extraordinary innovation comes from collaborative teams making great effort through adversity
Our incoming first year class:

- Students: 410
- Women: 39%
- Afr. Amer., Native Amer., or Latino: 20%
- International: 18%
- From outside California: 62%
DON’T STUDY ENGINEERING.
DO MORE WITH ENGINEERING+

Our curriculum combines learning theory with “getting your hands dirty” by practicing real-world solutions. Our flexible programs allow you to begin engineering classes during your freshman year and you can change your major anytime. You can also take advantage of the rest of the university through minors or just take other classes for fun. Beyond classes, you can assist faculty with research as an undergraduate, study abroad, or even pursue an accelerated BS/MS combined degree.

You will face new academic challenges and find new ways to have fun. Through it all we are here with resources and support to help you succeed. We know you want more than engineering. That’s why our philosophy is “Engineering Plus.”
Engineering is the enabling discipline of our time.

Your solutions for the problems facing our future society will **improve and enrich life** for us all.

Engineers make good things happen. You want to solve the pressing challenges facing society, today and in the future. Problems in health and medicine, security, environment, and many others are multidisciplinary areas where you could help. The future doesn’t fit neatly into single disciplines and tomorrow’s engineers shouldn’t either.

Regardless of the major you choose, you will be where innovation happens.
HEALTH & MEDICINE
Engineer Better Medicines, Advance Health Informatics, Reverse Engineer the Brain, New Technologies for Diagnostics and Therapies, Biomimetic Electronics

SUSTAINABILITY
Make Solar Energy Economical, Develop Carbon Sequestration Methods, Create Novel Building Materials, Manage the Nitrogen Cycle

INFRASTRUCTURE
Improve Urban Infrastructure, Create Advanced Materials to improve Transportation and Energy, Develop Sustainable Megacities, Engineer for Extreme Events

WATER RESOURCES
Provide Access to Clean Water Around the World, Develop New Methods of Water Treatment, Microbial Fuel Cell Technologies

ENERGY
Nano Solar Tech., New Fuels & Engines, Ocean Wave Energy, Transportation Efficiency, New and Sustainable Sources

SECURITY
Secure Cyberspace, Prevent Nuclear Terror, Protect Infrastructure from Natural Disasters and Terrorism, National Defense

ENRICHING LIFE
Enhance Virtual Reality, Advance Personalized Learning, Engineer the Tools of Discovery, Exploit Social Phenomena Through Digital Media
We believe you shouldn’t be locked in to engineering. You will learn more from a **diverse set of courses and experiences** beyond the technical.

**JUMP RIGHT IN WITH FLEXIBILITY**
You will become part of our engineering community in your very first semester. You can start in a specific engineering major across ten different disciplines that offer more than 30 majors and areas of emphasis, or you can apply as an Undeclared Engineering major. As a first-year engineering student, you will take an introductory course in your major where you will solve real-world problems and get hands-on experience. If you begin as an undeclared engineering major, then you will take a survey course to try them all.

**LEARN FROM THE BEST**
Our faculty and their research are some of the many reasons to choose the Viterbi School for the pursuit of your engineering degree. We are consistently among the top universities for the number of faculty members who have been elected to the National Academy of Engineering. Many of our junior faculty members have received the prestigious Early Career Award from the National Science Foundation. As a Viterbi undergraduate, you can participate in research that addresses many of tomorrow’s problems. Leading areas of research at USC include biomimetic microelectronic systems, alternative energy, laser and lightwave technologies, biotechnology, structural safety, software engineering, robotics, nanostructures, extreme events, transportation systems, and many others.

**DO MORE THAN ENGINEERING, DO ENGINEERING PLUS (ENGINEERING+)**
Beyond our traditional engineering degree programs, we encourage students to consider a minor or even double-major in non-engineering fields. Popular options include: Business, International Relations, Cinematic Arts, Theatre, a foreign language, Public Policy, or Music. The Viterbi School strongly supports the University’s commitment to providing students with interdisciplinary educational opportunities, and we believe these experiences help make our students better engineers. Our degree programs will prepare you to work as an engineer immediately after graduation, develop your own start-up, or pursue a variety of other disciplines such as law, medicine, business, film, or government. Qualified students also have the option to participate in our combined BS/MS Progressive Degree engineering program.
Our students are academic leaders even before they join the USC Viterbi community, and they don’t slow down once they are here.

