EXPLORE
Find your path to success
with a degree in AGRICULTURAL TECHNOLOGY AND SYSTEMS MANAGEMENT
Welcome to our eighth issue of EXPLORE! You might be getting ready to start a new chapter of your life. Maybe you will soon be leaving home for college, choosing a major, making new friends, searching for a career. Whatever path you take, it might all come together with agricultural technology and systems management (ASM). EXPLORE is a good place to start your search, you might just find the road to your future success on these pages.

If you aren’t familiar with an ag systems degree, read on! We think you will be impressed with the diverse and interesting possibilities—from hands-on internships and study abroad to jobs awaiting ag systems graduates. If you have decisions ahead, you may discover that you like what ag systems has to offer.

4 Your Ag Systems Questions Answered
6 Your road to success—Advice from our EXPLORE participants
7 Adiel Di Bartolomeo, University of Illinois
8 Matt Reidenbach, University of Missouri
9 Matthew Sperry, South Dakota State University
10 Noelle Hinrichs, Iowa State University
11 Chase Gripp, Purdue University
12 Matt Harper, University of Arkansas and University of Illinois
13 Courtney Nelson, University of Nebraska-Lincoln
14 Rachel Myers Jarman, The Ohio State University
15 Galen Kreifels, University of Nebraska-Lincoln
16 Jayce Zilles, Utah State University
17 Lauren Krogman, Texas A&M University
18 Michael Kule, Clemson University
19 Michael Trazzera, Penn State University
20 Tommy Stephenson, Wake Technical Community College and North Carolina State University
21 Clay Honeycutt, North Carolina State University
22 Brandon Narcisse, University of Illinois
23 Yves-Edouard (Eddy) Mondesir, University of Illinois
24 Sierra Nunez, University of Florida
25 Finding your path ... Road to college
26 Career Opportunities
27 Professional Listings

ON THE COVER:
Sierra Nunez, University of Florida, will graduate in May 2021 with her Agricultural Operations Management degree.

Resource: engineering and technology for a sustainable world
What is an agricultural systems degree?
An agricultural systems degree combines an understanding of the agricultural, biological, and physical sciences with business, managerial, and technical skills. Graduates with this type of degree find careers in the production and processing of agricultural products into food, fiber, feed and fuel, and the distribution of agricultural products and services. Careers in renewable energy, biofuels, and environmental quality are emerging. Students focus on the application of engineering principles, the study of technology used in agriculture, and the integration of business management concepts in the agricultural and food industries. However, the skills taught in agricultural systems courses are applicable in many industries, and a significant number of students find employment in other industries. This degree is ideal for those interested in technical sales or technical management for an agriculture-related business involved in production, processing, or manufacturing.

Why do the university programs have so many different names?
Prior to the early 1990s, most of the programs were simply called agricultural mechanization. Careers for agricultural systems graduates have expanded far beyond mechanization. Many universities have changed the scope of their programs to focus on emerging technologies as they apply to food, energy, and environmental systems, in addition to traditional agricultural systems. These programs address society’s need to efficiently utilize natural resources and protect the environment. The names reflect the philosophy of the school in responding to these issues. So, although they may have different names, these programs are often quite similar. Program names currently in use are:
- Agricultural Education, Communications and Technology
- Agricultural and Environmental Technology
- Agricultural Engineering Technology
- Agricultural Operations Management
- Agricultural Systems Management
- Agricultural Systems Technology
- Agricultural Technology Management
- Agricultural Mechanization and Business
- Agricultural Technology and Systems Management
- Bioresources Engineering Technology
- Construction Science and Agricultural Systems
- Engineering Technology Program
- Mechanized Systems Management
- Renewable Systems
- Technical Systems Management
- Sustainable Systems Management.

How does a degree in agricultural systems differ from a degree in agricultural engineering?
Today, engineers and agricultural systems graduates both work with the same types of buildings and equipment, the same crops and animals, the same sensors and computers, and the global society, yet there is a distinct difference in the work they do. The engineer is trained to analyze and design a process, system, or mechanism, while the agricultural systems graduate is able to identify system problems, formulate possible solutions, analyze the impact of alternatives (including social and economic dimensions), and then implement the best solution. Agricultural systems graduates get a broad and basic background in agriculture and the physical sciences, along with courses in business, economics, and management. When comparing agricultural systems to engineering, you will find that agricultural systems programs are less theoretical and more practical. Emphasis is on hands-on experiences with equipment, and many courses have laboratory sections.

What do I need to know to get into the program?
An aptitude for science and math, plus an interest in solving problems, is really necessary for this field. You should also have an interest in electronics, computing, and business management. In high school, prepare well in mathematics, physical and biological sciences, and agriculture. Take the most advanced high school courses available to you in these areas and, if possible, take courses such as CAD and information systems. You don't have to be a math wizard to be an agricultural systems student, but mathematics is used a great deal.

Do I need a background in agriculture for this major?
No. This curriculum has the flexibility to allow students from rural, suburban, and urban backgrounds to develop a program to meet their personal career objectives.

Is this a good option for women and minorities?
This field is a great option for women and minorities. The number of women and minorities entering the field continues to rise.
Are internships available?
Yes! This curriculum offers many opportunities for internship work experiences in a variety of companies and organizations. Many experiences are paid internships. For some programs, internships are required for graduation.

How can I find out what schools offer programs in agricultural systems?
The schools currently offering agricultural systems programs are listed on page 27. Be sure to check with the school in which you are interested regarding its particular program. Begin your search in the agricultural and biological engineering departments where these programs are typically administered, but some are offered in the economics or education departments.

How do I select the school that is a good fit for me?
The Internet is a great place to begin your search. Many universities provide detailed information about their programs—including course requirements—on their web site. (See page 27 for a list of universities and web sites.) When you have narrowed your choices, visit the top schools on your list. The faculty, staff, and students will be happy to meet with you and show you their facilities. By visiting, you will get a sense of whether their program and setting is right for you.

What are the course requirements like in these programs?
There is no single curriculum for ag systems. In fact, they can vary somewhat, but the foundations are similar. ASABE has suggested guidelines: math/science 15%, technical ag 15%, management 15%, ag systems management 15%, humanities/social sciences 10%, and communication 15%. These programs integrate a broad education with expertise in the agricultural sciences, applied technology, and business management. Courses are relevant to all phases of the food, agricultural, natural resources, and environmental industries. Graduates will be able to integrate and apply advanced agricultural technologies and equipment through student experiences in machine and power systems, computer applications, materials handling, food and materials processing, environmental resources management, electrical/electronic systems, and information/decision support technology. Required coursework balances hands-on knowledge of technology with instruction in agricultural and environmental sciences and agribusiness principles. Supporting courses provide a foundation of mathematical, chemistry, computer, economic, and communication skills. Computers are used to collect and analyze data and then act on that information to control machines and processes, in addition to communication and information retrieval. CAD (computer aided design) programs are used to plan equipment and building layouts.

How many hours a day will I need to study? Will I have time for extracurricular activities?
How much time you devote to your studies depends upon you and your expectations? Many colleges say that for every hour you spend in class (often 15 hours/week) you should spend approximately two to three hours studying outside of class. Advanced-level courses may require more time, introductory courses less. Much depends on an individual’s ability, attitude, and motivation. That said, you shouldn’t be expected to study at the expense of all outside activities. Employers are looking for well-rounded new hires who can balance study with involvement in student activities. You will be able to build your leadership, communication, and organizational skills by being involved in clubs or sports. Most schools have an agricultural systems club. Be sure to check out the ASABE student branch on campus. (See page 28 for more information about ASABE.)

Can I afford the education?
Typically, the cost of an agricultural systems education is comparable to most other college programs. These costs will vary depending on the school you choose. Don’t let the cost of higher education prevent you from attending the college of your choice. Most students today need some kind of financial assistance. Numerous types of financial aid are available such as grants, scholarships, loans, work-study programs, or part-time employment. They are available from many sources, including the federal government, state agencies, professional agencies (such as ASABE), local civic organizations, or universities. When visiting a school, be sure to stop by the financial aid office to find out what programs the school has to offer.

