

**BE PASSIONATE**  
**BE CHALLENGED**  
**BE INSPIRED**



**(Be Creative)<sup>2</sup>**

**"CLASSROOM AND LEADERSHIP EXPERIENCES WILL TRANSLATE WELL INTO MY DREAM OF A JOB AS A FLIGHT TEST ENGINEER."**

**Nick, aerospace engineering**

**"OUR STUDENTS RECEIVE HANDS-ON PREPARATION ON CRITICAL ISSUES SUCH AS BIOFUELS, WATER QUALITY, AND FOOD PROCESSING."**

**LeQuetia, biological systems engineering adviser**

**"I HOPE TO USE THE COMPUTER ENGINEERING SKILLS I LEARN TO MAKE AND IMPROVE MEDICAL EQUIPMENT."**

**Kristen, computer engineering**

*Teach a robot to learn the same things children do during the first few years of their lives—how to identify objects, use tools, read, and write.*



# BE = TO THE CHALLENGE

How would you make the world better? Perhaps you'd discover sustainable energy sources that won't pollute the air. Stop the oceans from swamping coastal cities. Secure information in a totally online world. How you choose to be creative can help Iowa State University's College of Engineering tackle the 2050 Challenge. The challenge of creating a better world today and for decades to come. We need passionate students to join us and...

- + Learn from professors whose breakthroughs are shaping our future
- + Work in advanced research labs with the latest technology on projects that will revolutionize our world
- + Interact with students from over 100 countries
- + Get hands-on experience with companies creating products and systems that improve people's lives
- + Create in a collaborative environment that's fueled by a diversity of thinking





**"SO MANY INDIVIDUALS WERE WILLING TO HELP ME WHEN I FIRST STARTED. ALL THE SUPPORT HELPED ME SUCCEED IN CLASS."**

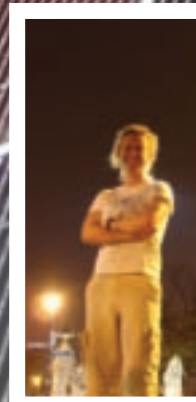
**Jereshia, civil engineering**

**"THE DEMAND FOR SKILLED SOFTWARE ENGINEERS CONTINUES TO GROW ACROSS INDUSTRIES."**

**Gavin, software engineering**

**"THE PROGRAM IMMERSSES YOU IN RELEVANT MATERIAL AND CONNECTS YOU WITH ENGINEERS AND POTENTIAL EMPLOYERS."**

**Eric, construction engineering**





*Collaborate across engineering majors to build a sustainable future. The latest solar innovations were used to help the Interlock House compete in the Department of Energy's Solar Decathlon.*

*Photo by Bob Elbert.*

# BE > YOU IMAGINE

Iowa State's engineering program has a wide range of resources to choose from that help you be creative in your field of study, as well as in life. Your adventure here will take you places you can't begin to imagine.

## Your Community

Get a jump-start on success and make a smooth transition by joining one of the College of Engineering's top-rated learning communities. Every engineering major has one, and there is even one for undeclared students. You'll study with others in your major and network with professionals in your field.

## Your Career

Your path to an amazing career begins here. Just set up an account in our online career management system, and we'll help you polish your résumé, hone your interview skills, and land internships or co-ops that pay an average of \$2,850 per month. Take advantage of our engineering career fairs that have become the largest in the nation—over 500 companies recruit our engineers every year. No wonder 96% of our engineers land jobs within six months of graduation—with starting salaries averaging \$57,000 per year.

## Your World

Want to see the world up close and personal? The College of Engineering offers over 30 study abroad programs, as well as internships with multinational corporations and service learning projects in developing countries. All engineering programs are offered, including options for study in English or a foreign language. Wherever you go, your focus will expand beyond the world you know today to include a world of possibilities tomorrow.



# BE THE START OF REAL

Choose from 12 majors that will challenge you, inspire you, and prepare you to create a better world.

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## Aerospace Engineering

Design wind generators that produce limitless power.

If it moves through the air or water, aerospace engineers study and design it—from golf balls to jet skis, weather balloons to wind generators, bicycles to automobiles. And yes, you'll study

airplanes and rockets too. We even study the air itself—wind and weather-driven phenomena like tornados, hurricanes, and (of course) cyclones! Your designs will keep things moving.

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## Agricultural Engineering

Invent a vehicle smart enough to drive itself and keep chemicals out of the groundwater.

To improve productivity while conserving natural resources, agricultural engineers use the latest in technology. GPS to precisely place fertilizer and seed for maximum efficiency. Autonomous off-road vehicles. Computer-controlled

environments. New processes to convert biomass into useful materials. As an agricultural engineer, you'll be right in the middle of these cutting-edge technologies, turning ideas into reality.

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## Biological Systems Engineering

Create systems that safeguard the world's food, air, and water while helping meet human needs for renewable resources.

