An AES Degree: A Career Path As Creative As You Are

It is well established that today’s engineering graduates have among the highest placement rates of graduating college students in the country. You can’t get any better than an Applied Engineering Sciences (AES) degree at Michigan State University right now. MSU’s AES program is hitting on all cylinders in the marketplace, providing 100 percent placement upon graduation (according to current data from The Center for Spartan Engineering). And there are almost as many career options as there are graduates.

“We’re hearing about solid job opportunities from our students and alumni, who are reporting a broad range of career interests,” said AES director Laura Genik. “Our alumni work in numerous sectors of engineering and business. My vision for this already successful program is to continue to reach out to an ever broader set of employers.”

Members of the AES community agree.

AES offers concentrations in business law, computer science, media and information, packaging, supply chain management, and technical sales. Here are examples of where an AES career path can lead:

- "The scientific, analytical, and business coursework, with teamwork and communication-focused experiences, are all uniquely combined in the AES program," said Donnie Haye (AES ‘81), vice president, Client Services, Finance and Accounting at IBM in Chapel Hill, N.C. "AES provided a fantastic breadth of learning for me and a strong foundation for my career."

- Keith Preston (AES ‘03) said he found just the right combination of experiences to give his career the edge he was looking for. "The AES program at MSU has provided me an educational foundation that combines a technical and business background found in very few programs. This has put me in demand and a step ahead of others throughout my career in supply chain," said Preston, who is a Senior IT/Ops program manager at Microsoft headquarters in Redmond, Wash. He works on the Microsoft Cloud.

- AES senior Katelyn Dunaski (AES ’16) of Brighton will return to Apple in Cupertino, Calif., when her MSU studies are done in spring. Dunaski, whose concentration in computer science landed her a coveted internship at Apple in summer 2015, has been offered a full-time job at the technology giant, upon graduation. “With a degree that covers such a large range of topics, I am ready to tackle a wide range of challenges,” Dunaski said. “Not only does AES provide me with the technical skill set to tackle problems, but I have the drive to understand problems beyond the technical aspects and to create solutions for people.”

- Hardik Dalal (AES ’06) is a project engineer with Boeing in Seattle. The lead project engineer on carbon fiber recycling, he works in the Advanced Materials group, Product Development.

- Lauren Zrebski (AES ’11) is a global sourcing manager for Apple in the San Francisco Bay area. She began working for Apple in 2013.

AES at MSU

AES students study a core that combines math, statistics, and basic science across most engineering disciplines. It prepares students with strong analytical capabilities, business knowledge, leadership, and communication skills, with concentrations in the College of Agriculture & Natural Resources, College of Business, College of Communication Arts & Sciences, and College of Engineering (computer science).
Pay It Forward! Invest Today in AES

Your support through investing time, talent, and treasure is greatly appreciated.

AES funds include A309 (AES Discretionary Fund), A3091 (AES Discretionary Endowment Fund), and A3092 (AES Scholarship Fund). The various funds go to supporting current AES students through scholarship and activities. In addition to financial support, the AES program actively seeks alumni to help mentor and develop outstanding graduates.

Here are a few ideas:

• Volunteer your time to participate on an industry panel or speak at a meeting of the Society of Applied Engineering Sciences
• Serve as a mentor to a current AES student
• Volunteer to serve on the AES Alumni Advisory Board
• Encourage your company or organization to financially sponsor an AES activity, especially the senior capstone projects

For further information contact Laura J. Genik, AES program director, ljgenik@egr.msu.edu.

Brandon Kortum is a STARR Scholar and came to MSU from Jackson Hole, Wyo., because he liked the idea of mixing technology and business into an engineering degree. “It sounded sweet, so I’m in the process of discovering AES,” the sophomore said. “AES is an excellent option if you know you want engineering but don’t know what kind of engineering. I’m still looking into it. So far it has been a blast.”

2015 AES ALUMNI ADVISORY BOARD

The Applied Engineering Sciences Alumni Advisory Board facilitates the exchange of ideas between board members and the faculty and students of the AES program. Board members serve on three teams to facilitate activities: Alumni Outreach, Student Outreach, and Marketing.