viterbiadmission.usc.edu/innovation
CONTINUING YOUR SUCCESS

Making connections with students and faculty is a top priority for our students. Our First Year Excellence (FYE) program helps all first-year students connect to the University and the Viterbi School through opportunities such as the Freshmen Academies, hands-on, collaborative intro courses, the Viterbi Spotlight Series, and individualized academic advisement. We support your academic success with our Viterbi Academic Resource Center, help you build community and develop leadership skills with our Women in Engineering program, Center for Engineering Diversity and Klein Institute for Undergraduate Engineering Life, and enhance your global perspective with our overseas opportunities for engineering students.

BUILDING YOUR FUTURE

Your engineering undergraduate degree will prepare you for many career and academic opportunities. Whether you have always known what “you want to do when you grow up,” or are hoping to find out, we are here to help you plan for your future beyond USC. We provide dedicated career services starting in your first year to help you find internships, co-ops and full time positions post graduation. Many of our students also choose to go into graduate programs in engineering, law, medicine, or even business at graduate schools across the country, including USC. We even have an accelerated master’s degree program that allows you to complete your BS and MS in reduced time, typically five years.

ENGINEERS MAKE STUFF

Viterbi engineers make a lot of stuff. Our students have a ton of opportunities to volunteer or work in a variety of research settings. That means helping to develop cutting edge technology and creating new knowledge both inside and outside of the classroom. Hands-on, application-based classes, design teams, and directed research, in addition to formal programs and awards allow students to learn even more about engineering as early as freshman year.

Student-led design teams take the theory and application from the classroom and apply it through regional and national competitions. Our robotics teams compete in both underwater and aerial competitions. The concrete canoe team makes a new canoe each year. The SC Racing team designs, builds, and races a formula-style race car while the AeroDesign team builds planes and the Rocket Lab group makes, well... rockets. Of course, this is only a small example.

THE SWEET SPOT

This is where we live. This intersection creates more innovative engineers. We foster a collaborative, non-competitive environment. You won’t compete to stay in a class, or worry about the grading curve. Group projects will be present throughout your curriculum because it never takes just one engineer to solve a problem.

Like your technical skills, your skills in communication are important. We believe you need great ideas, and the ability to communicate those ideas to others. You will write papers, give oral presentations and learn how to communicate through your projects. You will learn how to respond to RFPs, and write those proposals as preparation for your future.

Start-Ups require technology, services or systems that sit at their core. Most of the time, it’s engineering that turns an idea into a reality... but it’s the people who bring it all together. Our Viterbi Student Institute for Innovation (speaker series, workshops, mentoring) and our Maseeh Entrepreneurship Prize Competition (awarding $100,000 in prize money each year) both help sustain an ecosystem for entrepreneurship and innovation.

The sweet spot creates new products, new companies, and new solutions for all of us.
Of course you will work hard, but that doesn’t mean you can’t have a real college experience at the same time. We want you to have a life!

**STUDENT LIFE - AS AN ENGINEERING STUDENT (REALLY?!)**

We’re not interested in being a cookie-cutter engineering school and Viterbi students are anything but stereotypical. Our students are just like you - smart, dynamic, involved, socially responsible, and dedicated.

We want students who like to work hard - both in and out of the classroom. Our students know that going to college is more than attending class and completing assignments. College is also about making connections and joining a community of dedicated students, faculty, staff, and alumni. Our students want to work and play with people as interesting as they are, and we have a number of ways for you to do the same.

Your life can be designed how you like it. Join a design team like SC Racing, Underwater Robotics, or Rocket Propulsion Laboratory. Continue your passion for volunteering or coach after school sports at one of our local elementary schools. Don’t give up your music - join the Trojan Marching Band, a jazz quartet, or even take advanced lessons directly with music faculty. Whatever you do, don’t miss the opportunity to explore Los Angeles. Learn to surf, hike the Santa Monica mountains, grab dinner in Hollywood, or catch a concert at Staples Center in LA Live.

We could write stories about our students throughout this entire book, and you still wouldn’t know as much as you should. Learn more from our students directly. Our current students were in your shoes not too long ago, and they want to help.

Read their blogs, follow their Instagram feeds, listen to their playlists, watch their videos, and interact with them via Live Chats, Twitter, and Facebook.

