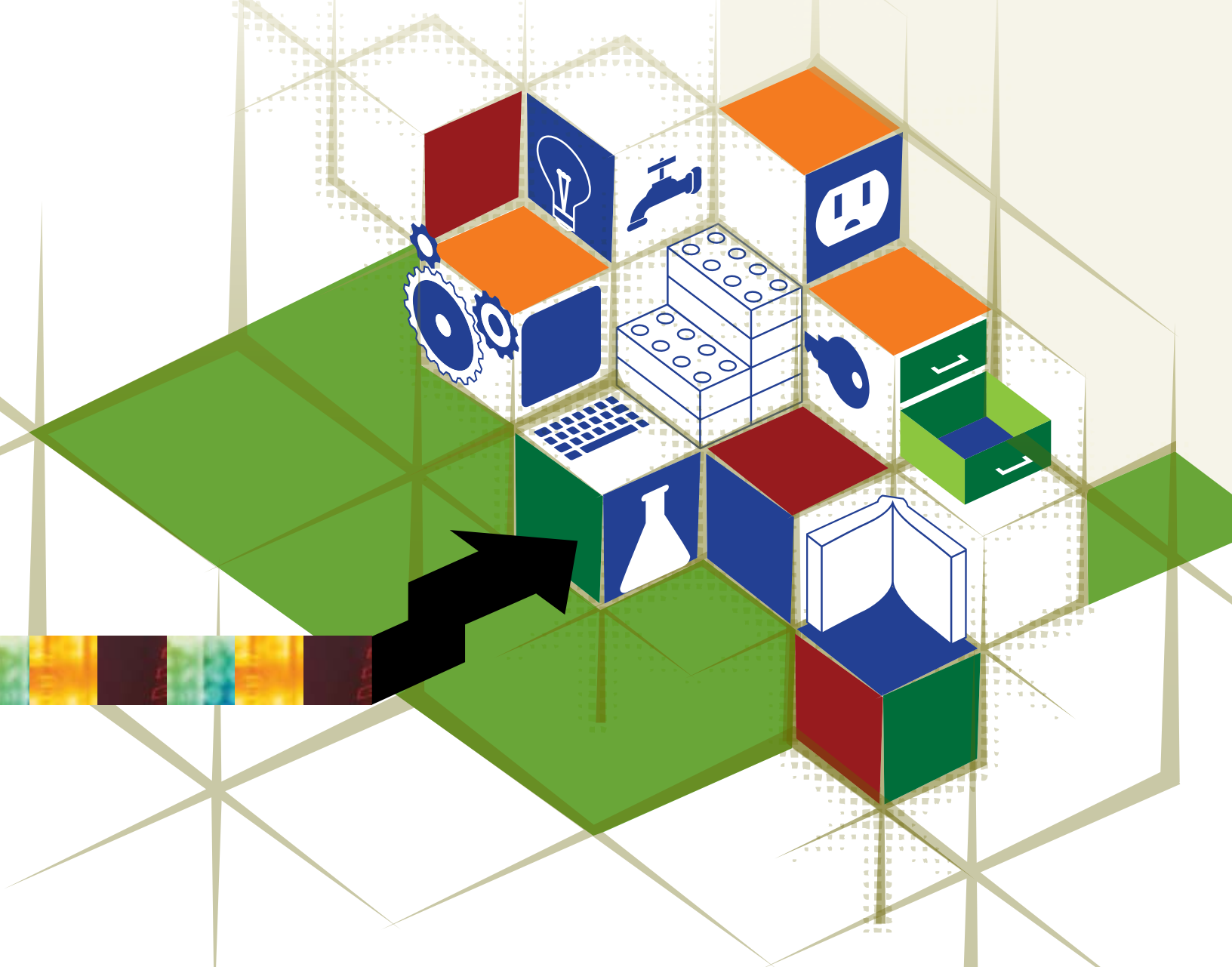


# Spartaneering

THE MAKING OF A SPARTAN ENGINEER



MICHIGAN STATE  
UNIVERSITY

# FROM THE DEAN

The Center for Spartan Engineering is a resource center that connects engineering students to individualized learning opportunities. Our goal is to offer experiences that lead to the development of a professional engineer—a Spartan Engineer. We invite you to explore how The Center can help you find the engineers best suited to your company's goals.