What is the career outlook?
Agricultural systems graduates are in great demand. Many agricultural systems schools have a placement rate approaching 100%. The starting salaries are highly competitive and are among the highest of college agriculture majors. Employers and career opportunities are vast and varied. A few examples include major equipment manufacturers, seed and grain companies, government agencies, Peace Corps, emerging companies in the biofuels industry (see page 29 for more ideas). Agricultural systems students are also hired by smaller businesses, such as cooperatives, local agricultural commodity processors, regional manufacturers, and construction companies. Many students often seek entrepreneurial opportunities to start a business! The opportunities are endless!

Research and editorial assistance provided by Michelle Enger, University of Missouri; ASABE member Michael L. Pate, Utah State University; and ASABE Fellow Leon Schumacher, University of Missouri. Thank you!
Advice from our EXPLORE participants

“Be willing to move to a different part of the country or world. You limit your opportunities if you are not mobile. When you interview for, or get a job, keep a great attitude and be enthusiastic about doing your best.”
Matt Harper, University of Arkansas and University of Illinois, pg. 12

“Don’t live out anyone else’s story or goals for you. Truly pursue what YOU want to do. Ask yourself what you enjoy doing when absolutely no one is watching, and go after that thing.”
Courtney Nelson, University of Nebraska-Lincoln, pg. 13

“Ask all the questions, become the noisiest person, and learn all that you can. Get up early on the days you don’t want to and go to the school or club function and volunteer your time. Those experiences will pay off in the long run. Take every opportunity to learn, ask questions and get involved. You will learn more by doing and learning hands on. Those experiences are the ones that have paid off for me the most.”
Rachel Myers Jarman, The Ohio State University, pg. 14

“Don’t chase a certain income. Don’t chase a truck or a car. Do some soul searching and find out what kind of a lifestyle you want to live. Then, find a job that supports that, as well as your values.”
Galen Kreifels, University of Nebraska-Lincoln, pg. 16

“College gives you exactly what you put into it. Putting in half of the effort won’t get you where you want to go.”
Brandon Narcisse, University of Illinois, pg. 24

“If you are entering the workforce, remember that you will not always start out doing exactly what you would like for a company. However, you should always perform at the highest level possible no matter what the task. If you cannot do the small, insignificant tasks correctly and with enthusiasm, no one will ever trust you to perform the large, important tasks you would rather be doing!”
Michael Kule, Clemson University, pg. 19

“I would tell a freshman to try and spread your classes out and not overload hard classes together in one semester. Try to find a balance between keeping good grades and having a social life at the same time—the experience and people you meet are a part of the learning experience.”
Jayce Zilles, Utah State University, pg. 17

“Work extremely hard to develop connections with your professors. They can be incredibly helpful during your time in college and after. Plus, it makes class more enjoyable on both ends.”
Chase Gripp, Purdue University, pg. 11

“Don’t chase a truck or a car. Do some soul searching and find out what kind of a lifestyle you want to live. Then, find a job that supports that, as well as your values.”
Galen Kreifels, University of Nebraska-Lincoln, pg. 16
Heading to college, I learned that there was a lot of career opportunity in the STEM field. Initially, I pursued a degree in electrical engineering, but I quickly realized it was too technical for me, and I had no passion for the curriculum.

I was looking for something less technical but that still combined technology and business principles. A friend who was already in the Technical Systems Management program told me about his experience and encouraged me to consider it.

After declaring my major in TSM, there were many opportunities to continue building my technical acumen, but the TSM curriculum only offered a few introductory business courses. To supplement the business part of the curriculum, I decided to minor in business. The combination of these major and minor degrees put me on track to bridge the gap between technology and business with both a STEM and business education.

The summer before my senior year, I worked at OSI Group as an Operations Supervisor intern. Working in the frozen food division, one of my projects was to improve the quality, yield, and efficiency of a product that was made in the plant where I worked and was distributed across the nation. To begin, I gathered data on the process time and product weights from the previous three months to see if there were any trends. After thoroughly analyzing the data, and getting the approval from the management team, I implemented changes that made the process more efficient. At the end of my internship, I compiled data on the product since making the changes. Because the results showed great improvements in product quality and yield, I had to create a Standard Operating Procedure (SOP) to train the current and future machine operators.

Every student should apply for internships. It can be difficult to obtain an internship in your freshman or sophomore year, so look for alternative professional opportunities, such as leadership conferences and job shadowing opportunities. Internships give you an edge over other candidates when applying for jobs, and they prepare you for what to expect in the field.

One of the most important things you can do is have people who are in your corner, guiding you and sponsoring you. A mentor can shorten your learning curve, open your mind to new ideas, and advise you on how to navigate through big decisions.

Pursuing a graduate degree immediately after my bachelor’s degree was the best decision I ever made. It was a great supplement to the work experience I gained from my extracurricular involvements, internship, and family business. Some of the benefits I gained were a competitive advantage, securing a higher salary, and expanding my network.
I have always had an interest in agriculture and farming, especially agricultural equipment and advances in technology to improve efficiency, accuracy, and production. Precision agriculture was the area I was most interested in, and the University of Missouri’s (Mizzou) Agricultural Systems Management program fit the bill.

When I toured Mizzou, I was excited to learn about the Quarter-Scale Tractor Team. The team’s president showed me several of the tractors that had been designed and built by the Mizzou team over the years. I was excited to learn that students from both agriculture and engineering degree programs had worked together in designing, building, and competing with the tractors.

As a result, the highlight of my college experience was the ASABE Quarter-Scale Tractor Competition. I enjoyed working with the other team members and with ASABE Fellow Leon Schumacher, our team’s faculty advisor. The team members had various backgrounds and skill levels, but we worked together to design and build some award-winning models. Each semester, I spent more time on this team than I spent on any single class. I served one year as team vice-president and two years as president. In 2019, our A-Team tractor entry, Tiger 15, claimed third place overall and first place in the pulls for the second straight year, as well as best overall appearance, best craftsmanship, and several other awards. The more you put into it, the more experience and knowledge you gain in planning, design, building, and competition.

Internships can lead to jobs
Internships are necessary for gaining real-world experience that ties in with the knowledge gained from course work. For the past two summers and part-time during the school year, I worked in the precision agronomy department at MFA Inc., based in Columbia, Missouri. MFA is an agricultural cooperative that serves more than 45,000 farmers and growers. These internships helped me find a career choice that was right for me.

During my first summer with MFA, I was under the supervision of Davin Harms, a precision agronomy sales manager in eastern Missouri. My first day on the job, we had to troubleshoot an AutoSteer issue with an Ag Leader InCommand display on a New Holland tractor.

During my second summer with MFA, I started working with Cameron Horine, the staff agronomist for MFA’s replicated small-plot trial sites. The goal of these replicated sites is to gather yield and chemical response data on the corn and soybean lines that MFA sells at the retail level. Over the past year, I helped with planting the replicated trials as well as with maintenance and repair of the equipment. Throughout my time with MFA, my experiences were widely varied, and I learned something new everyday.

If you have a passion for agriculture equipment, precision technology, and everything agriculture, then an ASM degree could be just the right fit!
Growing up on a farm, including eleven years in 4-H, gave me an understanding of agriculture, especially the importance of ag technology, which definitely influenced my college degree choice. I like working with drones, autonomous vehicles, digital cameras, computers, and just about any other modern technology, as well as research, accounting, and business management.

Forty years ago, most of those modern technologies didn’t exist, or at least they weren’t related to agriculture. Today, there is no career other than agriculture that can encompass all my interests. Modern agriculture is all about the latest technology. Working in agriculture, I’ll be busy for the rest of my life because there’s no end to the developments that will change agriculture, and the world, in the future.

Farmfluencer Video Contest

In the spring of my freshman year, I entered the Farmfluencer Video Contest, sponsored by Corteva Agriscience and the national 4-H organization. This international competition pushed me to increase my knowledge of current issues in agricultural by producing a three-minute video on the “future of farming.” The opportunity to inspire the next generation of farmers and consumers, and help people understand the role of technology in modern agriculture, totally excited me! My public speaking and video skills, which I picked up during my years in 4-H, also served me well.