They are sharing stories about their life in and out of the classroom on a daily basis:

[VITERBI VOICES.USC.EDU](#)

**DON’T TAKE OUR WORD FOR IT**

**TALK TO OUR STUDENTS**

We could write stories about our students throughout this entire book, and you still wouldn’t know as much as you should. Learn more from our students directly. Our current students were in your shoes not too long ago, and they want to help.

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[VITERBI VOICES.USC.EDU](#)
AEROSPACE & MECHANICAL ENGINEERING

MAJORS & AREAS OF EMPHASIS:
AEROSPACE ENGINEERING
MECHANICAL ENGINEERING
MECHANICAL (PETROLEUM) ENGINEERING

viterbiadmission.usc.edu/ame
Planes, Trains, Automobiles - design technology that moves and machines that move us

Aerospace and Mechanical Engineers (AME) design complex mechanical, thermal, fluidic, acoustical, optical, and electronic systems, with characteristic sizes ranging from microns to tens of kilometers. Such systems are used everywhere, from the depths of the ocean and far underground, to near-Earth, planetary, interplanetary and galactic space.

Our students conduct basic and applied research within and across the usual disciplinary boundaries. AME students develop core and valuable problem-solving skills in the areas of aerodynamics, mechanics, thermodynamics, fluid mechanics, heat transfer, materials and design. Our graduates are at the leading edge of academia and industry, tackling innovative, important and exciting challenges.

AME students have the opportunity to work with the world-renowned faculty on research projects including turbulence control, emerging fuel cell technologies, computational fluid mechanics, combustion, heat transfer, automatic control systems, biomechanics, robotics, and nonlinear dynamics. Recent undergraduate research and student projects include the design of fixed and flapping wing systems for small unmanned aircraft, the search for low drag solutions for the global cargo shipping industry, sports injury and helmet design for shock reduction, and optimal control of wheelchairs for humans and hovering flight for animals.

We advance and define research frontiers that shape the future of our life in the air, on the ground, and in space. We push forward the understanding of environments both natural (oceans, atmosphere) and engineered (internal combustion, pulsed ignition). Other efforts advance our understanding of control and dynamics of autonomous systems and robotics, advanced manufacturing technology, aircraft design and flight mechanics of very small and very fast flying machines, and biodynamical systems in medical devices, natural propulsion, and evolutionary system dynamics.

COMPANIES THAT HIRE AME STUDENTS
Aerospace Corporation, Aerovironment, Aerotek, Boeing, Honeywell, Jet Propulsion Laboratory, Lockheed Martin, NASA Facilities, Scaled Composites, SpaceX, US National Labs (Livermore, Sandia), Northrop Grumman, U.S. government agencies... And many more!

IN THE FUTURE YOU COULD:

✓ Imagine/design and build piloted or autonomous craft for land, air, sea, and space
✓ Develop entirely new devices including satellites, robots, micro-scale measurement and monitoring platforms
✓ Develop control and planning systems for robots, automated machinery and fleets of devices
✓ Join the exciting world of modern engineering where the power of smart technology is harnessed and focused to improve the human condition
Sometimes, it actually does take a rocket scientist

Astronautical engineers design, build, and operate space vehicles for exploration and applications beyond the Earth's atmosphere. This program prepares students for engineering careers in the space sector of the aerospace industry, space research, development, and operations in industry and government centers and laboratories, as well as for graduate study.

The Astronautical Engineering (ASTE) program provides the fundamentals of science and engineering, specialized courses in astronautics, and technical electives to broaden as well as deepen the coursework. ASTE students learn spacecraft and launch vehicle design and operations, propulsion, orbital mechanics, spacecraft dynamics and control, navigation, instrumentation and sensors, and much more.

The Department of Astronautical Engineering (ASTE) is at the center of exciting and innovative research in spacecraft and space exploration, from basic science to new ways of designing and integrating spacecraft. ASTE operates world-class research facilities such as the Collaborative High Altitude Flow Facility (CHAFF) space simulation chamber, a six-meter cryogenically cooled chamber capable of testing propulsion systems in high vacuum.

