the Agricultural Sciences

Annual Report 2022

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Tennessee Governor's School for the Agricultural Sciences
The University of Tennessee at Martin
Program Summary and Evaluation for 2022

TGSAS 2022 PROGRAM AND EVALUATION

1. Administration and Admissions:

Administrative staffing included:

- **Dr. Joey E. Mehlhorn, Professor of Agribusiness, Parker Chair of Excellence and TGSAS Director**
- **Dr. Philip Smartt, Professor of Park and Recreation Administration, Assistant Director and Coordinator of Technology**
- **Dr. Jason Roberts, DVM, Professor of Animal Science and Staff Veterinarian, Academic Coordinator**
- **Ms. BeLynda Jones, Tennessee Governor's School for the Agricultural Sciences, Administrative Assistant**
- **Ms. Carrie Arant, Department of Agriculture, Geosciences, and Natural Resources, Budget Manager**

The credentials of each potential scholar (**85 applicants**) were evaluated by a selection committee, who scored each applicant's file (Appendix A), and reported these scores to the TGSAS Director. Scores were then tabulated for each applicant and the top 35 were extended letters of invitation. All invited scholars accepted. (Appendix B). Alternates were sent a letter notifying them of their alternate status. (Appendix C) They were placed on an alternate list in order of their scores. Letters of notification were sent to all applicants on the same date. The 2022 TGSAS class began with 35 scholars (Appendix D). All 35 scholars successfully completed TGSAS.

The TGSAS selection committee included:

- **Dr. Joey Mehlhorn, TGSAS Director**
- **Dr. Jason Roberts, DVM, Academic Coordinator**
- **Dr. Philip Smartt, TGSAS Assistant Director and Coordinator of Technology**
- **Ms. BeLynda Jones, TGSAS Administrative Assistant**
- **Ms. Kristy Chastine, Tennessee Farm Bureau Federation**
- **John Chester, Agricultural Producer**
- **Ms. Colleen Coury, Tennessee Department of Agriculture**
- **Ms. Carol Reed, Tennessee Corn Growers Association**

Student counselors were identified, and six were selected by the TGSAS administrative staff. All were assigned to daily counseling duties. Duties included assisting faculty and staff with group study projects, classroom help sessions, and dormitory supervision. They assisted scholars who needed help with a class or had questions. The TGSAS counselors played a vital role in making sure that the program operated smoothly and to make sure scholars always had support in all activities.

The 2022 TGSAS counselors included:

- **Andrew Elrod, Senior, Agriculture Business Major**
- **Emma Cody, Senior, Veterinary Science Major**
- **Laura Myhan, Senior, Agriculture Business Major**
- **Cassie Lewis, Junior, Agriculture Education Major**
- **Samantha Peyton, Senior, Animal Science Major**
- **Weston Colvett, Senior, Agricultural Engineering Technology Major**



The TGSAS Academic Advising Committee met during the fall semester of 2021 to discuss and develop the 2022 TGSAS curriculum. The consensus of the committee was to offer a range of courses and Group Study Research Projects (GSP) dealing with the agricultural sciences. Due to the high number of students consistently choosing the Veterinary Science GSP, two sections were offered in that area along with a section in Precision Agriculture, which incorporates agriculture engineering and plant science. The program was made available for in person format. Two college classes (Agricultural Business and Natural Resources Management) were included in the 2022 curriculum. The TGSAS Academic Advisory Council members included:

- **Dr. Joey Mehlhorn, TGSAS Director, Parker Chair of Excellence and Professor of Agricultural Economics**
- **Dr. Sandy Mehlhorn, Professor of Agricultural Engineering**
- **Dr. Jason Roberts, Professor of Animal Science**
- **Dr. Philip Smartt, Professor of Parks and Recreation**

2. Faculty and course offerings:

During the fall 2021 semester, TGSAS Group Study Projects, seminars and college credit courses were

selected as course offerings for 2022. The TGSAS faculty and staff biographies are included in Appendix H:

- **Dr. Jason Roberts – University of Tennessee at Martin**
- **Dr. Philip Smartt – University of Tennessee at Martin**
- **Dr. Sandy Mehlhorn – University of Tennessee at Martin**
- **Dr. Joey Mehlhorn – University of Tennessee at Martin**
- **Dr. Barbara Darroch – University of Tennessee at Martin**
- **Dr. John Cole - University of Tennessee at Martin**
- **Dr. Bethany Wolters – University of Tennessee at Martin**
- **Dr. Amber Moore - University of Tennessee at Martin**
- **Ms. Tara Woods - University of Tennessee at Martin**
- **Mr. Zach Morphis, LVT – University of Tennessee at Martin**
- **Mrs. Kelly Garner, LVT – University of Tennessee at Martin**
- **Mr. Matt Chesnut, LVT – University of Tennessee at Martin**



The faculty offered a combined Group Study Project sections that incorporated veterinary science, precision agriculture, engineering, plant, and soil science. (Appendix G), and two College courses (Appendix F) on agricultural science topics. Courses were taught through the entire four weeks. Faculty presentation methods included lecture, discussion, field trips, and laboratory experiences.

3. Academic Component

Each student enrolled in TGSAS received three hours of college credit upon successful completion of the course requirements. Students enrolled in dual credit courses during TGSAS and could choose from two courses. The course classes met on Monday through Friday from 1:00 – 4:30 pm. The Group Study Projects (GSP) were also offered Veterinary Science or Precision Agriculture. GSP's met Monday through Thursday from 8:30 – 11:30 am. Scholars attended field trips and special programs on selected days, evenings, and weekends. These additional learning opportunities complemented the college credit courses and the GSP's.

College Credit Courses: (A description of each course appears in Appendix F.)

AGEC 110 – Introduction to Agricultural Business
Faculty: Dr. Joey Mehlhorn, Professor of Agricultural Economics

NRM 100 – Introduction to Natural Resource Management
Faculty: Dr. Philip Smartt, Professor of Parks and Recreation

Group Study Projects: (A description of each GSP is included in Appendix G.)