To produce the video, I applied what I learned in my Global Foods and Precision Ag classes and interviewed my professors to showcase challenges and opportunities in agriculture around the world. My brother was serving in the Peace Corps in Zambia, so I drew on his firsthand knowledge, photos, and videos.

My video highlighted the differences in farming practices. On our family farm, precise technology lets us place nutrients exactly where they’re needed. In Zambia, farming is labor-intensive. The local farmers use handmade implements to scratch holes into the ground to plant seeds, and they apply fertilizer by hand. However, in both countries, the goal is to get the best yield. My video connected farming in the U.S. and in Zambia with the need for farmers and governments to support appropriate ag technology.

In the initial judging, my video was selected as one of 30 finalists. I used social media to rally individuals and groups to view all the finalists and vote online for their favorites. After my video emerged as one of the top two favorites, I was invited to share my future-focused views about agriculture on a publicity tour across the Midwest and internationally, through public appearances, and in print and electronic media.

I’m proud of winning the Farmfluencer Video Contest and being named an ambassador for the future of agriculture. The competition was a chance for me to educate people on a critical topic through my love for agriculture and technology. I will always want to be part of agriculture, not for my sake, but for the responsibility of feeding the world’s ever-growing population.
I've always been a practical person, so I knew that I'd major in something STEM. I always did well and enjoyed math and science, so when I was trying to choose a major, I gravitated toward engineering. I also grew up with a love of cooking, baking, food in general, and the environment. Organizing and leading came naturally for me, so some kind of agricultural management was a natural fit.

During the first week of my freshman year, my advisor helped me gravitate toward my major. Initially, I had declared a biosystems engineering major, but after speaking with my advisor, agricultural systems technology management sounded like a much better fit.

Based on that experience, I recommend keeping an open mind, and try out different clubs and organizations that attract your interest, even if the attraction is subtle. Don't limit yourself to just school clubs and events. Look around in the community for organizations and industry leaders that can provide opportunities to learn.

I was a peer mentor for my department, and I highly recommend that experience. Being a peer mentor allowed me to connect with other students in my major, providing us all with opportunities to get together on classwork. That experience also helped create meaningful relationships with others in my program and paved the way to other inter-departmental opportunities and access to professors. Peer mentoring felt like a way for me to give back to a department that had given so much to me.

My fellow mentors and I often told our mentees that, even if you have a bad experience on an internship and you don't enjoy the work, then it's still awesome because now you know what you don't want to do. Sometimes it's easy to go for the job that offers the most money, but you need to consider other factors as well. Do you like the company culture? Do you enjoy the work? Those non-monetary factors can make a job great, or awful.

My advice to other women looking to major in ASM is simply this: Don't worry about it. I didn't have any farming background before beginning my major, and I had a very different personality type from most of the male students in my field. But I never felt discriminated against, and I contributed to my in-class groups because of the diversity that I brought. I enjoyed standing out in a small major.

There was no single defining moment that convinced me that I'd chosen the right path, but each class I took, each professor I met, my internship, and my experience on campus all reassured me that I was where I was supposed to be.
I wanted a degree that was well rounded. My research kept coming back to ASM. I went in with confidence to make it what I needed. I did my research and found that Purdue had the top-rated ASM and ABE programs in the country. To reach my potential, I needed to be a Boilermaker. I applied, and was accepted and admitted, before I ever set foot on campus.

When I arrived on campus, I didn’t know a soul. I decided to rush FarmHouse Fraternity, and it was the best decision I made at Purdue. I made lifelong friends, developed professional connections, and participated in huge philanthropy events that would not have been possible without being part of Greek life. Every undergrad should seriously consider Greek life and the benefits that it provides to its members, community, and campus.

Outside of the classroom, I’m involved with the Community Standards Board and the IFC Judicial Board. I’ve been involved in many other clubs during my time at Purdue, including the Ag Council and Issues 360. I recommend all of these clubs and more. Purdue offers clubs for all interests. Purdue gives so much to the students, it’s only right for students to get involved and give something back. But don’t overwhelm yourself. Find three great organizations and fully commit to them.

I had a great opportunity to study abroad. After my freshman year, I went on a Maymester study abroad trip to New Zealand that was sponsored by the College of Agriculture. New Zealand is too beautiful to put into words. We toured the country from the tip of the south island to the tip of the north island. We studied the cultural and agricultural aspects of the country to see how they differ from the U.S. Every student should look at study abroad opportunities. There are scholarships that can help support the cost, and travel provides great opportunities to connect with peers, staff, and international correspondents.

In the end, your degree will be what you make it. Commit to working hard, and take advantage of all the different opportunities that college has to offer.
I was raised in Springdale, Arkansas, by loving parents. I spent a lot of time on my grandfather’s farm, and I became interested in both agriculture and the technology used in agriculture through my experiences on the farm. When it was time to decide what to do after high school, I wanted to do something related to agriculture and technology. I found a career in the agricultural machinery industry very appealing because I was fascinated by the technology used on ag machines.

I did an internship with CNH Industrial in New Holland, Pennsylvania. I was a Field Test Engineering intern assigned to cotton harvesters in the summer and fall of 2014. My internship involved extended travel to perform machinery testing. The experience was designed to give me a glimpse into a full-time career with CNH. I encourage anyone to take any internship available. You learn new things and make personal connections that will be very valuable to your future.

My undergraduate work built the foundation I needed to be successful in graduate school. My graduate degree created new opportunities for me. Specifically, it got me job interviews that I wouldn’t have got otherwise. I had very little industry experience when I was applying for jobs after graduate school. That wasn’t desirable, but the graduate degree gave me something extra and convinced a potential employer to set up an interview with me.

I was interested in Kubota because I’d heard good things about their products. When I interviewed, I was really impressed with what I learned about Kubota’s company culture from my soon-to-be boss. He told me Kubota treated its employees very well, and the company was growing quickly, with many new opportunities on the way.

Kubota selected me to travel to Japan in late 2018 to learn more company history, tour company facilities, and experience the company culture in a new way. Through that experience, I gained a new perspective on Kubota's culture and values. I share this perspective with others when appropriate, and it always impresses them and results in a positive interaction.

A typical day for me includes traveling (by car or plane), meeting with Kubota dealers to discuss business matters, and writing technical reports. I often advise Kubota dealers on warranty policy, technical issues, best business practices, and Kubota policy in general. I enjoy resolving issues, especially when it helps a customer. There is a lot of opportunity at Kubota, and I am excited to see what will be available to me in the future.

The Technical Systems Management degree opens the door to a wide range of opportunities across multiple disciplines. The principles and technology you study are widely applicable in industry, education, and even government. This degree will put you in a great position to find a fulfilling career.
Hey-o! I grew up on my family’s farm near Monroe, Nebraska, where we raise corn, soybeans, and alfalfa. One of the silver linings of the current pandemic and the university closing is that I’ve been able to spend more time at home than I have since I began college. While it was an adjustment living with my family again, I love this area and enjoy being back home. We also have a farm in northwest Kansas, close to Nebraska (my grandmother grew up in Danbury, Nebraska, but all the farmland is in Kansas), where we raise wheat, corn, and milo. Both of my parents farm, so I grew up immersed in agriculture. Harvest is my favorite time of year. One of my most cherished memories is riding in the combine with my dad, listening to Husker football on the radio.

More than the courses you take, college is about the experiences, the clubs and organizations, and the “adulting” that you do. I had the opportunity to spend three weeks studying abroad on the south island of New Zealand. On our way there, we got stuck in Fiji for three days due to flight cancellations. We weren’t in the “resort” Fiji that everyone imagines but instead the “real” Fiji where the local people live. It was a major culture shock for me! I’ve never been more aware of how good we have it as Americans, and how we complain about the smallest things. Lesson learned, you have to be adaptable when you’re traveling. We ultimately got to New Zealand, and it gave us a great introduction to the local culture and the ag industry. It was a blast! We learned about the sheep and deer industry, which was quite new to this corn and soybean gal. Go to New Zealand if you get the chance. They really have life figured out.

I interned at CropMetrics in Wood River, Nebraska, over the summer between my sophomore and junior year. I worked mostly in the office, communicating with the growers who use CropMetrics soil moisture probes. I collected field information, helped growers understand how to analyze the data, provided weekly recommendations to them, and got them set up on our app. I learned a lot about water management.