Astronautical engineering students can engage in research under faculty guidance as early as freshman year. In addition, ASTE has several ongoing hands-on student projects. The Microsatellite Project designs and builds small spacecraft approximately the size of a loaf of bread. Its second spacecraft, which has the first dish antenna ever used on a cubesat, has been successfully operating for more than a year. The Rocket Propulsion Laboratory designs and builds solid-fueled rockets. Its goal is to be the first student group ever to send a rocket to 100 km altitude (see photo). The Lunar Lander group builds subscale models of landing craft. These use jet engines for primary thrust and auxiliary thrusters for attitude and sideways motion. The goal is to demonstrate fully autonomous liftoff, travel, and landing.

COMPANIES THAT HIRE ASTE STUDENTS
Aerospace Corporation, The Boeing Company, Defense Advanced Research Projects Agency (DARPA), Lockheed Martin, Northrop Grumman, various government agencies, Jet Propulsion Laboratory (JPL), NASA Research Centers (Glenn, Marshall, Johnson), Raytheon, SpaceX, Virgin Galactic... and many more!

IN THE FUTURE YOU COULD:
- Design rocket vehicles
- Design, build, and test satellites
- Operate unmanned spacecrafts and probes
- Build space instrumentation and sensors
- Conduct government research
- Lead space operations
- Become a researcher at a university or government research center
BIOMEDICAL ENGINEERING

MAJORS & AREAS OF EMPHASIS:
BIOMEDICAL ENGINEERING
BIOMEDICAL (BIOCHEMICAL) ENGINEERING
BIOMEDICAL (ELECTRICAL) ENGINEERING
BIOMEDICAL (MECHANICAL) ENGINEERING

viterbiadmission.usc.edu/bme
Subtract the doctors and nurses from the hospitals - everything else is BME

The interdisciplinary field of Biomedical Engineering (BME) combines elements of engineering (electronics, systems analysis, mechanics) with the life sciences (biology, physiology, biochemistry) to define and solve problems at this intersection between technology and living systems. Students choose this branch of engineering for the excitement of working with people and living systems, and for the opportunity to apply advanced technology to the complex problems of medical care.

Students can participate in a variety of directed study courses or classroom projects at facilities such as Keck Hospitals & Medical Centers of USC, LAC+USC Medical Center, House Ear Institute, the Biomedical Simulations Resource Center, the Medical Ultrasonic Transducer Resource Center, Rancho Los Amigos National Rehabilitation Center and Children's Hospital-Los Angeles (CHLA).

While many students choose a primary degree in Biomedical Engineering with no added specialization, we do offer the opportunity to deepen your education in three separate emphasis programs: Biochemical, Electrical, and Mechanical. Biomedical (Biochemical) Engineering combines biomedical engineering with chemistry and has a larger component in the life sciences and Chemical Engineering coursework. Biomedical (Electrical) Engineering is for students interested in the building of electronic biomedical devices and the effects of electrical stimulation. Biomedical (Mechanical) Engineering is for students interested in the mechanics and dynamics of medical devices and biological systems.

PREPARATION FOR MEDICAL SCHOOL
The BME programs are easily adapted to include the prerequisites for most medical schools, while also providing technical training beyond the basic life sciences. USC Pre-Med students are supported throughout the medical school application process by the Pre-Health Advisement office. Many graduates go on to attend top medical, dental, and pharmacy schools around the country, including the USC Keck School of Medicine.

COMPANIES THAT HIRE BME STUDENTS
Abbott Laboratories, Advanced Bionics, Alfred E. Mann Institute, Amgen, Baxalta, Edwards Lifesciences, House Ear Institute, Johnson & Johnson, Lifescan, Medtronic, Neutrogena, Nike... And many more!

IN THE FUTURE YOU COULD:
- Become physicians or pharmacists
- Build advanced therapeutic & surgical devices
- Create safe implantable artificial materials
- Conduct biomedical research
- Develop artificial organs
- Design natural prosthetics
- Improve medical imaging devices
CHEMICAL ENGINEERING & MATERIALS SCIENCE
THE MORK FAMILY DEPARTMENT OF CHEMICAL ENGINEERING & MATERIALS SCIENCE