Precision Agriculture
Faculty: Dr. Sandy Mehlhorn, Dr. Barbara Darroch and Dr. John Cole

Veterinary Science
Faculty: Dr. Jason Roberts, Dr. Amber Moore, Ms. Tara Woods, Mr. Zach Morphis and Mr. Matt Chesnutt

Plenary Sessions: (Appendix I)

These sessions offered the scholars a broad range of agricultural sciences related areas and focused on topics not covered by academic courses or Group Study Projects. Plenary sessions were taught covering additional material for all scholars including topics ranging from leadership, careers in agriculture, lifestyle management, veterinary technology, and agricultural/environmental concerns.

TGSAS Web site: The TGSAS web site (<http://www.utm.edu/departments/caas/tgsas/>) was available to scholars, their families and high school teachers prior to and during TGSAS. The website will be maintained as a source of information for the prospective 2023 class.

4. The student experience at TGSAS featured a variety of innovative academic activities off campus which included:

Field trip Experiences:

Tennessee Farm Bureau Federation (Agribusiness), Tennessee Department of Agriculture (Agricultural Production Marketing and Promotion), Tyson Foods (Agribusiness and Environmental Management), Reelfoot Lake (Wildlife Habitat), Yeargin Farms (Production Agriculture, Animal and Plant Science), Milan Experiment Station (Agriculture Production and Research), Sweetwater Valley Farms (Milk Production and Retail), AgriCenter International (Agriculture Research), Pictsweet Farms (vegetable), Tennessee State Capitol (government and policy).

Yeargin Farms Tour, Greenfield, TN: Yeargin Farms is an integrated 4,000-acre farm which includes rowcrop and livestock operations. Scholars had the opportunity to hear about risk management and overall farm management required for successful operation.

AgriCenter International, Memphis, TN: This facility is a leader in agricultural field crop research, where students experienced an outstanding learning opportunity. Through its agribusiness, University systems, and government and non-government organizations, the AgriCenter provides a professional forum for the unbiased development, evaluation, demonstration, education, and marketing of the latest and most advanced agricultural technologies and products. These advances include biotech seeds, seed treatment chemistries, feasibility studies of new crop uses, farm equipment improvements, and methods for land, soil, and water conservation.

Wildwood Farms: Wildwood farms is a large horse farm in Germantown Tennessee that houses approximately 25 horses on 200 plus acres of land. The farm is owned and operated by Melanie Smith Taylor a 1984 Olympic Gold Medalist in equestrian. The farm also provided opportunities in plant and soil science and environmental management.

Pictsweet: Pictsweet corporate farms is one of the largest producers of fresh and frozen vegetable in the U.S. Students were able to tour the production farm located in Bells Tennessee. The experience showed commercial agriculture and processing on a large scale.

Tyson Foods: Tyson Foods is the world's largest protein provider. Students learned about the poultry portion of the Tyson business by touring facilities and learning from Tyson's professionals on the science and business of providing protein to the growing world population.

Sweetwater Valley Farms: SVF is a large integrated dairy in East Tennessee that makes cheese and dairy products for a variety of market outlets. They are a major supplier of milk to Mayfield Dairy and others. Students learned about automated milking as well as animal management techniques.

5. Agriculturally Focused Housing Experience: Scholars lived in Cooper Hall on the campus of the University of Tennessee at Martin. Cooper Hall is a Living Learning Community (LLC) dorm on campus that allowed students to have ample shared study space and living suites.

6. Agriculture Marketing and Promotion Activities: The Tennessee Governor's School for the Agricultural Sciences strives to promote a broader understanding of agriculture and its relationship with other industries in the state, region, and world. Emphasis is placed on the promotion of Tennessee

agriculture products and exports. The Tennessee Department of Agriculture's AG Tag program is an essential partner to the TGSAS educational experience. Several marketing and promotion activities were incorporated into the TGSAS experience to emphasize the importance of Tennessee agriculture products and businesses to the overall U.S. and global economy. Scholars were able to make connections between initial research and the resulting end product along with the impact on producers and society. Specific activities with Tennessee agribusinesses included:

- Tennessee Farm Bureau, Columbia, TN: Scholars learned about the role of TFBB plays in promoting Tennessee agriculture producers and agribusinesses.
- Tennessee Department of Agriculture, Nashville, TN: A tour of the offices, museum, and grounds of the TDA and an overview of the services provided to the agricultural industry in gave students a broader understanding of the importance of agriculture in Tennessee, the United States and globally.
- Sweetwater Valley Farms is a Tennessee agribusiness that promotes Tennessee products as well as a learning environment to tell others about the importance of Tennessee agriculture.
- Tyson Foods, Union City, TN: Tyson Food is one of the largest suppliers of poultry to the food market in the United States.
- Milan Experiment Station (UTIA): Scholars learned about the important role of research and development of plant varieties and production practices to support U.S. agriculture.
- Pictsweet Farms is a large vegetable operation headquartered in Bells Tennessee. They produce a variety of vegetables that are shipped throughout the world. They are a state-of-the-art facility and promote agriculture through nutritious foods.

7. TGSAS Service Project: A tradition of TGSAS has always been to engage students in some type of service project. This year the TGSAS scholars worked to plant raised vegetable beds at Cooper Hall to help provide fresh vegetables for students. The project was very successful and the scholars felt a sense of pride for their work. In addition, scholars in the Veterinary Science GSP were able to help work with animals from local shelters.







8. Conclusion: The TGSAS program continues to be very successful as in the past. The class of 2022 also had a unique challenge set before them, and they exceeded expectations. The TGSAS administrative staff and faculty will continue to learn from the evaluations of the 2022 program. TGSAS offered scholars academic and experiential learning opportunities to expand their knowledge of the agricultural sciences. They left with a new appreciation of the contributions that agriculture makes to Tennessee and the world. We look forward to building on the past successes of the Tennessee Governor's School for the Agricultural Sciences and continuing to provide a premier experience for the exceptional high school students chosen to participate.