Engineers who work in this field are interested in biology and want to improve life through technology. Biological systems engineering involves the sustainable production, storage, and conversion of biobased materials into useful products.

It's a creative, high-impact field that addresses critical issues like air quality, a secure food supply, and clean water. You'll make a big difference in the lives of everyday people.

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## Chemical Engineering

Produce fuels and chemicals from biorenewable sources and reduce our dependence on petroleum.

Chemical reactions are happening all around you. As a chemical engineer, you'll develop processes and products in diverse sectors including food, pharmaceutical, biomedical, advanced materials, microelectronics, and commodity chemicals. Your expertise

can be used to tackle pressing issues facing us, such as creating materials to repair damage to severed nerves and developing value-added chemicals from biorenewable sources. Your discoveries will create a better world.

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## Civil Engineering

Design a road system that puts an end to traffic jams.

Civil engineers leave their mark on the world around them by designing systems and structures that save and protect lives. As a civil engineer, you'll design highways, water treatment plants, malls, bridges, or

manufacturing facilities. Your creative ideas will make water safer, protect people from the elements, conserve the environment, and allow people to travel safely.

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## Computer Engineering

Protect the world's computer networks from cyberterrorist attacks.

Look around you. Computers are not only on your desk—they're also in your MP3 player, GPS units, cell phone, car, and household appliances. Computers are everywhere! As a computer engineer, you'll work to make the Internet safer and accessible to

everyone in the world, build robots that interact in human-like ways, develop real-time systems that make GPS navigation possible, and more. Computer engineers are creative thinkers who make computers smarter, faster, smaller, and cheaper.



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## Construction Engineering

Build a hospital that can withstand an earthquake.

Construction engineers lead teams to create and turn plans into reality. They are detail-oriented people who solve problems and answer questions—skills that keep construction engineers in high demand.

You'll focus on how to tackle big-vision projects like skyscrapers, transportation systems, educational facilities, and industrial plants—places where people live, work, and play.

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## Electrical Engineering

Help doctors perform surgery without knives.

As an electrical engineer, you can truly make your mark on the world—develop a smart electric grid, help the world “go green” with new solar and wind energy technology, improve biomedical imaging technology to treat diseases, make cell

phone signals more reliable, or design blazing-fast computer chips. Electrical engineers work in industries from power and wireless communication to health care and avionics.

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## Industrial Engineering

Devise systems that keep companies running like clockwork.

By looking at the “big picture,” industrial engineers find ways to make things work better. Your talent for organizing ensures complex systems operate efficiently—whether it's shortening the line at a bank,

controlling a big retail store's inventory, or designing workspaces that are more productive and safe. Whatever people do, you'll help them “do things better.”

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## Materials Engineering

Design bioceramic bone implants.

Think of all the materials in biomedical devices, computer chips, clothing, automobile parts, and yes, even the kitchen sink. Those are just a few products that depend on the creative solutions from materials engineers.

You'll study the relationship between a material and its internal structure. And as a materials engineer, you'll apply that knowledge to create new or improve existing materials.

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## Mechanical Engineering

Invent the next-gen hybrid car engine.

Mechanical engineers research, design, and manufacture products that improve people's lives. By applying the properties of forces, materials, energy, and motion, mechanical engineers are involved in nearly

every product. Sensors used in air bags. Prosthetic devices for the disabled. Robots. Planetary exploration spacecraft. Virtually anywhere your imagination leads you, mechanical engineering can take you there.

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## Software Engineering

Develop the next big smartphone app.

Software engineering goes beyond your personal computer. From developing the next hit video game to creating control systems for airplanes, cars, and medical equipment, software engineering offers endless career possibilities—and you can

change the lives of others along the way. As a software engineer, you can manage projects through the entire development process and ensure your programs work seamlessly with technology and hardware developed by other engineers.

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## Still Deciding?

If you're still not sure what type of engineer you'd like to be, you're not alone. About 23% of our first-year students enter as “engineering undeclared.” The College of Engineering has great resources, from

Engineering 101 to the Engineering Advising Center to Learning Communities, all designed to help you decide how you want to be creative—squared.

**"THE PEOPLE I HAVE MET  
HERE AND LESSONS I HAVE  
LEARNED WILL STICK WITH  
ME FOR LIFE."**

**Adam, agricultural engineering**

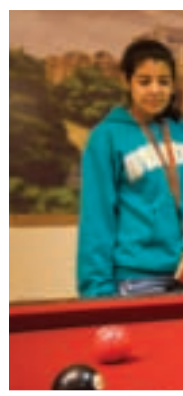
*Create your own program of study. You can choose from minors in bioengineering, nuclear engineering, entrepreneurship, digital media, music, languages, international studies, business, technology and social change, environmental science, mathematics, biochemistry, and many more.*