MAJORS & AREAS OF EMPHASIS:
CHEMICAL ENGINEERING
CHEMICAL (BIOCHEMICAL) ENGINEERING
CHEMICAL (ENVIRONMENTAL) ENGINEERING
CHEMICAL (NANOTECHNOLOGY) ENGINEERING
CHEMICAL (PETROLEUM) ENGINEERING
CHEMICAL (POLYMERS/MATERIALS SCIENCE) ENGINEERING
CHEMICAL (SUSTAINABLE ENERGY) ENGINEERING

viterbiadmission.usc.edu/che
Energy, Materials, Efficiency - Make the “stuff” of tomorrow

Chemical engineers design, control and optimize large-scale chemical, physiochemical and biochemical processes. They are also involved in the development and design of new materials ranging from advanced composites used in automotive and space-related industries to materials used in the biomedical and electronics fields. Emerging fields in chemical engineering include: biotechnology, the design of environmentally benign processes, new technologies that impact oil and gas performance and the synthesis of new materials (including bio- and nanomaterials), and polymers and composites. Chemical engineers are uniquely qualified to provide solutions to many pressing problems in the areas of energy, environment and materials science.

While many students choose a primary degree in chemical engineering with no added specialization, we also offer the opportunity to deepen to your education with five separate emphasis programs. The biochemical option (CHEB) is a great option for students considering going on to medical, dental or pharmacy Schools; and for students who wish to enter the growing biochemical industry. The petroleum option (CHPE) is most appropriate for students interested in the exploration and production aspects of the energy industry. The nanotechnology option (CHEN) is for students who are interested in learning the properties of materials on the nanometer scale. The polymers/materials option (CHPM) is most appropriate for students interested in the polymer industry; as well as students interested in electronic materials, e.g., in microelectronics fabrication. The environmental option (CHEE) is for students interested in a career protecting the environment.

The Mork Family Department is well-equipped for experimental research with modern instrumentation located in core laboratories across campus, including NMR spectrometers, electron microscopes, surface analysis instrumentation, and nanofabrication tools located in clean room space.

COMPANIES THAT HIRE CHE STUDENTS
Alcoa Inc., Amgen, Baxalta, CH2M Hill, Chevron, Dow Chemical, DuPont, Environ, ExxonMobil, Halliburton, Hewlett-Packard, Intel, Nestle Waters, Phillips 66, Proctor & Gamble, Schlumberger, Solar City... And many more!

IN THE FUTURE YOU COULD:

- Design and optimize cost-effective ways to produce energy, drugs, plastics and chemicals
- Develop new biological and therapeutic agents
- Establish new methods for chemical processing
- Find solutions for environmental problems
- Streamline petroleum exploration and refining
- Create new consumer products and manufacturing systems
- Regulate environmental health and safety standards
- Production, design, development, and research in all fields that involve chemical changes
CIVIL & ENVIRONMENTAL ENGINEERING
THE SONNY ASTANI DEPARTMENT OF CIVIL & ENVIRONMENTAL ENGINEERING

MAJORS & AREAS OF EMPHASIS:
CIVIL ENGINEERING
CIVIL ENGINEERING (BUILDING SCIENCE)
CIVIL ENGINEERING (ENVIRONMENTAL)
CIVIL ENGINEERING (STRUCTURAL ENGINEERING)
ENVIRONMENTAL ENGINEERING

viterbiadmission.usc.edu/cee
The world needs new solutions. Designing for disasters, sustainability, and clean water

Civil and Environmental engineers address many of the vital needs of our modern society. They improve quality of life, promote economic growth, and protect people from hazards of natural and human origins.

Civil and Environmental Engineers create, construct, and manage the infrastructure systems we use in our everyday lives: transportation, water, power distribution, waste disposal, environment, and residential, industrial & commercial structures. Civil and Environmental Engineers support the global economy, secure the health and security of diverse communities, and enhance environmental quality worldwide. They design, build and operate our nation’s infrastructure – highways, bridges, wharf and harbor structures, industrial facilities – and address the challenges of ground water and air pollution as well as industrial and hazardous waste management. They monitor the quality of the air, water, land, and enhance the protection of our environment.

The Bachelor’s degree in Civil Engineering provides a broad base of core Civil Engineering courses and prepares students for both engineering practice and graduate studies. Students explore structural engineering, geotechnical engineering, construction, transportation, environmental engineering, and water resources.

The Structural Engineering emphasis focuses on the design of safe and efficient structural systems. Students will be prepared to design structures such as bridges, buildings, and offshore structures that can resist a variety of forces such as earthquakes and wind loadings.