9. Acceptable Performance Metrics Summary: The TGSAS students were surveyed at the conclusion of their college course to determine the effectiveness of the instruction and experience. Students were divided between the NRM 100 Introduction to Natural Resource Management, AGEC 110 Introduction to Agribusiness. A breakdown of the student's responses from the courses follows.

- **100%** of students stated the college course increased their critical thinking skills.
- **100%** stated that TGSAS enhanced their communication skills.
- **94%** stated that TGSAS helped improve their study skills.
- **100%** of TGSAS scholars stated that the credit courses were worth the effort.
- **89%** stated that the college courses were different than high school courses.
- All Group Study Projects Sections were rated at Excellent or Outstanding.
- **92%** of TGSAS scholars stated that they had ample time to prepare for classes.
- AGEC 110 Introduction to Agribusiness - Joey Mehlhorn (Excellent – 4 and Outstanding - 21)
- NRM 100 Introduction to Natural Resource Management – Philip Smartt (Excellent – 3 and Outstanding - 10).
- TGSAS scholars rated the opening TGSAS session **4.1/5.00**

- TGSAS scholars rated campus security (Did you feel safe?) **4.5/5.00**
- **100%** responded directly that they would recommend TGSAS to a fellow student.
- **100%** Stated that they felt TGSAS will help them achieve their academic and career goals.
- **100%** stated that a career in agriculture would be personally rewarding.
- **100%** of the scholars stated that agriculture was a science and that biology and chemistry are an important part of a career in agriculture.
- **94%** of scholars felt that agriculture was important to the overall U.S. economy.
- **100%** of students who started TGSAS completed the program successfully.

TGSAS scholars were pre and post tested with various agriculture knowledge questions. Results for selected questions are given below.

Question	Pre Test %	Post Test %
Corn is the number one crop in the world	37	69
The livestock industry is the largest industry in the state of Tennessee.	51	63
What is your opinion of the number of job opportunities available in agriculture? (very many jobs)	53	61
The U.S. food supply is safe (agree/strongly agree)	68	89
Agriculture employs a large number of people in the U.S. (agree/strongly agree)	80	86
All agriculture jobs involve production agriculture (disagree/strongly disagree)	69	77

In addition, we asked students to comment openly on their TGSAS experiences. Below are unedited student comments.

I was enrolled in AGECE 110. I really enjoyed that Dr. Mehlhorn gave us notes. I had not been in a college class environment before so that really helped guide me. The quizzes before the test helped me to actually feel like I learned something. He relates the topics to real world examples we can understand. He also let us ask questions and get more in depth, and I feel like most professors would not do that. Considering the amount of time we had and material we had to cover, I really cannot think of a weakness that stands out to me. The first little bit it was hard to adjust to that much lecturing at once, but the breaks helped a lot.

NRM100 - this class really opened my eyes to what's all-out there in jobs and opportunity's and I loved class time I was excited for Dr Smartts class but I was easily tired after GSP so sometimes I would be at top performance from being tired so timing is another way to put it since I'm used to class in mornings.

NRM 100 was a good class. Dr. Smartt was a great teacher and had a real story for everything which made it very easy to understand the material. I would have liked the class better if it was in the morning instead of after lunch and sometimes being out in the hot all day made it hard to focus from just being tired from what we did earlier in the day. Overall, it was a very good class.

The class I was enrolled in was AGECE 110. This was such an impactful class for me. It made me switch majors and realize I can do Agribusiness. Dr. Mehlhorn is an outstanding professor and truly ignites a fire in his students. He is compassionate and cares about each and every person that walks through his classroom. Without a doubt I will be coming back to Martin for college. The weakness of the class was just how long it was it is very hard to be active for so long, but we were given many breaks to make it easier.

(AGEC 100) This was the first college class I have ever taken in person, so it taught me skills on how to understand and comprehend lectures. Dr. Mehlhorn did an excellent job with helping us and explaining anything we did not understand. Also, the current issues opened my eyes more to topics I would not pay attention to. The class itself was great because I love talking about economics, so it made for great discussions and examples.

I was in the NRM 100 class. I thoroughly enjoyed this class because Dr. Smartt made his material challenging yet worked to help us understand the content by sharing his real-world experiences. Although it was often difficult to focus the full 4 hours of class, we were given ample breaks to help refocus on the material.

I enrolled in NRM 100 and I loved the class. Dr. Smartt was an excellent teacher and provided us with the necessary tools to excel. Whether it be his informational stories to help us remember or his excellent teaching and explaining skills he did an excellent job with the class. We were always able to come to him with questions even outside of class and overall I loved the course. Personally, I did not notice any weaknesses in the class or his teaching style.

I was in AGECE 110, personally I am not an econ person, but Dr. Mehlhorn did not care who you were or where you come from he will make sure you do your best and assist you in anyway needed. He is the best at encouraging without singling you out.

AGECE 110 was a great class to get a good knowledge of basic and in-depth economics. It was explained extremely well in such a short amount of time and I believe I learned far more from it than a high school class. The only downside was the four hour-long classes.

NRM 100, I felt I knew a lot of the information I enjoyed the discussions we could have but I feel like I learned a lot and vocabulary has been hard for me I knew really understood how to study with them and I feel that his has helped me learn not only about natural resources but of how to properly study.

I participated in the Veterinary Science GSP. This class was amazing. I got to see and participate in activities I never would have thought of and each experience was eye opening. I don't think there are any weaknesses in this GSP.

Vet Science- The main strength of this GSP is all of the hands-on experience that we were able to gain. I enjoyed the fact that we learned as we went along. All of the teachers and instructors were amazing. I also enjoyed all of our "field trips" to a variety of different places and out guest speakers. I cannot find any clear "weaknesses" in this program

My GSP was Veterinary Science. I loved the teacher and the way he taught and got us involved in many different conversations about the future and colleges. I got many hands-on activities and it helped me truly learn more in the field I love. I would like to have seen other people been able to get involved instead of the same few people that they normally always chose. Other than that this experience was a great way to help me choose my career.