I didn’t have an internship between my freshman and sophomore year. Instead, I chose to go home and be on the farm again. It was a much needed break for me because I’d been homesick during my freshman year. In college, and in life, everyone is at a different stage. If you need to spend a summer at home, do it! If you want to work somewhere far away, do it! Listen to your heart. Do what’s best for you, because there’s no right or wrong way to do what’s best.

**University of Nebraska-Lincoln**

B.S. in Mechanized Systems Management, with a minor in the Engler Agribusiness Entrepreneurship Program, December 2021

**Age:** 22

**Hometown:** Monroe, Nebraska

**Likes:** Camping (lake days = best days), spending time with family, volleyball, and playing the piano

**Favorite class:**
1. Engler 101—this intro to the Engler Entrepreneurship Program discusses pursuing a purpose and asking what problems we want to solve some day. It’s why I switched my major and got to where I am now, so I will always appreciate this class.
2. Introduction to Electricity.

**On my bucket list:** Visit Hult, Sweden—the hometown of my great-great-grandfather who came to America when he was 12 and he never saw his parents again.

**Person in history I’d most like to meet:** Amelia Earhart (well known) and Albert Peterson (my great-great-grandfather mentioned above), who had quite a life of his own. He chased down bank robbers on horseback and bought the first Ford Model A in our area, so he had many stories to tell!
Initially, I started college with the goal of becoming an ag teacher. I changed majors to ASM because it’s such a versatile major in which I could do many different jobs and learn about many different areas while pursuing a single degree.

My high school ag teacher and I had a conversation shortly after I graduated. That was in 2008, and the economy was not looking good. He feared that ag education would be in trouble if schools couldn’t get funding for it, and that I should look into something more diverse. Fortunately, nothing bad happened to ag education locally, but looking back now, I’m glad that I changed majors. My ASM degree gives me the ability to work in many sectors of agriculture.

My undergraduate work was beneficial in so many ways. We were offered a great set of classes that provided a great foundation of knowledge. Where else can you learn about small engines, welding, GPS technology, agriculture safety, and many other topics, all in the same program? This broad knowledge base gave me enough education to be qualified for many positions, yet still have room to learn and grow within a position. We also had many opportunities to learn about public speaking and preparing a résumé. We even had an opportunity to talk to hiring managers from ag companies. They sat down with us, helped us practice what a real interview would be like, and gave us real feedback. That was an extra credit option, but I got way more out of it than just the extra grade.

**Internships**

If you have the opportunity to work for the same company each summer in college, that’s great. But also look for other opportunities, because that’s your chance to see what the world is like and how companies differ. You may love your first job even more after you have a different experience, or you may like the new job better. Summer employment is also a great time to explore living away from home and in an unfamiliar area. If it’s not for you, it’s not permanent. In the fall, you go back to school. That kind of experience gets you out of your comfort zone.

I had two summer internships. In the summer of 2009, I interned at the Fayette County Soil and Water Conservation District (SWCD) in Ohio. It gave me the opportunity to have a boss who wasn’t a family friend, work in an office, and learn what the SWCD did. And I got to use the skills I learned in my surveying class. The next summer, I was a Research Farm intern at Beck’s Hybrids in LeRoy, Illinois. I planted research plots and worked with aerial imaging, which was really new at the time. That experience gave me a chance to live far from home and see if I liked it. I enjoyed the experience, but I decided that being a bit closer to home was better for me.

**Finding the dream job**

At my current job, I’m a rural rehabilitation coordinator. I sum it up by saying I’m a social worker just for farmers. I work with farmers who have recently been injured or suffered an illness that left them with some sort of life-altering outcome. Some are paralyzed, have lost the use of arms or legs, or have back problems or joint problems that prevent them from working on the farm like they once did. A typical case starts by meeting with the new clients to discuss their farm operation and the challenges they face. We determine if the client is a candidate for vocational rehabilitation services and if so, we apply for those services through the state of Ohio. I then become my clients’ biggest cheerleader,
advocating for them and helping their vocational rehabilitation counselor understand their role on the farm.

I write reports for the counselor on the size of the farm, the farmer’s responsibilities, and possible solutions to the challenges that the farmer is facing. Most of the solutions are assistive technology or other interventions that make farm tasks easier to perform. I help farmers through the entire process, from inception to delivery, when they get the assistive technology they need. Not all of the farmers I work with use vocational rehabilitation services. Some just want information, or they want to see the solutions that others like them have found. Some farmers want ideas or plans on how to upgrade their equipment to make it more accessible. We help with that, too.

The most satisfying part of my job is that I get to help farmers every single day. I’m a people person, and I love to be around people, talk to people, and help people. In my job, I get to do all of that.

The most inspiring thing about my job is the community of farmers that I have met and come to know. They want to encourage other farmers who are new to the program, and new to the experience of disability. Connecting farmers who are experienced with disability to farmers who are newly disabled is one of the greatest benefits of our program. Disabled farmers can share experiences that able-bodied people simply can’t understand. I’ve connected with such farmers all across the country, and they have all said:

“Pass my information along. I’d love to talk to others.”

I didn’t know it at first, but this is my dream job. Helping farmers regain their independence and find their new normal is the most rewarding thing I’ve ever done.
When I turned 18, I joined the Army and was stationed at Fort Stewart, Georgia. After a tour in Afghanistan, I left the active duty Army and joined the Nebraska Army National Guard. I applied to become a helicopter pilot while attending the University of Nebraska at Omaha (UNO), pursuing a bachelor’s in Professional Flight. My goal then was to fly aerial application airplanes. After attending the U.S. Army flight school, I did some research on the University of Nebraska-Lincoln (UNL). I found an article about drones in agriculture, and it intrigued me. That led me to finding the Mechanized Systems Management degree program.

With a specific goal in mind, I found contact information for an advisor for that program. When I called the number listed online, ASABE member Deepak Keshwani answered the call. He became my advisor for the duration of my degree and taught some of my courses. Dr. Keshwani was much more than just an advisor and professor. He was a mentor and a friend. He made UNL feel like home and helped me get exactly what I needed to achieve my goals.

I knew I was on the right path after my sophomore year, when I was working for an aerial applicator. I found myself using something from every single class I had taken. I knew that I had put my money and time into the right degree.

During the summer between courses, I worked for an aerial applicator that used helicopters out of Tekamah, Nebraska. During my senior year at UNL, I was notified that I’d be deploying with my National Guard unit the following year. And that’s where I find myself now. I’m currently deployed as a medical evacuation helicopter pilot. However, before I left, I decided that it was time to start my own aerial application company. My partner, Heath Gress, farms in Nebraska City and graduated from UNO with a degree in computer engineering. We aim to have our first operational year in the summer of 2021.

The future of aerial application is autonomous flight. I’m looking into the industry to see how it will evolve, and there is a lot of great technology being developed.

The Mechanized Systems Management program is a great idea for anyone who wants to run an agricultural business. It combines the technical aspects of agriculture with economics and natural resources to create a useful knowledge base that students can carry into their own business or to any organization. And there’s no place like Nebraska to attend an agriculture-focused school. We are at the heart of agricultural production.

University of Nebraska-Lincoln
B.S. in Mechanized Systems Management, 2019
Age: 28
Hometown: Nebraska City, Nebraska
Likes: I spend most of my time working on starting a business. When I am not doing that, I spend time with my wife and family. I also enjoy hunting, fishing, and reading.
Favorite class: I enjoyed most of my classes at UNL. If I had to pick a favorite, it would be Electrical Service Systems, taught by ASABE member Santosh Pitla. He’s an outstanding professor who cares about the education of his students.
On my bucket list: Operate a successful business, fly an airplane from Santa Catalina Island in California to Puerto Rico across the U.S. with my wife. Have kids, and teach them to fly helicopters and airplanes.
Person in history I’d most like to meet: Theodore Roosevelt, Thomas Edison, and Henry Ford.
Growing up on a ranch working with my father and grandfather led me toward a degree in agricultural technology. After high school, I worked construction as a heavy equipment operator where I learned about new technology and was able to operate equipment while developing skills. It was there that I learned how much I loved hard work and accomplishing goals. But as much as I loved construction, my love for agriculture was greater. I knew the best way for me to make a living was to find a job doing what I loved. That’s why I decided to pursue a degree in agriculture.