Building Science is a joint architecture/engineering program. Students will learn all aspects of building technology from site selection to building construction, in addition to gaining a holistic perspective of building design from architectural design to structural design, and from the artistic to the functional.

The Bachelor’s degree in Environmental Engineering covers engineering approaches required to provide safe drinking water, maintain air quality, and protect the environment.

COMPANIES THAT HIRE CE AND ENE STUDENTS
Campbell Concrete, CH2M Hill, Chevron, City/County of Los Angeles, Kiewit Pacific Company, Leighton Group, MATT Construction, Nestle Waters, Parsons, PPG Industries, Ramboll Environ, Rudolph & Sletten, Schlumberger, The Reynolds Group... And many more!

IN THE FUTURE YOU COULD:
- Become a structural engineer and build sustainable buildings
- Develop land and mitigate risks of natural and manmade disasters
- Manage civil infrastructure and build roads, bridges, dams, tunnels, and airports
- Develop environmental public policy
- Create waste removal systems and treatment processes
- Design transportation systems
COMPUTER SCIENCE & COMPUTER ENGINEERING

MAJORS & AREAS OF EMPHASIS:
- COMPUTER SCIENCE
- COMPUTER SCIENCE (GAMES)
- COMPUTER SCIENCE / BUSINESS ADMINISTRATION
- COMPUTER ENGINEERING & COMPUTER SCIENCE

viterbiadmission.usc.edu/cs
It’s more than a phone, more than a search engine, and way more than a game

Computer scientists and computer engineers design and implement efficient software and hardware solutions to problems. They are involved in the development of areas such as high-speed networks, multimedia and creative technologies, systems design, virtual reality, data science, artificial intelligence, and robotics.

The Computer Science (CSCI) program prepares students to work in the areas of software design, development, application, and maintenance. It provides intensive study in algorithmic design and analysis as well as the theory of computing.

The Computer Science (Games) degree (CSGM) offers technical and creative training for the Video Game industry. The curriculum brings numerous core areas of computer science - including artificial intelligence, graphic interfaces, modeling, algorithm design - together with creative and artistic training from the School of Cinematic Arts and the Roski School of Fine Arts and Design. The combination of the creative and technical training along with industry exposure prepares students for key leadership positions in this dynamic field.

The Computer Science / Business Administration program (CSBA) is a combined degree program that allows students to study both Computer Science and Business in four years. In addition to the core computer science courses, students take courses from the Marshall School of Business such as Organizational Behavior, Marketing Fundamentals, Business Finance, and Strategic Management.

The Computer Engineering & Computer Science program (CECS) trains students to integrate hardware and software processes to design solutions to problems arising in complex domains such as atomic reactors, guidance systems and manufacturing systems. These students graduate ready to design and build complex systems of hardware, software, and networks.

COMPANIES THAT HIRE CSCI AND CECS STUDENTS
Amazon, Apple, Blizzard, Cisco, Conexant, DIRECTV, Disney Interactive, eBay, Electronic Arts, Facebook, Google, IBM, Intel Corporation, Lockheed Martin, Microsoft, NASA-JPL, NBCUniversal, Oculus, Oracle, Salesforce, Riot Games, Raytheon, Samsung, SpaceX, Spokeo, Square, Tumblr, Yahoo!, Zynga... and many more!

IN THE FUTURE YOU COULD:
✓ Build new computer circuits, microchips, and other electronic components
✓ Launch high tech entrepreneurial projects and ventures
✓ Conduct research on artificial intelligence capabilities
✓ Create new computer and operating systems
✓ Design logic devices for everyday appliances
✓ Improve video game consoles and devices
✓ Integrate hardware and software processes
✓ Invent intelligent robots
✓ Develop advanced data analytics
ELECTRICAL ENGINEERING
THE MING HSIEH DEPARTMENT OF ELECTRICAL ENGINEERING

MAJORS & AREAS OF EMPHASIS:
ELECTRICAL ENGINEERING
SPECIALIZATIONS:
- COMPUTER ENGINEERING
- CIRCUITS, SIGNALS, AND SYSTEMS
- ENERGY & ELECTRICAL SCIENCES

viterbiadmission.usc.edu/ee
Develop tomorrow’s gadgets and new ways to power them

Electrical engineering is the enabling technology driving many of today’s most crucial industries. It is a diverse discipline encompassing computer and information systems, digital media, telecommunications and wireless technologies, nanoelectronics, lasers, robotics, display technologies, circuit design, and more. It is a vital part of every industry, from biomedical engineering and health applications to telecommunications, aerospace, and information technology.