I was in the veterinary science GSP group. I am so glad I chose this GSP. I got to experience many things I never would have gotten to do if it were not for this GSP. The vets and vet techs were always so patient with us while trying things and volunteering. They kept us safe the whole time. We were not in the classroom a

ton, which I was glad about. I enjoyed the field trips as well. Dr. Roberts did a good job teaching and guiding us in some of our activities. Mr. Matt, Ms. Kelly, Mr. Zach, and Dr. Moore were all amazing!

Vet Science: I have nothing but good words about this GSP. Dr. Roberts, Dr. Moore, and the rest of the vet clinic people were phenomenal. I am forever grateful for this experience. The only change I would possibly make is doing GSP in the afternoon, so you don't have to be dirty all day for class and study hall, and possibly doing GSP in the afternoon to get the class part of the day over with first.

I was in the precision ag GSP. I enjoyed learning about plants and engineering. Some of my favorite things was going out in the field and working, going on a weed walk, building a roller coaster, and many others. My weakness in my GSP was having to stand in the heat. Being outside in the extreme heat was not fun and made me want to hurry up and go inside.

Precision Ag My strong suit was the irrigation because I run my own landscape company. my weakness was crop growth stage ID. I never really understood how to do it but if I spend more time then I will figure it out it was just the short amount of time we spent.

I was in the Vet GSP group. The activities were amazing because of all the hands-on experiences we had with professionals. The veterinarians, veterinarian technicians, and other professionals showed us their craft and explained everything at the best of their ability. The only weakness was that we did some things I did not particularly like but it showed me that it was not a field for me. This experience helped me find what I enjoy.

I was in the Precision Ag GSP. When it came to classroom and in-the-field experiences, I believe that there was balance between the two. Getting an in-class understanding of the topic of the day was valuable because it helped me understand what we were doing outside that day.

I participated in the Veterinary science GSP this term. I loved the hands-on experience we all were able to get. I was able to scrub into a surgery, float horses' teeth, give injections, etc. all while just being a student. This GSP has made me reconsider what I want to do as a career by expanding my options. Dr. Roberts was very involved along with all the other vet staff in ensuring we got as much as we could out of the program. Overall, the only weakness I saw was the time restraints placed on the class, I wish we had more time to do more things.

Precision agriculture. It was a great class for people who love growing crops and engineering. It showed irrigation systems, the behind-the-scenes engineering, and developing a knowledge for plants and the soil. I believe the only weakness was traveling and touring earlier in the morning.

Precision Ag-I enjoyed all the activities and lessons that took place during this GSP, although I would have liked to have received a little more information on some of the technology used on the UTM farm every day.

I was in the precision ag GSP. I liked how we went to the different locations and how everything was very hands on learning. I really liked the professors and they did a good job of explaining everything we were doing. The only weakness was not having a planned schedule of what we were going to be doing the next day or what professor we were going to be with.

Veterinary science group, I have loved animals since I was little but I only grew up with dogs and cats I come from a non-agriculture background but I've always watched those vet shows on tv so I knew some but

I have never gotten to be up close and work with the animals, so this experience made me feel more comfortable around animals to go along with the new knowledge I had and the knowledge I had before.

Appendix A

SUMMARY OF APPLICANT EVALUATION

Please score each applicant for each area on the following scale:

5 = Most outstanding, 4 = Outstanding, 3 = Average

2 = Marginal, 1 = Unacceptable

Total of 20 points possible for each applicant.

No.	Applicant	Academic Achievement	Agricultural Sciences Experience	Essays and Writing Skills	School and Community Involvement	Total
1						
2						
3						
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Appendix B
Letter of Invitation

**The Tennessee Governor's School
for the Agricultural Sciences**
The University of Tennessee at Martin
254 Brehm Hall
Martin, Tennessee 38238
Telephone: 731-881-7211
Fax: 731-881-7948
Sponsored by The Tennessee Department of Education and
The Tennessee Department of Agriculture AG Tag Program

March 1, 2022

Congratulations!! You have been selected for the 2022 Tennessee Governor's School for the Agricultural Sciences (TGSAS) at the University of Tennessee at Martin. This experience will be from May 28-June 24th.

Enclosed you will find a form to accept or decline your position with the Class of 2022. Please complete the form, scan it in and return by email to bjone124@utm.edu or you can return by mail to the address at the bottom of the form. The form must be returned by Wednesday, March 16, 2022. Once we receive your acceptance form, we will mail a packet with detailed information on TGSAS. We look forward to hearing from you and having you on campus this summer. You will receive a paper form of this letter in the mail. You only need to reply once.

Sincerely,
Joseph Mehlhorn
Director, Tennessee Governor School for Agricultural Sciences
University of Tennessee at Martin

enclosure

Appendix C
Alternate Letter

March 1, 2022

Name
Address
City

2022 Tennessee Governor's School for the Agricultural Sciences Application

Dear Name:

Thank you for considering and applying for the 2022 Tennessee Governor's School for the Agricultural Sciences (TGSAS). The committee has completed their selection process, and although you were not selected for the class, you are on the alternate list for TGSAS. We have emailed acceptance invitations to 34 prospects for this year's class and have asked that they accept or decline by March 16th. If we have available slots, we will begin notifying the top-ranking alternates individually to complete the final selection process after March 16th. Please have patience as we go through the selection and offer process.

I would like to share the thoughts of the committee as they arrived at some very difficult decisions. There were 88 applicants for the 2022 TGSAS class and those applications were very competitive. You have an outstanding record and credentials and are certainly the type of student that we would like to see in the class. However, we are limited by funding to only 36 in this year's class.

Again, thank you for your time in preparing and submitting your application for this year's Tennessee Governor's School for the Agricultural Sciences.