• Nathan Harrison (Chair) (AES ’06), Oliver Wyman (Detroit)
• Holly D. Aikens (EA ’93), Ford Motor Company (Dearborn)
• Monica Braman (EA ‘93), Boeing (Las Vegas)
• Hardik Dalal (AES ’06), Boeing (Seattle)
• Kathy Dehshiri (AES ’06), administrative assistant, AES
• Donnie Haye (EA ’81), IBM (Chapel Hill, N.C.)
• Charles Kosmas (EA ’90), Chrysler (Auburn Hills)
• Keith Preston (AES ’03), Microsoft (Redmond, Wash.)
• Ross Scott (AES ’03), Sandvik (Auburn Hills)
• Eric Seger (EA ’94), Integrated Capital Management (Bloomfield Hills)
• Randy Shacka (AES ’04), Two Men and a Truck (Lansing)
• Chad Steiner (EA ’99), Dow Corning (Midland)
• Brian Tochman (AES ’06), Platinum Equity (Beverly Hills, Calif.)
• Lauren Zrebski (AES ’11), Apple (San Francisco)

Attending the October board meeting were (back row, left to right) Nathan Harrison, Laura Genik, Brian Tochman, and Donnie Haye and (front row) student leaders Alec Wilhoite and Leah Shaheen, and Eric Seger.

Malik Hall encourages all students to study abroad, especially after his 2014 adventure in China as part of the U.S. State Department’s 100,000 Strong Initiative. The AES junior from Ann Arbor is concentrating on technical sales and international business. “Study abroad opened up a passion within me to interact with those from different backgrounds—even people within my own neighborhood,” he added.
Maura Frances McDonald received the 2015 Applied Engineering Sciences Distinguished Alumni Award at the 12th annual college of Engineering Alumni Awards Banquet in May. McDonald is a supply chain professional with expertise in compliance, distribution, planning, customer service improvement, and purchasing. She graduated with a bachelor’s degree in engineering arts in 1987. She is recognized for her effective cross-functional communications, energetic interpersonal effectiveness, and enthusiastic team leadership. She is APICS and CPIM certified, and received Six Sigma Green Belt Certification in 2006. She is the export compliance specialist for Dow Corning Corporation in Midland, Mich., where she applies strategic and operational controls for all U.S. exports, including extraterritorial transactions, and executes all U.S. DEA permits and subsequent communications.

Previously, she was GTS Business Process Analyst from 2009–2010, serving as business process information technology team member supporting SAP’s Global Trade Services (GTS) module. In 2009, she served as an independent contractor for the Michigan Department of Corrections Supply Chain Transformation initiative. From 2006–2009, she worked for Dow Chemical Company in Midland, where she chartered and led four global cross-functional improvement teams within customer service: supply chain performance. Prior to that, she was also a global supply chain planner, a business supply chain planner, and a strategic sourcing specialist—all for Dow Chemical Company.

While at MSU, she was president of the Society of Engineering Arts (1986–1987). She was a member of the AES Alumni Advisory Board from 2003–2012, and served as its chairperson from 2012–2014. Also active in her community, she has served as youth ministry leader and missionary trip leader for Blessed Sacrament Catholic Church in Midland. She was girl’s track team coordinator and treasurer for the swim team at H.H. Dow High School, also in Midland.

She and her husband, Mike, have two children. Erin is a sophomore at MSU in the Applied Engineering Sciences program; Andrew is a sophomore at H.H. Dow High.

Checking in with . . .

Eric Tritch (AES ’05), director of strategic sourcing–supply chain at the University of Chicago Medicine, currently leads a team that is responsible for managing the clinical suppliers to help meet goals by providing products and services at the right place, time, quality, and price.

“AES was an innovative degree that allowed for a solid foundation in engineering with a specialized focus in business and supply chain that set me up to be a rigorous problem solver focused on data, but with the ability to understand relationship management and a bigger picture business concepts,” Tritch said. “AES at MSU (particularly with a supply chain focus) is a degree that sets you apart and provides a unique skill set to really allow you to excel in business and supply chain management.”