Living in Logan, Utah, I dreamed of attending Utah State University (USU). Going to USU basketball games as a kid, I always wanted to be a part of the USU family. But the main reason I decided to attend USU was because it is one of the best agricultural schools in the country.

I encourage future students to put themselves out there—join clubs and teams, form study groups, and meet new people. I jumped right in my first semester at USU and joined the rodeo team and the Ag System Tech Club. I’ve been a member of the club for two years, and I’m now the president. The more you get involved, the more you learn. Clubs and teams are a great way to meet people, make friends, and learn new things. But don’t let your grades slip! Most clubs require a certain grade point average if you are going to hold a leadership position.

Even though I’ve had a rough go with internships, I’d encourage others to pursue every opportunity to land an internship. I made it to the final process with a CNH round baler engineer internship, but then it got canceled. I was also flown out to Iowa to interview with John Deere and tour their facility, but the internship didn’t pan out—I’ll try again until I get it. I got an internship with Ag Reserves on a ranch in Sheridan, Wyoming. Unfortunately, it was canceled the day before I was supposed to leave, due to the COVID-19 pandemic. For now, I’m cutting hay for West Hills Dairy, one of the biggest dairies in northern Utah. So far, the highlight of my college career has been my interviews with CNH, John Deere, and Ag Reserves.

I’m proud to be the first college graduate in my family. I’m also proud of how hard I’ve worked. I’ve kept my grades up even though, when I was back in high school, I never imagined that college would be in my future. I was the type of student who never liked school, but I’ve learned to love it, and I actually miss it during the off months.
I chose an Agricultural Systems Management (AGSM) degree because I wanted the best of both worlds. I was interested in the hands-on technical aspects of agricultural engineering, and I wanted the management, economics, and marketing background as well. I knew I'd made the right choice after meeting my professors and fellow students. Compared to other departments in the college, we were small, so it felt like a family. Everyone was supportive and open to questions. My graduating class of 60 students all went through the four-year program together, so we got to know each other very well.

AGSM is the perfect option if you are interested in getting your hands dirty, but you also want to move into a management role of some sort. It's also a very broad degree. The curriculum covers a wide range of subjects such as water, soil, machinery, management, accounting, logistics, and more, so it has something for everyone.

Working through my master’s degree was the highlight of my college experience. I've never done something so difficult and so rewarding. What I learned about the cotton industry and warehousing paved the way for my dream job today. Without all the hard work and dedication, I wouldn’t be where I am now. I'm really proud of being one of the first women in my department’s history to complete a master’s degree in Agricultural Systems Management.

I was able to pursue my dream career because of the connections I made during my time in the AGSM program. My master’s work focused on the efficiencies and logistics of cotton warehouses. After I graduated, I began working at the USDA Farm Service Agency office in College Station, Texas. While that started my career in agriculture, I really enjoyed working in the cotton industry, so I asked my department’s professors to keep an ear to the ground for job openings.

Just four hours later, ASABE member Bill Norman, an alumnus of our department working at the National Cotton Council, called me about an opportunity. Soon after that, I was hired, and I moved to Memphis, Tennessee. Without the connections I formed in school, I wouldn’t have had the opportunity to work for the top-tier cotton organization in America.

At the National Cotton Council, I’m involved in three areas: cotton contamination, cotton flow, and bale packaging. All three of these subjects have had major impacts throughout the industry in the last few years. A typical day for me consists of e-mails, meetings, and preparing for the next group presentation or discussion. I travel frequently and present at multiple meetings throughout the year, so I need to have the most current information available.

Knowing that I’m making an impact in the cotton industry is incredible. I have so much more to learn and experience, and the best people in the industry to help me along the way.
Growing up around agriculture was the starting point for where I am today. I’ve always enjoyed operating equipment and learning as much as I can about how it functions. My degree program allowed me to dive deeper into those interests and cultivate a broader understanding of agriculture. My classes also gave me critical knowledge about the business and financial side of ag.

I was always interested in agriculture. I knew that I would pursue a career in ag, and Clemson offered a great program. When visiting the campus, I ran into some students who were enrolled in Clemson’s Ag Mech program. Their positive remarks about the program helped solidify my decision. A defining moment was visiting the busy workshop, full of students welding on their Capstone projects. I hadn’t seen anything like that at any other college. I love to work with my hands and weld, so that was a huge moment for me!

During my summer break in 2016, I was able to get a job as a diesel technician with Derrick Equipment in Aiken, South Carolina. The following summer, the company was bought out by Blanchard Equipment. They offered me a diesel tech job again in the summer of 2017. In the summer of 2018, they offered me a paid internship as a specialty technician. That position allowed me to travel and see much more of the company.

Before graduation in 2019, the company offered me a full-time job as a sales representative in St. Matthews, South Carolina, and I took it. A few weeks later, I was promoted to sales manager. Right away, they put me in a management role with lots of leadership-type responsibilities. I’ve also been given lots of training, both formal and informal, from people within our dealership and at John Deere.

I’m working on creating a profitable business from the sales department I manage. It’s a long and challenging project that allows me to apply some of the agribusiness principles I learned in college. Getting my undergraduate degree prepared me for the workforce in many ways. I apply many of my classroom skills, from how to create a spreadsheet to calculating machinery expenses for a grower.

What really satisfies me is fitting a new piece of equipment into a farmer’s fleet in a way that makes financial sense for the farm. The most inspiring aspect of our business is the technology side. Seeing how far we’ve come and where we are headed with precision agriculture in the ag machinery business, especially with John Deere leading the way, is nothing short of amazing. I look forward to helping growers use this technology to achieve more efficient ways of farming as we move into the future.
I come from a family of retired vegetable farmers. My late grandfather, and role model, farmed his whole life on the sandy South Jersey soil and was a pioneer among the vegetable farmers in our area. His values, lessons, and memorable stories of farming “back in the day” shaped me into who I am today—a gearhead with a passion for agriculture and a love for classic iron. I love anything with an engine (especially if it is antique and meant for off-road use). For a living, I run a small local lawn mowing, landscaping, and snow removal business. For fun, I collect, fix, and sell vintage farm and garden tractors and related equipment.

Finding the right fit

Some of my closest family members, who kept me motivated, especially through the difficult transition and first couple semesters of college, suggested that I focus my education on agriculture rather than engineering. They couldn’t bear to watch me struggle as a mechanical engineering major, and they encouraged me to make a change for the better. I was told about the Agricultural Systems Management program by several Penn State Pullers teammates who had experienced this same struggle earlier in their college careers, resulting in a switch from engineering to ASM. Those students spoke highly of the program and their decision to change majors. They assured me that my personality and work ethic were a perfect fit for ASM.

Penn State Pullers

Since freshman year (fall 2016), I’ve been an active member of the Penn State Pullers quarter-scale tractor team. I took over as captain in fall 2018 and have been working to revive the club after a long period of dormancy, preparing the team for future ASABE Quarter-Scale Tractor competitions. My involvement in the Pullers has taught me a variety of repair and troubleshooting skills, in addition to team-building, organization, administrative, and financial skills—all crucial elements of managing a business and establishing myself in the world. Being a Puller helped fortify the business management skills I learned at Penn State, while allowing me to expand my social skills and engage in activities that support my own personal interests and hobbies. Involvement in a club like the Penn State Pullers is an excellent opportunity to advertise yourself to prospective employers, demonstrate skills both in the shop and in the field, and establish strong relationships among team members and sponsors.
MichaelTJD60, a vlog

I’m proud of many things, but one of my proudest accomplishments is my YouTube channel, MichaelTJD60. I started the channel in 2011, shortly before entering high school, to post occasional videos of random content such as lawn maintenance, machinery, music, and any other items that piqued my interest at the time. Nine years later, it has amassed over 50,000 subscribers and 15 million total video views, and it continues to grow each day. The channel consists of over 250 videos of my lawn care business, home projects (equipment that I buy, fix, and sell on the side), shows and expos I’ve attended, motorsport events like truck and tractor pulls and dirt races, equipment reviews and demonstrations, and even some concerts.