Sincerely,

Joey E. Mehlhorn, PhD
Parker Chair of Excellence in Agriculture
Professor of Agricultural Economics
Director, Tennessee Governor's School for the Agricultural Sciences

Appendix D 2022 SCHOLARS

First Name	Last Name	City	County Residence	High School
Heidi	Beckman-Marshalek	Mt Juliet	Wilson	Mt. Juliet High School
Lacy	Collier	Robersville	Hawkins	Cherokee High School
Charley	Crawford	Belvidere	Franklin	Huntland School
Lindsey	Finchum	Sevierville	Sevier	Seymour High School
Elizabeth	Fuqua	Lascassas	Rutherford	Oakland High School
Amy	Gunter	Mountain City	Johnson	Johnson County High School
Hannah	Harrell	Readyville	Rutherford	Oakland High School
Ella	Hasty	Smyrna	Rutherford	Stewarts Creek High School
Calista	Haynes	Christiana	Rutherford	Central Magnet School
Brittany	Hollis	Lenox	Dyer	Dyer Co High School
Grace	Howell	Clarksville	Montgomery	Stewart Co High School
Ta'Laysia	Jackson	Mt Juliet	Wilson	Lebanon High School
Layla	King	Henning	Lauderdale	Ripley High School
Alyssa	Lynch	Dickson	Dickson	Dickson County High School
Gabrielle	Maggard	Danderidge	Jefferson	Jefferson County High School
Madison	Maupin	Eagleville	Rutherford	Eagleville School
Alyson	Metcalf	Wartrace	Bedford	Cascade High School
Abigail	Ogle	Elora	Lincoln	Fayetteville High School
C.C.	Panetta	Cosby	Cocke	Cocke County High School
Gracey	Plemons	Mt. Juliet	Wilson	Mt. Juliet High School
Kara	Porter	Maryville	Blount	Maryville High School
Canton	Prentice	Sante Fe	Maury	Sante Fe Unit School
Carley	Pruett	Bradford	Gibson	Bradford High School
Molly	Ralston	Rockvale	Bedford	Eagleville School
Macie	Rhinehart	Murfreesboro	Rutherford	Siegel High School
Autumn	Smith	Sardis	Henderson	Scotts Hill High School
Madelyn	Thompson	Danderidge	Jefferson	Jefferson County High School
Annalisa	White	Jackson	Madison	Milan High School
Christopher	Broyles	Mt. Juliet	Wilson	Green Hill High School
Carson	Drake	Cedar Hill	Robertson	Jo Byrns High School
Brandon	McCollum	Martin	Weakley	Westview High School
Brendan	Overman	Huron	Henderson	Scotts Hill High School
Ashton	Reed	Milton	Rutherford	Oakland High School
Easton	Walker	Adams	Robertson	Jo Byrns High School
Hunter	Watson	Jackson	Madison	Jackson Christian School

Appendix E
2022 APPLICANTS (Not Accepted)

First	Last	City	County Residence	High School
Guinevere	Smathers	Thompson's Station	Williamson	Independence High School
Isabella	Lumley	Murfreesboro	Rutherford	Siegel High School
Elle	Techasiriwan	Ooltewah	Hamilton	Hamilton Co Collegiate HS at Chattanooga State
Camryn	Eafen	Collierville	Shelby	Houston High School
Jenna	Sullivan	LaVergne	Rutherford	LaVergne High School
Noah	Houston	Ooltewah	Hamilton	Boyd Buchanan School
Sydney	Holt	Johnson City	Washington	Science Hill High School
Sithmi	Hewarithana	Nashville	Davidson	Hume-Fogg Academic Magnet
Nadira	Nalband	Chattanooga	Hamilton	Chattanooga School for the Arts & Sciences
Cadence	Roberts	Murfreesboro	Rutherford	Riverdale High School
Sahil	Baligar	Collierville	Shelby	Collierville High School
Alejandro	Castillo Rodriguez	Nashville	Davidson	John Overton High School
Kathryn	Denkewalter	Knoxville	Knox	Knoxville Catholic High School
Ella	Brinen	Nashville	Davidson	Martin Luther King Jr Magnet
Kaden	Courdway	Murfreesboro	Rutherford	Siegel High School
Kylie	Hutchison	Troy	Obion	Obion Co Central High School
Carly	Howell	Troy	Obion	Obion Co Central High School
Emma	Barrett	Clarksville	Montgomery	Clarksville High School
Grace	Johnson	Hendersonville	Sumner	Beech High School
Erika	Delwisch	Collierville	Shelby	Collierville High School
Shelbi	Wallace	McEwen	Humphreys	McEwen High School
Bethany	Kelman	Chattanooga	Hamilton	East Hamilton High School
Kailey	Epperson	Lebanon	Wilson	Lebanon High School
Lalitha	Tadikonda	Knoxville	Knox	Farragut High School
Muhammad	Arshad	Collierville	Shelby	Collierville High School
Abhinay	Bhatlapenumarthu	Collierville	Shelby	Collierville High School
Abigail	Barnett	Portland	Sumner	Portland High School
Ashima	Grover	Franklin	Williamson	Ravenwood High School
Tejkaushik	Maradana	Collierville	Shelby	Collierville High School
Abbigail	Davidson	Bon Aqua	Dickson	Dickson Co High School
Olivia	Glover	Signal Mountain	Hamilton	Signal Mtn Middle High School
Greetja	Nestler	Signal Mountain	Hamilton	Signal Mtn Middle High School
Isaac	DeBusk	Riceville	McMinn	Central High School
Chloe	Gagnon	Greenbrier	Robertson	Greenbrier High School
Nikhil	Singh	Chattanooga	Hamilton	Chattanooga School for the Arts & Sciences
Grace	Siebe	Brentwood	Williamson	Ravenwood High School

Avery	Sledesky	Franklin	Williamson	Franklin High School
Sara	Wright	Mt. Juliet	Wilson	Green Hill High School
Boyu	Tan	Knoxville	Knox	Farragut High School
Ashley	Kim	Brentwood	Williamson	Brentwood High School
Alyssa	Gast	Knoxville	Knox	KCS Virtual High School
Chloe	Goff	Bradford	Gibson	Bradford High School
Everett	Doyle	Somerville	Fayette	Fayette-Ware High School
Chloe	Lee	Brentwood	Williamson	Ravenwood High School
Kelsey	Beaty	Soddy Daisy	Hamilton	Hixson High School
William	Barrett	Lascassas	Wilson	Middle Tennessee Christian
Venkateswaran	Samiksha	Franklin	Williamson	Page High School
Kathleen	Hartono	Knoxville	Knox	Bearden High School
Becca	Bryant	Toone	Hardin	Bolivar Central High School
Ellinor	Campbell	Ooltewah	Hamilton	Ivy Academy