Mitzi Montoya (AES ‘90) became the new Sara Hart Kimball Dean of the College of Business at Oregon State University in Corvallis, Ore., on Aug. 31. Prior to joining OSU, she spent five years at Arizona State University, where she was the dean of the College of Technology and Innovation, vice provost of the polytechnic campus and vice president of entrepreneurship and innovation. She also spent 15 years at North Carolina State University, where she held the Zelnak Chair in marketing and innovation in the Poole College of Management.

Montoya is a former American Council on Education (ACE) Fellow. Her research focuses on innovation processes and strategies and the role of technology as an enabler of distributed team decision-making.

She is widely published and she has taught courses in innovation and marketing strategy in the United States, England, Brazil, Italy, Egypt, Kuwait, Russia, Japan, Hong Kong, Switzerland, Panama, and Argentina.

Laura Genik (left) and Maura McDonald
Once again AES as a major continues to grow and grow, with the current declared enrollment up to 319 students!

With more growth in the major, our student group—the Society of Applied Engineering Sciences (SAES)—continues to find new opportunities for students to get involved and to promote the major so we can continue this upward trend.

The goals for our organization this year are to provide new events and opportunities, hold events that our members enjoy, and find new ways to get everyone involved.

One outlet that is developing is recruitment. The E-Board and some of our members have been able to talk to freshmen at multiple events this semester: freshman move-in day, Engineering Colloquium, SAES ice cream social, Freshmen Connect, and Preview Day. These have all been great ways for us to promote the organization while answering questions from students and their parents about AES.

Something new this year that we haven’t done in the past is a tour of a company’s facility. One of our E-Board members, Alex Peterson, led the initiative with our sponsor International Paper to organize an all-day plant tour of their corrugated box plant in Three Rivers, Mich.

By request of the company we recruited mostly AES, supply chain, technical sales, and engineering students for the tour. International Paper covered everything from transportation by bus for everyone and even meals for the entire day. We got great feedback from students and the company, so we definitely plan on doing this again next year.

Another new initiative this year was an Employer Partner Showcase AES and Supply Chain Mixer with companies. Hosted by The Center for Spartan Engineering, the on-campus mixer allowed companies to recruit and meet students prior to the career fairs in September. This was a great informal opportunity for students to network with peers and companies. There was a good turnout, and it was a huge success. We look forward to the event again next year.

The biggest event for us this year—as every year—was our AES Career Gallery. A record 90+ students attended. This is a popular event because the students know that companies understand AES and are looking to hire us specifically. This year, we had 13 companies covering multiple fields such as industrial, technology, manufacturing, automotive, insurance, and sales. Like the trend in our major, I can only see this event growing even more in the future.

One unique way that we’re looking to get members, and even alumni, more involved is through a pilot mentor program. Every member will get the option of having an E-Board member or an alumnus as a mentor. We expect the underclassmen to have E-Board members as mentors to assist with choosing classes, adjusting to college, and getting involved on campus. Upperclassmen would have alumni mentors who could offer professional advice about getting internships and full-time jobs. This will hopefully get more students involved in the organization while also serving as a way for alumni to give back and stay involved.

Overall, this semester has been one of growth in all facets. With the major’s upward trend, it’s essential that SAES continues to find new opportunities for the members and the major. It’s been a successful year so far, and we’ll continue to find more ways to make it even better.

> Alec Wilhoite

**Executive Board Member Highlight**

Meet Colin White. The 20-year-old from Okemos, Mich., is a well-informed AES sophomore who carefully scoped out his major before signing on.

“I always knew I wanted engineering, but I also knew I didn’t want to work in a lab or do research. AES is the perfect mix of engineering and business, so I found it was the perfect fit for me.”

White is interested in technical sales. “I learned about technical sales from my mom after I told her my vision for my future was to wear a suit to work and travel internationally. I’d be fine with wearing a tuxedo to work everyday,” he joked.

“I think technical sales will let me live out my dream, including the international part,” he added.

White has been an SAES board member for two years, currently serving as communications chair.

At MSU, he is a member of the Honors College, the MSU Men’s Club Volleyball team, and works at the student radio station, WDBM 88.9 FM, The IMPACT.

His student job gives him an insider’s view of some of MSU’s best-advanced technology, he works at the Facility for Rare Isotope Beams (FRIB).