**"THE WOMEN IN MECHANICAL ENGINEERING PROGRAM BRINGS FACULTY, STUDENTS, AND INDUSTRY PROFESSIONALS TOGETHER."**

**Courtney, mechanical engineering**

**"IOWA STATE'S PROGRAM IS GREAT BECAUSE I CAN EXPLORE SO MANY OPTIONS AS I LEARN WHAT I LIKE MOST."**

**Emily, materials engineering**







# BE SURROUNDED BY OPTIONS

At Iowa State, we think of education as an adventure. One where you'll enjoy virtually unlimited options to meet new friends and explore your passions. Here are just a few opportunities that await you:

- + Over 750 clubs and organizations give you a chance to discover your interests and develop your leadership skills
- + Collaborate and compete with students from around the globe on design projects in some of the over 40 engineering clubs
- + More than 50 intramural sports (some you never knew existed) means everyone can play
- + Right on campus, you can enjoy Big 12 sports as well as world-class entertainment, from concerts to Broadway plays
- + A variety of on-campus housing options lets you choose what works best for you





**"I'VE FOUND ELECTRICAL ENGINEERING IS A VAST FIELD WITH A LOT OF OPTIONS FOR SPECIALIZATION."**

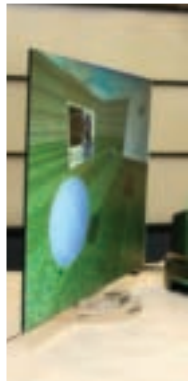
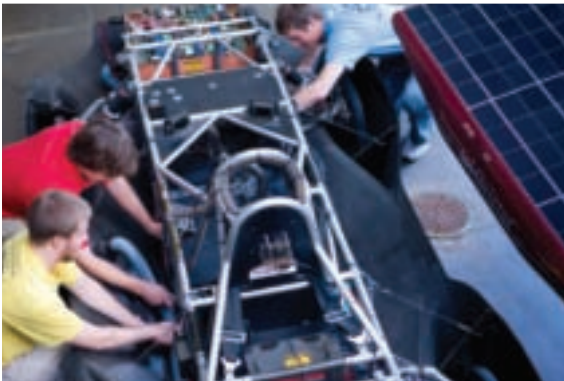
**Prakalp, electrical engineering**

**"I HAVE A VARIETY OF INTERESTS AND INDUSTRIAL ENGINEERING CATERES TO THEM ALL. WHERE ELSE COULD I HAVE THIS MUCH FUN?!"**

**Sarah, industrial engineering**

**"THROUGH RESEARCHING CORN PROTEIN SEPARATIONS AND HOLDING FIVE INTERNSHIPS, I EXPERIENCED ENGINEERING'S VARIETY FIRSTHAND."**

**Jason, chemical engineering**





*Design buildings that can withstand the fury of 150-mile-per-hour winds using our tornado simulator, which is capable of creating a vortex up to eight feet tall.*

# BE PREPARED FOR YOUR ENGINEERING<sup>o</sup>

The challenges facing our world will draw on many talents. Your ability to be creative builds from a balanced curriculum in high school.

## HERE ARE THE COURSES WE REQUIRE:

- + English/Language Arts: 4 years
- + Foreign Language: 2 years of the same language
- + Science: 3 years, including one year each of two of the following fields: biology, chemistry, and physics
- + Social Studies: 2 years
- + Math: 3 years, including one year each of algebra, geometry, and advanced algebra

## AND HERE'S WHAT WE RECOMMEND:

- + English/Language Arts: 4 years
- + Foreign Language: 2 years of the same language
- + Science: 4 years, including biology, chemistry, physics, and a laboratory experience
- + Social Studies: 3 years
- + Math: 4 years including trigonometry, pre-calculus, analysis, calculus, or advanced math

For a complete list of high school requirements, visit [www.admissions.iastate.edu](http://www.admissions.iastate.edu)

For transfer requirements, visit [www.eng.iastate.edu/transfer](http://www.eng.iastate.edu/transfer)



(Be Creative)<sup>2</sup>

**WHERE THERE'S A  
DREAM, THERE'S A  
WAY.**

We want students who are passionate about solving the world's challenges—and we're willing to help you figure out a way to make it happen. Iowa State awarded \$86 million in scholarships and \$23 million in grants in 2007–2008. And our college annually adds millions of dollars for engineering students in scholarships and paid internships to make your dream of being an engineer come true.

**Contact Info**

**+ Engineering Enrollment Services  
and Precollegiate Programs**

Phone: 515 294-8355  
800 262-3810 ext. 8355

E-mail: [engineering@iastate.edu](mailto:engineering@iastate.edu)

College of Engineering  
113 Marston Hall  
Ames, Iowa 50011-2152

Check us out at  
[www.engineering.iastate.edu/prospective](http://www.engineering.iastate.edu/prospective)



**IOWA STATE UNIVERSITY  
College of Engineering**

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