**Appendix F
Course Syllabi**

**AGEC 110 - INTRODUCTION TO AGRICULTURAL BUSINESS
TGSAS SUMMER 2022
University of Tennessee Martin**

Instructor: Joey Mehlhorn, Ph.D.
Office: Brehm Hall 254
Phone: 731-881-7275
Email: mehlhorn@utm.edu
Office Hours: M-F 9:00 – 11:00, or by appointment

Course Description:

AGEC 110 Introduction to Agricultural Business (3) An introduction to the field of agricultural business and some of the basic tools and concepts of decision-making. Concepts are illustrated in terms of selected current social and economic issues in the industry of production agriculture, agricultural business, and the computer application of those concepts.

Course Objectives:

To introduce students to the fundamental economic principles and tools used in the modern agribusiness complex. Students will be exposed to:

- Supply & Demand factors
- Competition among agribusiness firms within the U.S. and abroad
- Microeconomic & Macroeconomic theory related to the firm and the agribusiness complex
- Rural diversity and development issues
- International development issues
- Agricultural society and its role and relationship to the overall economic system
- Consumer income issues
- Producer decision making process

Course Grade Requirements:

Activity	% of Course Grade
EXAMS (4 hourly exams)	75%
Assignments & Quizzes*	25%

Grading:

A	90% or above
B	80% - 89%
C	70% - 79%
D	60% - 69%
F	Below 60%

Course Policies and Procedures

1. **Students are encouraged to attend class regularly.** Attendance will be taken, and many assignments will be completed during the class period.
2. **Students are expected to complete all reading assignments prior to the class period.**

3. **All homework is expected at the beginning of the class period on the date due.** The homework grade will be reduced by 50% if not handed in by the due date. If homework is not received by the beginning of the next scheduled class period, the grade will be zero.
4. **Cheating will not be tolerated!!!!** This includes acquiring answers or providing answers during examinations or assigned work. Presenting work, ideas of another without giving credit and proper documentation.
5. **If you have a disability that may require assistance or accommodation, or make you have questions related to any accommodations for testing, note takers, readers, etc., please speak with me as soon as possible.**
6. No make-up exams will be given in this course. If you have to miss an exam you must contact me **BEFORE** the exam is given to make arrangements. If an exam is excused, the remaining exams will be averaged to replace the missing exam grade.
7. **Turn off all phones, pagers, PDA's etc. when you enter the classroom. If it is necessary for you to leave such devices on during class, please see me at the beginning of class.**

Academic Integrity: Students are expected to abide by statements in the *UTM Course Catalog, Faculty Handbook, and Student Handbook* regarding academic integrity (http://www.utm.edu/departments/conduct/new_academic_integrity.php). **Plagiarism occurs when one student submits work from another student as their own and is grounds for failure of that assignment, exam, and/or course. While I have no issue with students comparing answers before submission, I will not accept one student copying answers from a second student. Cheating on an exam is grounds for failure of the exam and course.** Plagiarism also occurs when proper citations are not provided for external references.

Students with Disabilities: Any student eligible for and requesting academic accommodation due to a disability is requested to provide a letter of accommodation from P.A.C.E. or the Student Success Center within the first two weeks of the semester. The Student Success Center may be found in 203 Clement Hall, 731.881.7605.

Student Harassment/Discrimination: Any student who feels that they are being harassed or discriminated against in this class should follow the UT Martin harassment policy guidelines: <http://www.utm.edu/departments/equalopp/harassment.php>.

Cell Phones and Other Electronic Devices: Cell phones are **not** allowed to be used during a quiz or exam. Use of a cellphone is a form of cheating which results in a zero on the quiz/exam and failure of the course.

Tentative Course Outline and Class Schedule

- I. Introduction to the Farm and Food System
 - a. Important economic and agribusiness terms
- II. Agribusiness in the Modern Era
 - a. Value Judgments
 - b. Sectors of Agribusiness
 - c. Contemporary Issues
- III. Consumer Behavior and Demand
 - a. Overview of the Basic Framework

- b. Factors that Shift Demand Curves
- c. Utility
- d. Indifference Curves
- e. Budget Constraints
- f. Effect of Price Changes on Demand
- IV. Costs and Production
 - a. Factors of Production
 - b. Stages of Production
 - c. Marginal Productivity Analysis
 - d. Cost Calculations
 - e. Profit Calculations
- V. Input and Product Substitution
 - a. Isoquants
 - b. Input Substitutability
 - c. Least Cost Combinations
 - d. Effect of Price Changes on Supply
 - e. Factors that Shift Supply Curves
 - f. Product Substitutability
- VI. Market Structure and Competition
 - a. Market Structures
 - b. Sources of Market Failure
 - c. Mergers
 - d. U.S. Regulations on Pricing and Agriculture
- VII. Money and Macroeconomics
 - a. Functions of Money
 - b. Inflation
 - c. Monetary and Fiscal Policy
 - i. Goals of each
 - d. Unemployment
- VIII. Agricultural Finance
 - a. U.S. Agricultural Balance Sheet
 - b. Time Value of Money
 - i. Present Value
 - ii. Future Value
 - c. Loan Repayment Methods
 - i. Declining/Remaining Balance
 - ii. Add-On
 - iii. Discount

NRM 100: Introduction to Natural Resources Management
Tennessee Governor's School for the Agricultural Sciences (TGSAS)
University of Tennessee, Martin

Basic Information:

Meeting Time and Place: Brehm Hall 202

Course Credit Hours: 3

Textbooks and Other Required Materials: Reading and videos will be available in Canvas and assigned as needed.

