WHICH COLLEGE OF ENGINEERING MAJOR IS FOR YOU

Visit www.lsu.edu/majors to learn about all of LSU's majors, minors, and concentrations

BIOLOGICAL ENGINEERING

Apply engineering principles to living organisms and systems, whether those include plants, animals, humans, or the environment. Focus areas include biomedical, bioenvironmental, bioprocessing, or biomechanical. Many graduates go on to medical school or graduate school, but others will work in consulting, government agencies, biomedical firms, or even technical sales.

CHEMICAL ENGINEERING

Combine several fields of science (chemistry, physics, and biology) with engineering design principles to create new chemical and biochemical processes–usually in the form of chemical reactions or separations. These techniques can be used to convert raw materials like sand, metal ore, crude oil, and natural gas into all of the products we use every day. Graduates may work in the petrochemical industry/plants, research and development, or go on to graduate school or medical school.

CIVIL ENGINEERING

Work on the design, construction, and maintenance of the infrastructure systems we use every day and/or in surveying and coastal subsidence projects. Sub-disciplines include: mechanics of materials (steel, concrete, timber, pavement etc.), structures (bridges, buildings, etc.), water resources (rivers, levees, etc.), transportation (traffic systems, highways, and roadways), geotechnical (soils, foundations, and coastal subsidence), and geodesy (surveying). Graduates may work for structural design firms or the petrochemical industry, but often work for government entities such as the Department of Transportation or U.S. Army Corp of Engineers.

COMPUTER ENGINEERING

Create, improve, or fix computer hardware and/or software by combining knowledge from the fields of electrical engineering and computer science. Computer engineers work in the fast-paced and dynamic field of computer technology and might be involved in any aspect of computer design, including circuit design, supercomputing, microprocessor design, personal computing, chip design, embedded systems, sensor design, robotics, and more.

COMPUTER SCIENCE

Learn the math and theory behind modern-day computing, develop and hone your programming skills, and then use computers to solve problems in almost any industry. Concentrations include cloud computing and networking, computer science and a second discipline, cybersecurity, data science and analytics, and software engineering. Many graduates go on to become software engineers/developers, but other job titles include cybersecurity specialist, network designer, entrepreneur, web developer, and more.

CONSTRUCTION MANAGEMENT

Use engineering and business principles to oversee the entire construction process. This includes estimating/budgeting, contract law, construction methods and materials, scheduling, safety, and effective communication. Industry emphasis areas include industrial, highway, commercial, residential, and general construction. Graduates are easily employed in this booming industry and can either work their way up within a construction company or start their own construction management business.

ELECTRICAL ENGINEERING

Design products and systems that use electricity to run the modern world. Electrical engineers are primarily concerned with the generation, control, transmission, and distribution of electric energy, signals, and information. This may be on a large scale, such as designing a more reliable power grid, or a small scale, such as developing components for a new medical device or cell phone. Graduates could design power systems in Baton Rouge, work on flight control systems in San Diego, help maintain an oil rig in the Gulf of Mexico, or work in a cubicle at a software company in Silicon Valley.

ENVIRONMENTAL ENGINEERING

Use the principles of engineering, biology, chemistry, and soil science to address environmental challenges such as waste disposal, recycling, pollution control, and public health. Specialization tracks include sustainability, coastal engineering, and a "flex" track, which allows students to tailor their focus to meet individual career goals. Graduates pursue careers in governmental organizations, nonprofits, and industry, or they may serve as external consultants for any of these entities.

INDUSTRIAL ENGINEERING

Apply the principles of engineering design to create or improve any type of system. Help businesses and organizations reach their full potential by improving efficiency, supply chain management, quality assurance, and safety. Industrial engineers might work on redesigning a factory to make better use of resources or creating quicker and safer processes for an emergency room. With skills that can be applied to almost any industry, industrial engineers can work in almost any field and at any type of organization/company.

MECHANICAL ENGINEERING

Use math, physics, materials science, and engineering principles to design, analyze, manufacture, and maintain machines. Mechanical engineers have broad skills that can be applied to many modern-day industries, but they are most closely associated with automotive design/manufacturing, aerospace, robotics, HVAC, and petrochemical companies.

PETROLEUM ENGINEERING

Help find and produce the natural gas and oil resources that make everyday life possible. Petroleum engineers are involved in finding, producing, and maximizing oil and natural gas products, whether that's fuel for vehicles or the plastic used for packaging consumer goods. Petroleum engineers work in a lucrative field and can pursue technical expertise or managerial roles in companies of all sizes. They may even serve as a consultant or start their own business in the field.

PLAN A VISIT

Go to www.lsu.edu/engvisit to schedule a personal visit to the LSU College of Engineering. During your visit you'll get a tour of our state-of-the-art building from a current college of engineering student and sit down for a Q&A with a staff member.

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