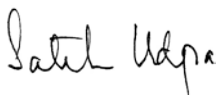
## **The Center and Students**

The Center helps students become not just engineers but Spartan Engineers, through a process we call Spartaneering. Starting with each student's goals, we connect them with out-of-classroom learning opportunities that help them gain essential skills. From research in Russia to professional internships, The Center connects students to real-world engineering and the vast network of Spartan Engineers. Most importantly, Spartaneering assures that engineers learn how to learn, so they can adapt to the rapid changes inherent in today's technology and business practices.

## **The Center and Recruiters**

Whatever type of engineer you seek, you will find what you need at MSU. The Center's staff works with recruiters through events and personal contacts and will help you find the Spartan Engineer who will meet your company's needs. Whether you are seeking an applied, biosystems, chemical, civil, computer science, electrical, environmental, materials science, mechanical, or computer engineer, The Center for Spartan Engineering connects you with engineers ready to hit the ground running in their first job. We are proud that our graduates are "good to go" and "built to last."

We invite you to meet our engineers and learn what they have to offer. For more information on talking to our students and graduates, contact Garth Motschenbacher, [motschen@egr.msu.edu](mailto:motschen@egr.msu.edu), or Bernadette Friedrich, [friedric@egr.msu.edu](mailto:friedric@egr.msu.edu), directors of The Center, or call 517/355-5163.



Satish Udpa, Ph.D.  
Dean of Engineering



# SPARTANEERING— we build them better

What sets Spartan Engineers apart is the way their skills are put together. We believe that being an engineer in the twenty-first century means more than just developing, designing, and building. All engineers do that, and Spartan Engineers are no exception. But at MSU, a process we call Spartaneering prepares our graduates to open the doors to excellence and innovation from day one on the job.

## Assembling the Skills

A unique combination of academic rigor and experiential education goes into the designing of every Spartan Engineer. It is that unique process of enhancing education with opportunities outside the classroom that produces a Spartan Engineer with the skills needed to succeed in the workplace.

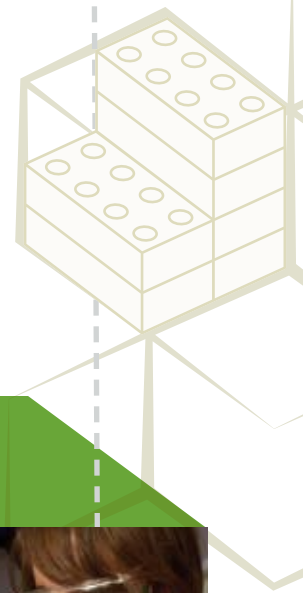
Spartan Engineers are built with the skills to:

- communicate effectively
- think critically
- acquire knowledge
- work in a diverse environment
- solve problems
- contribute to a team
- learn how to learn



## Leading Researchers in the Classroom

At MSU you get the benefit of a leading research institution that focuses on academic excellence. Ninety-five percent of all MSU faculty are actively connected with undergraduate students, usually through teaching courses.



# ENGINEERS ENGINEERED



Each Spartan Engineer is built a little differently from the next. At The Center for Spartan Engineering, we offer individual attention to each student and his or her needs and goals. We provide experiential opportunities to prepare Spartan Engineers with the knowledge and experiences to solve real-world engineering problems. Each one selects specific experiences outside the classroom that make him or her unique.

## Major Research Areas

- **Energy:** alternative energy, transportation
- **Health:** biomedical engineering
- **Materials:** biomaterials, nanotechnology
- **Security:** secure systems, resilient infrastructure
- **Sustainability:** renewable resources, environmental sustainability

We have research centers and labs in these research areas. Detailed information about these facilities is available at [www.egr.msu.edu/egr/research](http://www.egr.msu.edu/egr/research).