Faculty Contact Information

Instructor: Dr. Philip Smartt

Office: 267 Brehm Hall

Telephone: 731-881-7954

Email: psmartt@utm.edu

Course Information:

Course Description/Information:

Survey of global, national, and regional natural resources; a history of resource use at global, national, and regional levels; description of global, national, and regional management of forests, fish and wildlife, soils, water, metal, mineral, energy, and recreational resources; review of international, national, and regional management entities.

Course Resources:

UTM Blackboard: Class material and grades will be posted on Canvas. Please check it frequently. If you desire an e-mail address other than your UTM address for Canvas notifications, you will need to make the change in Canvas as directed. E-mail is also the official form of communications for the university. You are responsible to check your e-mail.

Student Learning Outcomes/Objectives:

Students will have an understanding of the following concepts:

- Definitions and examples of basic natural resources.
- Global distributions and use patterns of natural resources.
- Differences among preservationist, conservationist, and exploitationist management philosophies.
- Distinction of renewable, non-renewable, and non-exhaustible natural resources.
- Meaning and importance of land stewardship, multiple-use management, and sustainable use.
- Historical foundations of natural resource use, preservation, and abuse; keystone legislation, and influential individuals.
- Current natural resource management strategies.
- Roles of public and private entities in natural resources management.
- Distinctions among international, national, and regional management issues and authority.
- Current issues regarding resource use and management.
- Future changes and trends in natural resource management and philosophy.
- Employment opportunities in the field of natural resource management.

Course Communications:

I am available to answer any of your questions any time I am in my office. My office hours are posted on my office door and other times are available by appointment. E-mail is the best way to contact me as I regularly check it.

Course Requirements/Expectations:

Course Requirements, Assessments, and Evaluations:

Professional Development: Part of the classroom experience is professional development. This means professional behavior in class. It means showing respect for yourself and others in the class. The expectation of professionalism is a reflection of demands that will be placed upon you by potential employers.

- Academic Integrity: Please refer to the section below on Academic Integrity. Violations will be dealt with at the discretion of the instructor.
- Eating/Tobacco Use: Eating or the use of tobacco products in class is not permitted.
- Class Participation: You have unique thoughts and experiences; please share those in class to the benefit of others.
- Apparel: Hats are not to be worn in the classroom.
- Attendance: Attendance and punctuality are expected for class. Students are responsible for all material administered during missed classes. Missed exams may be taken at a later date and time, to be decided by the instructor, only if the absence was for a school-related event or emergency for which the student provides documented proof. The style and format of make-up exams are at the prerogative of the instructor. The instructor **MUST** be contacted as soon as possible when you know a test will be missed.
- Cell Phones and Other Electronic Devices: Please turn off your cell phone in class. If your cell phone rings during class, you will be docked 2 points from your final grade. The same is true for texting. A cell phone may not be used during a test. Accessing your cell phone during a test will be treated as cheating.

Grades:

Regular Exams (4)	= 90 points
Final Exam	= 2 points
<u>Service Learning</u>	= 8 points
Total	=100 points

- 90-100 = A
- 80-89 = B
- 70-79 = C
- 60-69 = D
- <60 = F

There is no extra credit.

Group Study Projects (GSP) Syllabi
2022 Group Study Project Course Descriptions

Veterinary Science Group Study Project

Instructor: Dr. Jason Roberts

Office: Veterinary Diagnostics Laboratory

E-mail: jroberts@utm.edu

Contact Numbers: office-731.881.7952, cell-731.514.1475, home-731.364.6842

Veterinary Science GSP Course Description: The Veterinary Science GSP will present the students with the opportunity to observe and learn about the diversity of career opportunities in veterinary medicine, animal care of both farm and companion animals and perform a basic research project on companion animals from local humane shelters. The companion animal research project will involve obtaining diagnostic samples, performing treatments, analyzing diagnostic samples and comparing the results. The companion animals will then be returned to the humane shelters in better health and ready for adoption. The students will familiarize themselves with pre-diagnostic, diagnostic and therapeutic options available in veterinary medicine. The project will also include visits to humane shelters, veterinary clinics, swine farms, a dairy, an equine therapeutic riding center and the University teaching farm which is the home of cattle, sheep and horses. The objective of the veterinary science project is to allow students the opportunity to observe hands on care and treatment for a variety of species while also learning the health needs of the individual animals themselves. The students will also have the opportunity to observe necropsies in the West Tennessee Diagnostic Lab as cases are available. Topics on different careers in veterinary medicine and different usages of our animal friends will also be discussed. At the conclusion of the group study project, each student will leave with a greater understanding of and respect for the veterinary profession and the responsibility involved in caring for companion and farm animals.

Student Learning Outcomes:

- Describe appropriate safety measures in veterinary workplace
- Identify common careers in veterinary industry
- Demonstrate safe handling of small and large animals
- Identify basic anatomy of small and large animals

Precision Agriculture Group Study Project

Instructors: Dr. Sandy Mehlhorn, Dr. Barbara Darroch and Dr. John Cole

Faculty Contact Information:

Dr. Sandy Mehlhorn, 731-881-7253, smehlhorn@utm.edu

Mr. John Cole, 731-881-7264, jcole42@utm.edu

Dr. Barbara Darroch, 731-881-7279, bdarroch@utm.edu

Course Description/Information: Precision Agriculture is a widely used term in agriculture today but there are many misconceptions about what it entails. Scholars involved in the Precision Agriculture GSP will be involved in all aspects of precision agriculture in row crop production. From preparing the soil, to planting, harvesting, and uses of the final product, students will get a preview of everything involved in production agriculture. Scholars will also engage in a research activity in order to learn how to properly conduct and report research.

Precision Agriculture combines the GSP categories of Agricultural Engineering and Crop Production. Since they are both a part of the precision engineering curriculum. The class experienced the many areas in which diverse agricultural activities interact and complement each other. The course addressed preparing soil, weed identification, and harvesting in conjunction with the use, function and maintenance of farm equipment designed for fertilizing, eradicating weeds and reaping the mature crops. The use of Global Positioning Systems on tractors was explained and the students had the opportunity for experiencing hands on use of a GPS on campus.