It has become a perfect representation of both my career and my personal interests. The network of friends I’ve created through this channel is another reason I’m proud of it. It’s amazing to connect with other people who share similar interests and personalities. It’s even more amazing to be greeted by random people at shows who recognize me from my vlog!

Importance of internships

In the summers of 2015 and 2016, I worked as an engineering intern for the Department of Defense at the Naval Surface Warfare Center in Philadelphia, Pennsylvania. During those internships, I conducted field tests of Navy ship power generation and control system prototypes—specifically gas turbines, diesel engines, and hybrid electric drive systems—for integration into upcoming Navy cruiser and destroyer designs. Those internships, run by the engineering division of Naval Sea Systems Command (NAVSEA), provided me with hands-on experience working under high-pressure, top-security protocols and following strict safety guidelines, all while gaining knowledge of mechanical and hybrid ship power from an engineer’s standpoint.

I had the chance to apply my mechanical knowledge both in and out of the field, and even had the opportunity to board a decommissioned ship. In addition, I was able to meet and work alongside several professional engineers and field technicians, who provided me with great insight and helped steer me in the direction I wanted to go with my career.

Regardless of where you work or what you do, internships are an excellent way to connect with the real world, gain experience in your field of study, and establish connections with professionals in the field. They’re a great résumé builder as well. Don’t be afraid to pursue a few internships. If you intern for a specific company and find you like it, you’ll have your foot in the door toward a full-time job with that company down the road!
If you enjoy working with agricultural machinery and being outdoors, then you will love a degree program like Biological and Agricultural Engineering Technology. The coursework and hands-on activities provide an education in a broad range of subjects that will prepare you to become a problem solver with the latest technology. I selected this program because of the influence of ASABE member Gary Roberson. He took the time to reach out to me and show me around Weaver Labs, which started me toward my degree. I also liked that the classes involved subjects that I was interested in learning more about, and many of the classes involved hands-on activities.

There wasn’t really a defining moment when I realized that I’d made the right decision, but I knew that I enjoyed the coursework and the people in the department. During my time as an undergraduate, I never had that “Aha!” moment when I realized that I was learning what I wanted to do the rest of my life. Instead, I developed a real appreciation for the degree program after I graduated and came back as an instructor.

My farming background helped lead me to my current position as a lecturer in the Department of Biological and Agricultural Engineering at NC State. The broad skill set that I developed on the family farm and through my college education prepared me for a career teaching students about electricity, engines, and shop processes. Maybe the biggest factor that led me to this job was my experience back in high school. The agriculture teacher had a lasting influence on me, I enjoyed my time in FFA, and I wanted to give other students the same experience.

Because I planned to become an agriculture teacher, I started working on an M.S. degree in soil science after completing the BAET program. One day, Tim Seaboch, a favorite instructor of mine from BAET, stopped by my office. He told me that he was planning to retire, and he thought I would be a good fit for his job, if I was interested. I took a chance. I applied, interviewed, and got the job. Now I’m pursuing a career in teaching, and I haven’t looked back.

I’m proud of the position I have at NC State. I’m grateful that this job gives me a chance to build relationships with students and mentor them during their time in college. When I see students begin to understand the material and use the skills they learned in class to make decisions and solve problems, I’m reminded of my own education and how rewarding this field can be.
I grew up on a small family farm in Sampson County, North Carolina. I developed a passion for agriculture early on, but I didn't want to farm for a living. Instead, I wanted a career in agricultural technology, and the BAE department at North Carolina State University seemed a perfect fit. During my freshman year, I met with ASABE member Andy Hale, the undergraduate coordinator for BAE, to discuss my career goals, and I decided that BAE could be my new home away from home. I especially enjoyed the close-knit family atmosphere in Weaver Labs.

While at NC State, I was able to take on several leadership positions. As a Park Scholar, I served as co-director of the Park Peer Mentor program, a freshman retreat facilitator, and a civic engagement initiative facilitator. This past year, I served as vice-chair of the Young Farmers and Ranchers. I also served as a representative to the Agri-Life Council. For three years, I interned as a program assistant with the North Carolina FFA Association. I also volunteered with the Spivey’s Corner Volunteer Fire Department and Ligon Magnet Middle FFA chapter on several occasions throughout my college career.

Most important, I learned that it’s okay to fail, as long as you don’t give up. Until college, I always thought that failure would only harm you and not provide any life lessons. I encountered several obstacles in my sophomore year that I thought would alter my undergraduate experience. However, with the support of the BAE department staff, the Park Scholarship office, and various campus resources, I overcame my obstacles and completed my time at NC State with honors. Just because life knocks you down, that doesn’t mean that you can’t get back up and become the best version of yourself.
When I went to college I wanted to do something oriented toward computer programming. After enrolling in TSM 100, I discovered there was something else I was excited and passionate about—Technical Systems Management.

The defining moment for me was in my sophomore year, when I realized I could take a variety of classes that would allow me to get hands-on experience, such as wiring and motors and field methods.

The highlight of my college experience was working with ASABE member Richard Cooke in the summer of 2019. During that internship, he shed light on many things that I’d always wondered about. He allowed me to figure things out for myself but was there to support me throughout the research experience. Whether it was building hydraulic weirs, constructing water instruments for blocked waterways, or a plethora of other things, we always had fun doing it.

My internship with Dr. Cooke taught me many things, not just soil water and drainage systems, but also how to use LiDAR systems for more accurate practices. In addition, I worked with other professors and researchers, who all gave me an inside look at fields I otherwise would not have seen.

My advice to anyone entering the ATM degree program would be to push through the tough moments and lean on your professors for guidance—not only with questions but to listen to their stories and learn from the mistakes that they made.

Something I was most proud of was always surrounding myself with the right support system, with friends and family who always had my back when I needed them. That is essential to succeeding in college. Without them, I would not be where I am today.

Editor’s Note: Brandon Narcisse and Eddy Mondesir have a long shared history. They grew up together in Chicago, and they both will earn TSM degrees from the University of Illinois. We asked them about their enduring friendship.

How long have you known each other?

Eddy: “Brandon and I met in the second grade. We met through family and then attended the same grade school. We’ve been going to school together ever since.”

Brandon: “That’s right, I’ve known Eddy since second grade. We always sat next to each because our last names started with M and N. We’ve known each other for about 15 years so far!”
How did you both end up at the same school and in the same program?

Eddy: “It was freshman year, and one of Brandon’s mentors suggested TSM. We took an introductory course, and it felt like a great fit. We didn’t plan to be in the same program. We came into the university with two different plans, but we ended up doing the same thing.”

Brandon: “Honestly, it was by chance. We never talked about joining the same program, but after we discovered we were in TSM together, we couldn’t have been more excited. We were always interested in same things, so naturally we decided to take the same path.”

Have you provided each other with support through the years?

Brandon: “Yes, of course. We’ve been through a lot of the same things together, and having someone who understands how difficult things can be is always a blessing. Throughout the last four years, we were always roommates, so the support was never more than 15 feet away! We both know that we have someone we can turn to for help, no questions asked!”

Eddy: “Brandon has always been supportive of everything I’ve done. We keep it real with each other, no matter what.”
My passion for agriculture started at a very young age. My stepfather is the Assistant Grove Manager for A. Duda & Sons in LaBelle, Florida. My family lived on the farm, too. Growing up, my playground was a 26,000-acre citrus farm and cattle ranch. During the summers, I worked with my stepdad on the farm. I asked him all sorts of questions about the groves while riding around checking pumps, scouting for pests, and taking fruit samples. The citrus industry is my family’s livelihood. Naturally, when I graduated high school, I planned to follow in my stepdad’s footsteps. However, that all changed the summer after I graduated high school, when I got my first job working as a ranch hand. I completely fell in love with the beef cattle industry. I have always been drawn to cattle, but I didn’t realize that my fascination with cattle would become my career.