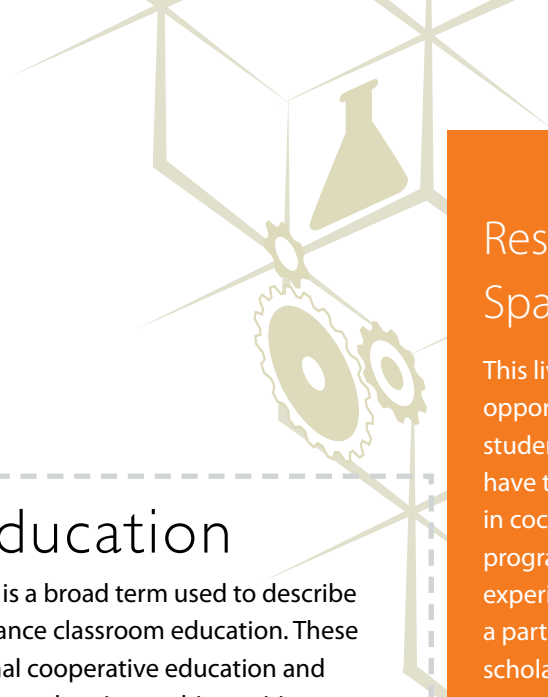
## Academics

We not only educate Spartan Engineers, we make them put that education to the test. Our students begin their academic careers with cornerstone experience courses that provide a broad overview of engineering disciplines to help them find their path. Students are engaged in design from the first week of classes. At the end of their studies, students take capstone courses that provide a team-based, industry-driven design challenge that requires them to apply their technical and experiential skills to an engineering problem. Many students present their projects at one of the largest Design Day programs in the country, attracting hundreds of students and companies.

## Diverse Environment

Our students learn in a diverse environment with students from a mix of cultures, preparing them for a global workplace. We are proud to lead Big Ten engineering schools in the number of graduate degrees awarded to African Americans, and we rank sixth in the nation as a top engineering graduate school for Hispanics.





## Residential Experience for Spartan Engineers

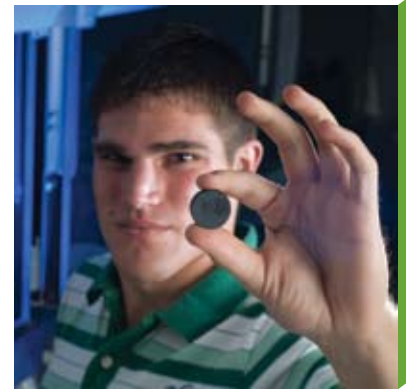
This living-and-learning option provides an opportunity to live with other engineering students, be scheduled into common classes, have tutoring available in the hall, and participate in cocurricular activities led by peer mentors. This program, connected to the first-year cornerstone experience, gives students the opportunity to be a part of a community of engaged engineering scholars immersed in the study of engineering.

## Experiential Education

Experiential Engineering Education is a broad term used to describe our cocurricular programs that enhance classroom education. These opportunities may include traditional cooperative education and internship programs, on-campus research or internship positions, study abroad opportunities, service-learning, and other nontraditional approaches to expanding skills. The Center for Spartan Engineering is where students find these opportunities and network with employers, alumni, and faculty.

## Research

MSU engineering students can go beyond classroom work and add an Undergraduate Research Experience to their educational program. This gives them the opportunity to work with leading researchers on cutting-edge solutions to modern technical dilemmas. Each year, more than 100 undergraduate research assistants enhance their education by working side-by-side with graduate students and faculty in engineering research labs.



## Study Abroad

MSU leads the nation in study abroad programs among public universities. Spartan Engineers can study in 85 different countries as early as their freshman year, and are offered engineering-centered programs in six countries—an opportunity that provides them with a global view of engineering needs and increases their cultural understanding.

MSU is a leading supplier of engineering talent to the following industry sectors:

- Aerospace and defense
- Agriculture
- Computer software and peripherals
- Electronics, electrical equipment
- Engineering, construction
- Energy
- Food processing
- Motor vehicles and parts
- Medical equipment and supplies

And that's what goes into the making of a Spartan Engineer.



# MAXIMIZING THE OUTPUT



The Center for Spartan Engineering is the hub of the college, filled with eager Spartan Engineers. We know the students and will be your connection to hiring a Spartan Engineer. Work with us and you will build visibility both on and off campus.

## On-campus Opportunities

### Information Sessions/Open Presentations

Open presentations provide a chance for your company to meet with a student organization and introduce students to your company. They can learn what your company does, understand what a new engineer's role would be there, and ask questions that help them make deeper connections to your company's engineering niche. We can help cater your presentation to your style and our audience.

### Seminar Series—Career Topics

The Center sponsors a regular seminar series on engineering careers, which provides opportunities for industry to engage students, answer questions, and gain visibility.

### Design Day

This exciting day is the culmination activity of our cornerstone courses. Competitions centered around industry-sponsored design projects are held throughout the day. Your organization can sponsor a team, provide judges or volunteers, or just attend and meet the Spartan Engineers presenting their projects.

## Off-campus Opportunities

### Student Site Tours

Inviting students to tour your company is a perfect way to create visibility and generate interest in your organization. On-site visits allow students to learn about your product, experience your company's culture, and meet the people who work there.