Student Learning Outcomes/Objectives:

- Students will be able to define various aspects of precision agriculture.
- Students will understand the general process of row crop production from soil preparation to harvest to final products.
- Students will demonstrate proper research methods.
- Students will demonstrate writing methods for a scientific research paper.

Appendix H

FACULTY AND STAFF BIOGRAPHIES

Administration

Dr. Joey Mehlhorn (Director) is currently the holder of the Gilbert Parker Chair of Excellence, coordinator of the Master of Science in Agriculture and Natural Resources program and a Professor of Agricultural Economics at the University of Tennessee at Martin. He has held previous faculty positions at Middle Tennessee State University and West Texas A&M University. Dr. Mehlhorn graduated with a Bachelor of Science degree in Agribusiness Economics from Tennessee Technological University in 1992. He graduated from Mississippi State University with a Master of Agribusiness Management degree in 1994 and received his Ph.D. in agricultural economics there in 1998. Dr. Mehlhorn's research interests include experiential learning in agribusiness and farm management issues.

Dr. Philip Smartt (Assistant Director) also serves as Technology Coordinator for Governor's School. (See faculty biography below.)

Dr. Jason Roberts (Academic Coordinator) is responsible for working with the faculty to develop the curriculum for classes, and GSP's. (See faculty biography below.)

Mrs. BeLynda Jones (Administrative Assistant) is the Administrative Assistant for TGSAS. During her 35-year career she has held administrative assistant positions with Reelfoot Regional Library, Bethel University and The University of Tennessee at Martin. Her priorities for TGSAS include efficient administrative operation and open communication with faculty, counselors, students, and parents/guardians.

Mrs. Carrie Arant (Budget Manager) served as Budget Manager for the program. She previously worked as an accountant for several diverse businesses in West Tennessee and now serves as Business Manager for the Department of Agriculture, Geosciences and Natural Resources. She holds a degree in Agricultural Business and an MBA from the University of Tennessee at Martin.

Faculty

Dr. Sandy Mehlhorn is a licensed engineer and Associate Professor in geomatics and surveying in the Department of Agriculture, Geosciences, and Natural Resources. Dr. Mehlhorn received her Ph.D. in civil engineering from the University of Memphis. She has teaching responsibilities for the surveying program. Her research interests include GIS projects, disaster recovery modeling and materials.

Dr. Jason Roberts joined the Department of Agriculture, Geosciences and Natural Resources at the University of Tennessee at Martin in April 2009. He is a graduate of UTM and the University of Tennessee School of Veterinary Medicine. Prior to joining the faculty at UTM he was a veterinary practitioner at Northwest Tennessee Veterinary Services in Dresden, TN for seven years. Dr. Roberts is an Associate Professor and serves as Academic Advisor for TGSAS.

Dr. Philip Smartt is a Professor of Park and Recreation Administration in the Department of Agriculture, Geosciences and Natural Resources at UTM. Dr. Smartt earned a Ph.D. in Forestry from Texas A and M University, a Master of Forestry in Forest Recreation from Stephen F. Austin State University, and a Bachelor of Science in Aerospace from Middle Tennessee State University. His scholarly interests include park resource management, resource interpretation, non-industrial private forest management, and technology development. Dr. Smartt teaches Natural Resources Management and serves as Assistant Director and Technology Coordinator for the Governor's School.

Dr. John Cole is an assistant professor in agricultural engineering technology and a registered engineer. His teaching and research interests include renewable energy, irrigation technology and mechanical engineering principles. He has worked with the development of several startup companies in the agricultural field.

Dr. Barbara Darroch received her PhD in Plant Breeding from the University of Saskatchewan. She served as the advisor and an instructor for the Master of Science in Agriculture and Natural Resources Management program for several years. Dr. Darroch is currently an assistant professor of Plant Science in the Department of Agriculture, Geosciences, and Natural Resources.

Dr. Amber Moore joined the department in Jan 2022. She earned her BS in Ag from UTM, MS of animal science from UTK, and DVM from UTCVM. She enjoys large animal medics and all types of surgery. She is currently serving as an assistant professor of animal science as well as Large Animal Staff Veterinarian for Weakley Farmers CO-OP.

Mrs. Kelly Garner is a licensed Veterinary Technologist and currently a Veterinary Technology Laboratory instructor. She graduated from the Veterinary Technology program at the University of Tennessee at Martin in 2014. Since graduation, she has furthered her education and technician skills from Auburn University Small Animal Teaching Hospital and Memphis Veterinary Specialists.

Mr. Zach Morphis is a licensed Veterinary Technologist and currently a Veterinary Technology Laboratory instructor in the UT Martin Veterinary Technology Program. He graduated from UT Martin Veterinary Technology Program in 2016 and worked at the UT Knoxville Vet School before coming to teach at UTM.

Mr. Matthew Chesnut is a Laboratory Instructor for the veterinary health technology program. He graduated from UT Martin in 2012 with a degree in Animal Science and a second in 2016 with Veterinary Health Technology also from UT Martin.

Appendix I

PLENARY SESSIONS

Mrs. Lisa Smartt is a 53-year-old woman who likes to laugh! She writes a humorous weekly column for the Weakley County Press and the Union City Daily Messenger called “The Smartt View.” Living in the woods with husband, Philip, two sons, two cats, and two dogs provide rich illustrations for her frequent motivational speaking engagements. Lisa believes laughter is a gift and LOVES to share with others her personal weaknesses, struggles, and the sheer joy of daily living and loving! What are the pitfalls of whining? How can I learn from negative experiences? What is true love...and how will I recognize it? What do loyalty, honesty, discipline and kindness have to do with true success? Her four sessions included classes like “Five Qualities of a Real Man or Woman” and “Looking for Love in all the Wrong Places”. Students were challenged to maintain character and convictions. Lisa believes that when rigor is combined with character development and a positive attitude, the sky’s the limit.