During the fall of my freshman year, I decided to interview for an internship with the largest cow-calf operation in the country, Deseret Cattle & Citrus in Saint Cloud, Florida. I wasn’t expecting to get the internship. I was just aiming to get my name out there, so that in the future they would know who I was. However, I got the internship for the fall of 2018. It was the beginning of my sophomore year, which meant that I had to take a semester off from school to complete the internship. To keep my scholarships, I was required to enroll in at least nine credit hours, so I took two classes online and received credit for my internship.

During my internship, I experienced cattle management on a large scale. Deseret Cattle & Citrus has over 42,000 cows that are divided into 14 different units comprising 300,000 acres. Almost every day, I got to do two of my favorite things—ride horses and work cattle. When I started my internship, we were shipping out the calves and pregnancy checking the cows. The unit I worked on had over 3,200 cow-calf pairs. After shipping finished, I was transferred to the heifer development unit with 2,100 first-calf heifers waiting to calve. While on the heifer unit, I fed molasses twice a week, built six miles of fence, pulled calves when needed, and kept records of feed deliveries. I also gained experience running a tractor while mowing, feeding molasses, and spraying pesticides. Overall, it was a fantastic opportunity to learn and grow.

I was once told, “Don’t let your education get in the way of your learning.” Those words have stuck with me through college and have opened up many opportunities. Those words opened me up to the possibility of taking a semester away from school to complete an internship. I learned much more from that internship than I could have in the classroom. Even though I had to adjust my graduation date and move some classes around, I’m thankful that I put learning before schooling. Whether you graduate in three years, four years, or even five years will not matter to your employers. In fact, it might impress them that you completed a spring or fall internship, or even two internships. Take advantage of as many opportunities as you can while in college because, once it’s over, you can’t go back and do it again.

I’m most proud of the fact that, with the help of many scholarships, I’ve put myself through college on my own. I’m going into my senior year now, debt-free and without financial support from my parents. I’ve spent every spring, summer, and winter break working to pay my way through college. It’s a great accomplishment to say that I did it myself.
These schools have programs in agricultural systems and technology. Contact them directly for more information. Many of these programs are administered by Agricultural and Biological Engineering Departments.

**ARKANSAS**
University of Arkansas
Agricultural Education, Communications and Technology (agricultural systems technology management concentration)
https://agricultural-education-communications-and-technology.uark.edu/academics/agricultural-systems-technology-management.php

**CALIFORNIA**
California Polytechnic State University
Agricultural Systems Management
http://catalog.calpoly.edu/collegesandprograms/collegeofagriculture-foodenvironmentalsciences/biore-sourceagriculturalengineering/bsagriculturalsystemsmanagement/

California State University Fresno
Industrial Technology - Agricultural Systems Management option
www.fresnostate.edu/catalog/subjects/industrial-technology/it-agsm.html

**FLORIDA**
University of Florida
Agricultural Operations Management
https://abe.ufl.edu/undergraduate/agricultural-operations-management/

**GEORGIA**
Abraham Baldwin Agricultural College
Agriculture, Agricultural Technology and Systems Management
https://catalog.abac.edu/preview_program.php?catoid=7&poid=498&retorno=314

Fort Valley State University
Agricultural Engineering Technology
www.fvsu.edu/agricultural-engineering-technology/

**IDAHO**
University of Idaho
Agricultural Systems Management
www.uidaho.edu/cals/soil-and-water-systems/bs-ag-systems-management

**ILLINOIS**
Southern Illinois University
Agricultural Systems
https://coas.siu.edu/academics/bachelors/agsystems/

University of Illinois-Urbana-Champaign
Technical Systems Management
http://catalog.illinois.edu/undergraduate/eng_aces/technical-systems-management-bs/
The list below comprises U.S. and Canadian schools with ABET- and CEAB-accredited programs offering degrees in agricultural and biological engineering. Contact them directly for more information. School representatives or admissions advisers can answer your questions and arrange a campus visit for you. Before you go, try to schedule a separate appointment with the engineering department. Prepare to be impressed!

**INDIANA**
Purdue University
Agricultural Systems Management
https://engineering.purdue.edu/ABE/academics/undergraduate/asm.html

**IOWA**
Iowa State University
Agricultural Systems Technology
www.abe.iastate.edu/undergraduate-students/agricultural-systems-technology/

**KANSAS**
Kansas State University
Agricultural Technology Management
www.k-state.edu/careercenter/students/exploration/majorin/agtech-mgmt.html#

**MINNESOTA**
University of Minnesota-Crookston
Agricultural Systems Management
www.crk.umn.edu/academics/agriculture-and-natural-resources-department/agricultural-systems-management

University of Minnesota-Twin Cities
Sustainable Systems Management
https://fabe.umn.edu/undergraduate/ssm

**MISSISSIPPI**
Mississippi State University
Agricultural Engineering Technology & Business
http://catalog.msstate.edu/undergraduate/collegesanddegreeprograms/collegeofagricultureandlifesciences/departmentofagricultureandbiologicalengineering/

**MISSOURI**
University of Missouri
Agricultural Systems Management
https://asm.missouri.edu/

**NEBRASKA**
University of Nebraska-Lincoln
Mechanized Systems Management
https://msym.unl.edu/

**NEW YORK**
State University of New York-Cobleskill
Agricultural Equipment Technology
www.cobleskill.edu/academics/schools/agriculture-and-natural-resources/agricultural-engineering/agricultural-equipment-technology-bt.aspx

**NORTH CAROLINA**
North Carolina State University
Agricultural & Environmental Technology
https://ouc.casa.ncsu.edu/agricultural-and-environmental-technology-11aem/

**NORTH DAKOTA**
North Dakota State University
Agricultural Systems Management
www.ndsu.edu/majors/agsystemgmt/

**OHIO**
Ohio State University
Agricultural Systems Management
https://fabe.osu.edu/undergraduate/agricultural-systems-management

**ПENNSYLVANIA**
Pennsylvania State University
Biorenewable Systems
https://agsci.psu.edu/academics/undergraduate/majors/biorenewable-systems

**SOUTH CAROLINA**
Clemson University
Agricultural Mechanization & Business
www.clemson.edu/degrees/agricultural-mechanization-and-business

**SOUTH DAKOTA**
South Dakota State University
Agricultural Systems Technology
www.sdstate.edu/programs/undergraduate/agricultural-systems-technology-bs

**TENNESSEE**
Tennessee Technological University
Agriculture, Agricultural Engineering Technology concentration
www.tntech.edu/majors/agriculture_agricultural-engineering-tech.php

**University of Tennessee**
Construction Science and Agricultural Systems
https://bess.tennessee.edu/agricultural-systems/

**University of Tennessee-Martin**
Agricultural Engineering Technology
www.utm.edu/departments/agnr/agundergrad.php

**TEXAS**
Texas A&M University
Agricultural Systems Management

**UTAH**
Utah State University
Agricultural Systems Technology
www.usu.edu/degrees/index.cfm?id=84

**WISCONSIN**
University of Wisconsin-River Falls
Agricultural Engineering Technology
www.uwrf.edu/ENGTECH/AgriculturalEngineeringTechnology/Index.cfm

**IRELAND**
University College Dublin
Agricultural Systems Technology
www.myucd.ie/courses/agriculture-food-nutrition/agricultural-systems-technology/

---

**What’s your passion? ASABE can help you make it happen!**

ASABE is a not-for-profit professional and technical organization whose members are involved or interested in engineering and technology for agriculture, food, and biological systems.

With members in more than 100 countries, ASABE offers every member a world of opportunities. ASABE student members are making a difference—blazing new trails, sharing ideas, gaining confidence, and developing careers.

The benefits are incredible ... and it doesn’t cost a lot! Want to know more? Log on to www.asabe.org and find out more.
Now you have your degree, what can you do? What are your job options? Where should you apply? Ag Systems graduates are in high demand. Depending on qualifications and experience, starting salaries for ASM graduates range from $38,000 to $67,000 according to Iowa State University. Starting salaries depend on a candidate’s skills, previous work experience, internships, and other factors determined by various employers. For more information, check with individual schools regarding their placement records (see page 27.) So, what would you like to do? What company could you work for? Here are some ideas!