White said that while AES is a small major on campus, he sees tremendous growth coming because AES now has a 100 percent placement rate. “AES is catching on with students and companies, too. We could become one of the greatest majors ever at MSU,” he added. “Awesome.”

Members of the current SAES board are (left) Kyle Swinkin, Leah Shaheen, Colin White, Katie Ryan, and Alec Wilhoite. Missing from photo are Tasha Bolda, Derek Moore, and Alex Peterson.
Fall is in the air and the footballs are flying at the practice field near the Engineering Building. It is that time of the year when our hearts turn to a new school year, dreams of a national title, and Applied Engineering Sciences.

Our enrollment is flourishing with a current total number of declared students in the major of 319. That’s up from 250 a year ago.

In our latest data from The Center for Spartan Engineering, our graduates improved from our prior 97 percent job placement rate to 100 percent. Now we face the problem of we can only go down from here. It is a good problem to have.

AES continues to build a stronger relationship with the Broad College of Business and the Department of Supply Chain Management. The pilot of the interdisciplinary capstone course went very well in spring 2015, and we are striving to have the course be 40 percent supply chain management students in spring 2016. The advantage to our students is that they begin to work with a more diverse population to broaden their skill set, making them even more marketable.

Our AES endowment continues to grow. These funds are used for scholarships, as well as assistance to our students with projects and activities. Please consider continuing your donations to assist our students. If you would like to contribute to the endowment, please see the gift information on page 6 of the newsletter.

In order to stay in touch and maintain a strong alumni network, we make use of two social media outlets. On LinkedIn, we have a group called “AES Alumni and Students” and on Facebook, “MSU AES/EA Community.” Please consider joining our group on LinkedIn and liking our Facebook page to continue to grow this networking resource.

I wish you all a wonderful holiday season.

Go Green!

FROM THE DIRECTOR
Laura J. Genik

Current AES enrollment: 319

Exploring Indigenous Cultures in New Zealand

A desire to explore an indigenous culture took Kora Nixon from MSU to the University of Waikato in New Zealand for a semester on a Generation Study Abroad program in summer 2015.

Nixon is a senior in AES from Au Gres, Mich. “I decided I’d like to study where an original culture was integrated into mainstream society, so that’s why I chose New Zealand,” she said.

At Waikato, Nixon examined Māori, Pacific, and indigenous development in an anthropology paper focusing on ethnicity and identity, along with two Tikanga (Māori culture and customs) papers.

“It made me think and reflect on other cultures, and I’ve realized I don’t know a lot about my own heritage,” she said.

“I enjoyed making Māori musical instruments and learning the stories behind them. It was fascinating to find they were all made out of natural materials,” she said.

“Coming from a really big university in the States where you can get lost in the crowd, it’s good to come to a smaller place and really get to know the people.”

While Nixon was in New Zealand, she traveled around the South Island and various parts of the North Island.

Generation Study Abroad is an Education New Zealand–supported program open to U.S. citizens and residents to study in New Zealand as part of their university education.

AES senior Kora Nixon was part of Generation Study Abroad, a program supported by New Zealand encouraging college students to explore the beautiful country. During her stay, she visited New Zealand’s North and South Islands.
A First! MSU Engineering Tops 1,000 Female Students

College of Engineering Dean Leo Kempel knows that these are exciting times at the college. There are about 5,200 undergraduates, including 1,000 women (freshmen to seniors) for the first time in college history.

“This fall we welcomed one of the largest classes of freshmen in more than 25 years, with women students comprising 20 percent of the incoming class,” Kempel said. “The college is well on its way to becoming one of the fastest rising engineering programs in the nation,” he added.

Above: The College of Engineering hit an enrollment milestone this fall with more than 1,000 women (freshmen to seniors)—or about 20 percent of the college’s student population—being female. Among the Spartan Engineers are (left) Tiegan Cunningham, an applied engineering sciences sophomore from Kalamazoo; mechanical engineering sophomores Laine Knapp from Belmont, Mich., and Najah Mubashira from Warren, Mich.; Kristen Osaer, a chemical engineering freshman from Macomb; and Caroline Francis-Bohr, an electrical engineering senior from Lansing.