Left vs. Right Brain?
We give you the opportunity to use both sides of your cranium equally.
You know you're smart. Your teachers tell you. Your friends tease you about it. Test scores confirm it. You're logical, analytical, organized. Your world can be reduced to a mathematical equation. You're drawn to mechanical engineering for its breadth of career options.
You see the world not just in numbers but pictures. Not just what is but what could be. Imagination and intuition spark your ideas. A modern-day renaissance thinker. You’re excited about all the nontraditional professions that await future mechanical engineering majors.
As the broadest of all engineering disciplines, the role of mechanical engineers is expanding beyond the traditional automotive and manufacturing sectors. More and more opportunities exist for careers in healthcare, public policy, pharmaceuticals, movie-making, financial services, nanotechnology, electronics and biotechnology, among others.

Purdue’s School of Mechanical Engineering, the longest running engineering school at the University, consistently ranks in the top 10 in the nation for both its undergraduate and graduate programs. Roughly 20% of our students pursue advanced master’s or doctorate degrees. Our alums are in high industry demand. Our program is a magnet for the best and brightest, those “Renaissance” men and women who will make a significant local and global difference in our world.
Driving this excellence is the breadth of Purdue Mechanical Engineering programs, its learning and research facilities and internationally renowned faculty members:

02  EXPERIENCE HANDS-ON OPPORTUNITIES

04  MAKE A DIFFERENCE

06  GAIN GLOBAL PERSPECTIVES

08  SEEK SUSTAINABLE SOLUTIONS

10  CONDUCT CUTTING-EDGE RESEARCH

12  EXPLORE A BREADTH OF CAREER OPTIONS

14  FOLLOW IN THEIR FOOTSTEPS
Developing practical hands-on skills is equally important to strong analytical skills. Gain these essential experiences through the many design, build and test project opportunities.
Since high school, Pat Hart knew he wanted to be a mechanical engineer. He loved tinkering. He was a problem solver. And mechanical engineers have the choice of a breadth of careers – industrial, biomedical, aerospace. It started with FIRST Robotics, a competition to design and develop a remote-controlled device to execute a task while competing against other devices. Rolls-Royce sponsored his high school FIRST Robotics team. At Purdue, he mentored his old high school team. He paid that passion forward. Equipped with these real-world, hands-on experiences, Pat is ready for his role as a manufacturing and process engineer, designing and building turbine engines for helicopters at Rolls-Royce.
MAKE A DIFFERENCE

Professional work experience is an integral element in the development of practicing engineers. More than 90% of Purdue ME graduates have co-op or internship experiences. Or both.

You should also check out

Office of Professional Practice
Engineers for a Sustainable World
Engineers Without Borders
Tiffany Legge was destined to make a difference in the world. She enjoyed the sciences, technology, engineering and math. Her passageway: Science Bound, a Purdue program nurturing those interests among middle school students. Her expression: the world of mechanical engineering. Classes connected well to the real world of industry. She learned to communicate effectively, critically. To lead. To network. These skills proved paramount as an intern at Eli Lilly & Co. and Procter & Gamble (P&G). Today, she improves processes at P&G for making the best consumer products possible. It’s a training-focused environment. With P&G’s many divisions, Tiffany looks to apply her critical thinking skills to propel her into management, where she can make an even greater difference in the workplace and the world.

“I love laughing and just having fun. The academic and social organizations I was involved in outside the classroom were a great outlet and helped me be more successful.”

“I really enjoy process work. Give me an end goal and I will figure out how to achieve it in the most effective way to make a necessary difference. That’s how my mind works.”
Global experience is an increasingly important emerging skillset all future engineers will need. More than 30% of Purdue ME students participate in an overseas program, vs. 3.2% nationally.

Other locations include Australia, England, France, Germany, New Zealand, Singapore, Spain and Turkey.
Mackenzie McNamara has always been intrigued by different cultures, wanting to observe unique lifestyles from across the globe. Her personalized studies in ME allowed her to do just that. Mackenzie spent a semester abroad in Shanghai, studying global engineering while experiencing Chinese culture and language barriers firsthand. In her senior design course, her team utilized technical knowledge and global awareness to design and build a basic utility vehicle for an African village in Cameroon. The wood-based truck is low cost and built from raw materials available locally. The group then traveled to Cameroon to help officials set up a manufacturing plant for the vehicles. She left Africa knowing her team had made a positive impact. Fueled by these experiences, she now works as a Global Rotational Development Trainee at Cameron International. She works with customers in Europe and Asia on a weekly basis and hopes to earn a position abroad after the two-year program.

“My international experiences gave me a competitive advantage during my job search. Not only were they great conversation pieces, but employers were impressed that I could effectively adapt to change and see the bigger picture.”

“At my job, I get to analyze data in order to determine key points, decide where to make improvements, brainstorm and then implement changes – everything engineers thrive on.”
Sustainability is increasingly important in engineering design today because of declining natural resources and growing concerns with pollution. Opportunities abound for Purdue ME students.

Other opportunities include Solar Decathlon, EcoCAR, Boiler Green Initiative, EPICS Team, Gatewood Wing (first LEED-certified campus building) and more...
Ted Pesyna has a clear goal for the next decade: design and build an electric car. He also wants to be a leader in sustainable technology. Mechanical engineering equipped him for both. In high school, he toyed with anything mechanical. Especially cars and trucks. Leading the Purdue Solar Car Racing Team his senior year, the team’s street legal vehicle achieved an incredible 2,200 mpg at the 2011 Shell EcoMarathon. An electric car that ran without burning fossil fuels. Today, Ted is on his way in a career at aerospace giant Lockheed Martin, where he can work to advance solutions for a greener, more sustainable transportation world.