Career Opportunities

Now you have your degree, what can you do? What are your job options? Where should you apply? Ag Systems graduates are in high demand. Depending on qualifications and experience, starting salaries for ASM graduates range from $38,000 to $67,000 according to Iowa State University. Starting salaries depend on a candidate’s skills, previous work experience, internships, and other factors determined by various employers. For more information, check with individual schools regarding their placement records (see page 27.) So, what would you like to do? What company could you work for? Here are some ideas!

Ag Imports Inspector
Ag Structures Manager
Assembly Technician
Automation Technician
Bank Field Representative
CAD Programmer
Control Systems Manager
Construction Supervisor
Cooperative Ext Specialist
Crop Adjuster
Crop Systems Specialist
Customer Support Technician
Dairy Equipment Specialist
Design Technician
District Sales Manager
Elevator Manager
Engineering Technician
Energy Advisor
Environmental Consultant
Experimental Mechanic
Facilities Manager
Farmer/Owner/Operator
Farm Appraiser
Farm Business Manager
Farm Equipment Dealer
Farm Facilities Manager
Field Agronomist
Field Representative
Food Production Supervisor
Golf Course Manager
Grove Management
Integration Manager
Int'l Ag Development
Irrigation Management
Irrigation Salesperson
Irrigation Specialist
Loan Appraiser
Maintenance Supervisor
Marketing Supervisor
Management Specialist
Management/Waste Network Engineer
Operations Manager
Parts Operations Supervisor
Precision Ag Specialist
Petroleum Sales
Plant Production Supervisor
Precision Ag Specialist
Product Testing
Production Supervisor
Program Technician
Professor
Quality Control Manager
Reclamation Inspector
Research Technician
Sales Representative
Safety Specialist
Service Representative
Shift/Production Supervisor
Site Superintendent
Soil Conservationist
Soil Scientist
Structures Sales Rep
Structures Specialist
Technical Service Rep
Territory Sales Manager
Territory Service Manager
Test Technician
Ventilation System Designer
Veterinary Technician
Vo-Ag Teacher (w/certification)
Water Management Specialist
Water Quality Specialist
Water Treatment Technician

Short List of Prospective Employers

Aerotech
Ag Reliant
Allen Bradley
AGCO
Ag Leader Technology
Ag Processing, Inc.
Agrilance LLC
Agrivision LLC
Alamo
Ag-Chem Equipment Co.
Archer Daniels Midland
Banner Engineering
Blue Bell Creameries, Inc.
Bobcat
Bunge Corp.
Cargill
CNH International
Caterpillar
Cenex-Land-O-Lakes
CLAAS
ConAgra
Cummins Engine
Dairyland Seeds
Deere & Company
DeKalb-Pfizer Genetics
Detroit Diesel
Dole Fresh Vegetables
Dow AgroSciences
DuPont/Pioneer
Eaton Corp.
Eli Lilly
EPA
F.M.S.
Farm Credit Service
FieldStar
Frito-Lay
Gavilon
Gehl
General Electric
General Mills, Inc.
Gildard’s Frozen Foods
Government agencies
Growmark, Inc.
Helena Chemical
Hershey Foods
Hog Slat, Inc.
Holt Agribusiness
Hormel Foods Corp.
IBM
Ingersoll Rand
John Deere
Kinze Mfg. Co.
Koehler
Kraft Foods
Kubota Tractor Corp.
Landoll Corp.
Monsanto
Morton Buildings
Mustang Tractor
National Instruments
NGL Energy Partners
Parker Hannifin
Peace Corps
Pinnacle Food Group
Pioneer Hi-Bred International
Puck Custom Enterprises
River Valley Forest Services
Sage Ag
Seneca Foods Corporation
Sukup Manufacturing Co.
Syngenta
Trackside Solutions
INDUCTIVE ENGINEERING

DALE GUMZ, P.E., C.S.P.
10805 230th Street
Cadott, WI 54727-5406
• Accident Reconstruction
• Mechanical & Electrical
• Safety Responsibilities
• Product & Machine Design
715-289-4721  dgumz@centurytel.net
www.inductiveengineering.net

CURRY-WILLE & ASSOCIATES
CONSULTING ENGINEERS P.C.

Animal and Livestock Facility Design
Feed and Grain Processing and Storage
Fertilizer/Pesticide Containment Design
TSP/Manure Handling Design
Agricultural Research Facilities

AMES, IA
515-232-9078
WWW.CURRYWILLE.COM

IMMUNOLOGICAL RESEARCH SERVICE

Dr. James M. Miller
P.O. Box 124
Ames, IA 50010-0124
515-231-2127
jmmiller@iastate.edu

MILLER ENGINEERING

James M. Miller, PE, PhD: President

Idaho: Boise - Twin Falls
888-200-4394
miller@millerengineering.com

Michigan: Ann Arbor
734-626-4822
www.millerengineering.com

Agricultural, Chemical, Mechanical, & Forensic Engineers.

Expertise Areas:
Hay / Grain Harvesting & Storage/ Dairy & Food Processing; Tractors & Implements; Guarding / EntanglementInjuries, Egress, Slips, Trips, and Falls; Chemical Application & Exposures; Warnings, Labeling, & Instruction Manuals; Irrigation, Hydroelectric, & Wind; OSHA, GHS, RCRA, CWA, and other Compliance.

MAURER-STUTZ
ENGINEERS SURVEYORS

Comprehensive Engineering Services
Civil • Structural • Transportation
Water • Wastewater • Agricultural GIS • Surveying

309-693-7611
3116 N. Drive Lane, Suite 100
Peoria, IL 61604
765-273-6228
5830 W. Kilgore Avenue
Muncie, IN 47304

Semke Engineering

Fred B. Semke, P.E.
Principal Engineer

T 636.896.9995
F 636.896.9995
C 314.603.6382
www.semke.com

timbertech engineering

Timothy R. Royer, P.E.
President

22 Denver Road, Suite B
Denver, PA 17517
717.335.2750
Fax 717.335.2753
Cell: 717.907.4692
tim@timbertecheng.com
www.timbertecheng.com

Your personal/company consultant business card could appear here.

For information on rates ($95 and up), visit www.asabe.org/Advertise or contact Sandy Rutter, 269-932-7004, rutter@asabe.org.
I

ILLINOIS
Agricultural &
Biological Engineering
COLLEGE OF AGRICULTURAL, CONSUMER
& ENVIRONMENTAL SCIENCES

1921-2021

Celebrating 100 years of excellence, innovation, and engagement

UNDERGRADUATE MAJORS:
Agricultural and Biological Engineering (ABE)
and Technical Systems Management (TSM)

LEARN BY DOING:
Explore high-impact learning experiences including design competitions, study abroad, entrepreneurial activities, and hands-on research at the Integrated Bioprocessing Research Laboratory or the 80-acre research and demonstration farm.

MAKE AN IMPACT:
Actively work on cutting-edge solutions to engineering and technology challenges in agriculture, food, and the environment.

HIGH PLACEMENT RATES:
ABE students graduate with an engineering degree from The Grainger College of Engineering, and have a placement rate of 96% with starting salary of $69,411. TSM students graduate from The College of ACES, and have a placement rate of 85% with starting salary of $59,250. [From Illini Success report]

abe.illinois.edu

FOR MORE INFORMATION, CONTACT US AT:
Department of Agricultural and Biological Engineering
University of Illinois | College of Agricultural, Consumer and Environmental Sciences (ACES)
217-333-3570
abe@illinois.edu
Engineering for a Sustainable World

The University of Florida’s Agricultural and Biological Engineering department is founded on developing, teaching, and applying engineering principles to improve and sustain agricultural and biological systems for current and future generations.

Undergraduate Programs

Agricultural Operations Management
Agricultural Operations Management students gain knowledge and skills in both the technical and business aspects of management for a variety of commercial and family-owned operations including energy and environmental systems, agricultural production, and technical sales.

Biological Engineering
Biological Engineering students gain expertise in one of four concentration areas:
- Agricultural Production Engineering
- Biosystems Engineering
- Land and Water Resources Engineering
- Packaging Engineering

DEPARTMENT OF AGRICULTURAL AND BIOLOGICAL ENGINEERING

Learn more at abe.ufl.edu.