### Mentoring and Job Shadowing Programs

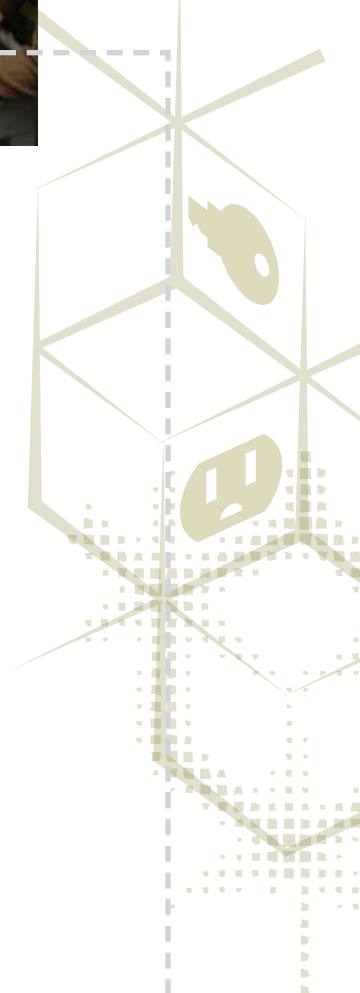
Young Spartan Engineers receive an up-close and personal view of your business when they receive mentoring from one of your employees—either through a day spent together or via online communication. This arrangement is ideal for students who want to engage with your company at a deeper level and learn how their interests can be applied within your organization.

All activities can be arranged by contacting The Center for Spartan Engineering at:

Phone: 517/355-5163

E-mail: [careers@egr.msu.edu](mailto:careers@egr.msu.edu)

[www.egr.msu.edu/thecenter](http://www.egr.msu.edu/thecenter)



# WAYS TO RECRUIT

## **Finding a Spartan Engineer**

The Center for Spartan Engineering, in collaboration with the MSU Career Services Network, offers a variety of methods to promote your job offerings and help you connect with a Spartan Engineer.

## **SpartanCareer ([www.spartancareer.com](http://www.spartancareer.com))**

This is your online link to recruiting at Michigan State University. SpartanCareer.com offers employers the opportunity to post positions, set up on-campus recruitment dates and interviews, and announce participation in information sessions, workshops, and recruiting events, such as:

- Career Gallery
- Diversity Fair
- Engineering Expo

The best part—it's free and easy to use!

## **Posting a Position**

To post all full-time, co-op, internship, or part-time positions, link to SpartanCareer.com and follow the easy steps.

## **On-campus Interviews**

Interview schedules may be customized to your style and availability.

## **Recruiting and Career Events**

There are many on-campus recruiting events each year. See the "Career Events/Fairs" at [careernetwork.msu.edu/career-events-recruiting-schedule](http://careernetwork.msu.edu/career-events-recruiting-schedule).



“We find that Spartan Engineers have the qualifications that we want beyond just academics. We look for leadership skills and down-to-earth students who can work with all levels of our employees; MSU students are a great fit with our organization.”

— Jane Kim, General Mills

“MSU produces the smartest engineers.”

“Spartan Engineers bring something special to the table. They have their own minds, they can think for themselves, and they bring new ideas and innovations to Alcoa. MSU produces the smartest engineers.”

— Jason Earhart, Alcoa

“We recruit and hire Spartan Engineers because the computer science program at MSU is excellent; even more importantly, students from MSU can do so much more than just computer science. Opportunities outside the classroom have allowed MSU students to develop passion—and that’s what we want.”

— Maciej Skierkowski, Microsoft

“MSU students develop passion—and that’s what we want.”

“Spartan Engineers are well-rounded, very good academically, very good at communication, involved, and vivacious team members.”

— Justin Muller, Kimley-Horn and Associates, Inc.

“We hire Spartan Engineers because they’re well-rounded and are set up with very good internships, so they come to us with work experience and are able to perform at a number of different jobs. Further, those Spartans who have study abroad experience have demonstrated that they can be comfortable and successful outside their comfort zone, which is important in the military.”

— Lieutenant Carmichael, U.S. Navy Officer Programs

“...the leadership potential we’re looking for.”

“We’re looking for people with positive attitudes and excellent skills who can grow. We find that MSU graduates learn quickly, work well in groups, and have the leadership potential we’re looking for.”

— Anthony Norris, Auto Owners Insurance Co.