"Ever since I was young, I’ve loved to create, to imagine, to explore and had visions of being an architect or an engineer. In 10 years, I believe these characteristics will be my guide. I’ve discovered that it’s not just about me or a particular job, it’s about going into a career where I’m making a difference."

"As a mechanical engineer, you have the ability to learn and develop the analytical side to a solution and apply it in a more practical way. I’ve always been a fixer, a doer."
In addition to traditional classroom experiences, students interested in emerging technologies can participate in undergraduate research in areas so new that classes do not currently exist. Undergraduate research also is a great way to assess your interest in graduate school.
Kyle Smith was strong in math and science in high school. But it was the influence of his father, an inventor, who opened Kyle’s door to mechanical engineering and a potential career as a nanotechnology researcher. Kyle also discovered ME careers went well beyond the automotive industry – thanks to several Purdue cooperative experiences. A Summer Undergraduate Research Fellowship (SURF) as a junior connected him with ME professor Tim Fisher and cutting-edge research on chemical storage of hydrogen for fuel cell vehicles at Discovery Park’s Birck Nanotechnology Center. A recipient of several fellowships for his doctorate, Kyle is focusing his efforts on researching materials for lithium ion batteries. And he’s part of a U.S. patent filing as the first step in this process.

"A painter uses colors, a brush and style to express his ideas. Mechanical engineers must express creative ideas, but they must translate those ideas into practical, feasible technology to be successful."

"My training as a mechanical engineer and the continuing research I perform provides me with an analytical framework with which to perceive complex systems and complex problems."
Mechanical engineering is the broadest of all engineering disciplines, creating opportunities for ME graduates to work in virtually every industrial sector. The biggest names in the aerospace, computers, consumer products, automotive and other industries regularly recruit for co-ops, internships and permanent hires.

Other nontraditional careers
Politician, entrepreneur, professor, race-car driver and more ...
Brian Schoolcraft knows he can make a difference as a mechanical engineer. Through his brother Ben, Brian met Bryce Duncan. Bryce was born with a congenital leg defect that resulted in the amputation of his right foot. By age 12, Bryce's right knee was 4 inches higher than his left, making conventional prosthetic devices unworkable. Brian’s senior team had an idea to design a flexible artificial right leg for Bryce that compensated for his body’s asymmetry. Within a year, Bryce could play basketball. When he turned 13, he did something even more unbelievable – he rode a bike. Brian had another idea. Use the $1,500 top prize award for the senior project to create a fund for maintenance costs as Bryce’s leg grows. Now with the advanced designed group at Allison Transmissions in Indianapolis, Brian is developing a new product – a continuously variable traction-drive transmission for commercial vehicles.

“I’ve never considered myself an artist, but I am very creative mechanically. I get great pleasure in coming up with new ideas and applying that creativity to help someone who has a need.”

“I grew up in a family of engineers – my dad is a mechanical engineer and mom is an electrical engineer. So from a young age, I had a knack for tinkering, building. We fixed everything ourselves. We even had a bicycle-powered generator in our garage.”
Purdue Mechanical Engineering alums exemplify the many diverse career options that await our graduates. From animators to automotive safety executives, the world’s best mechanical engineers need to use both sides of their brain to be successful.

Bob Peterson

Bob Peterson proves you can combine engineering know-how with good old-fashioned storytelling. He has an Oscar to prove it. As lead writer and co-director for Pixar’s animated feature, “Up,” he won Best Animated Feature honors on Hollywood’s biggest night in 2009. It was the culmination of 16 years at the Disney Co. division. And an impressive resume of other blockbusters — “Toy Story,” “Monsters, Inc.,” “Finding Nemo.” He even lent his voice to Roz in “Monsters, Inc.,” Mr. Ray in “Finding Nemo,” and Dug the dog in “Up.” With the creative clout he has earned in the animation world, Bob is now a spokesman for what’s possible as a mechanical engineer.
Jessica Thompson is a trained engineer. Technically proficient. Analytical. She's also an artist. Creative. Imaginative. It's a winning combination as project engineer at L'Oreal USA's manufacturing facility in Florence, Ky. It started with a high school visit through Purdue's Women in Engineering program. The task: A hands-on activity to disassemble a hairdryer. Eying architecture, she shifted to mechanical engineering. She hasn't looked back. At L'Oreal, she manages the purchase and installation of equipment to make hair-care products, mainly for the Garnier Fructis brand. She also guides efficiency improvements. Today, Jessica is equipped to make an impact at a global consumer giant like L'Oreal.

Tom Thigpen is not your typical mechanical engineer. Nor is he your usual MBA. Each day, he brings an unbeatable combination of technical skills and business savvy for his role as a sales engineer for Dallas-based Rockwell Automation. All due to an ME degree — and an MBA — from Purdue through its 5-year BSME/MBA program. Tom manages a territory from Dallas to Oklahoma City. His ME degree is crucial to understanding Rockwell's line of industrial automation products. He employs his MBA when discussing projects with customers. “My understanding of return on investment, payback and other business principles is incredibly valuable. I can talk fluently about how Rockwell's product line can help make my customers money.”

Sarah Hiple works in an industry filled with mechanical engineers. But she's not a typical mechanical engineer. As a manager in Nissan's Product Safety Department, she analyzes safety and technology trends for the automaker's Americas Region. It's a world of policy and regulation. Problem solving is key. So is understanding technology's role in an ever-changing global marketplace. At Purdue, she also learned how to build relationships. How to work well in teams. How to communicate effectively. As technology reaches deeper into our world, Sarah knows the mechanical engineer who's technically adept, politically savvy and globally focused will remain in high demand.
PURDUE
MECHANICAL ENGINEERING

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