The department offers a diverse curriculum that prepares students with significant breadth and depth. Core sets of classes prepare students for one of three areas of emphasis: Circuit, Signals, and Systems; Computer Engineering; and Energy and Electrical Sciences. As freshmen and sophomores, students are introduced to the concepts of digital and analog electronics and computer programming, as well as core courses in math and physics. Students then choose courses that pertain to their chosen area of specialization. Circuits, Signals, and Systems covers areas in VLSI design, media and audio systems, wireless communications, adaptive control, and mixed-signal integrated circuits. Computer Engineering contains courses that focus on digital hardware, embedded systems, and VLSI design. Courses in the Energy and Electrical Sciences area cover nanoelectronics, integrated-circuit technology, energy sources and management, mixed-signal integrated circuits, and communications hardware.

Design courses permeate the class schedule and allow students to apply the knowledge they have gained as well as prepare them to address the specific needs of industry when they graduate.

Research in the Ming Hsieh Department of Electrical Engineering is revolutionizing nanoelectronics, information processing, telecommunications, medical diagnosis and treatment, energy and green initiatives, computer systems, and new media. Partnerships with off-campus research institutes like the Information Sciences Institute (ISI) and the Institute for Creative Technologies (ICT) create unparalleled opportunities for students to work at the cutting-edge of technology.

COMPANIES THAT HIRE EE STUDENTS
3Com Corporation, Accenture, Apple, BAE Systems, The Boeing Co., CapGemini, Disney, Edwards Lifesciences, Garmin, General Electric, Google, IBM, Intel Corporation, Microsoft, Northop Grumman, Nvidia, Qualcomm, Raytheon, SpaceX, Teradata, Teradyne, Verizon... And many more!

IN THE FUTURE YOU COULD:

- Develop alternative energy and green power sources
- Develop semiconductors and consumer electronics
- Develop wireless communication systems
- Design new media and imaging systems
- Design robots and other embedded systems
- Architect novel computer processors and networking systems
- Build lasers used for medical, manufacturing, and military purposes
- Develop new biomedical imaging devices
INDUSTRIAL & SYSTEMS ENGINEERING

THE DANIEL J. EPSTEIN DEPARTMENT OF INDUSTRIAL & SYSTEMS ENGINEERING

MAJORS & AREAS OF EMPHASIS:
INDUSTRIAL & SYSTEMS ENGINEERING (INFORMATION SYSTEMS)
INDUSTRIAL & SYSTEMS ENGINEERING (OPERATIONS)

viterbiadmission.usc.edu/ise
Systems and solutions to empower business for efficiency and safety

Industrial & Systems engineers (ISE) use engineering and business principles to formulate rigorous approaches to the management of complex systems. They are productivity catalysts, managing innovation and the combination of physical, capital, and human resources needed to produce and deliver valuable goods and services.

Industrial and Systems engineers are consummate economic competitors who focus on developing and controlling manufacturing, production, inventory, distribution, service, and management information systems to ensure their companies’ success in the global marketplace.

On the job, these engineering professionals optimize the use of scarce resources by integrating people and technology to maximize productivity, minimize cost, improve processes, and maintain high standards of quality.

The Epstein Department’s Information Systems Engineering option gives extra emphasis to enterprise resource planning, software, and data mining techniques. USC’s undergraduate ISE curricula prepare students for careers in a wide-range of industries, consulting, or professional engineering practice, and are also an excellent intellectual foundation for advanced degrees in fields as diverse as Engineering, Logistics, Business Administration, Finance, Medicine, Law, or Public Policy.

COMPANIES THAT HIRE ISE STUDENTS
And many more!

IN THE FUTURE YOU COULD:
- Implement enterprise resource planning systems
- Consult on business practices
- Design efficient manufacturing and service systems
- Optimize assembly and distribution systems
- Develop ergonomically correct systems and interfaces
- Improve hospital operations and schedules
- Make systems safe by reducing errors and accidents
- Manage business operations
- Develop quality control and assurance systems
Applying to the engineering school is no different and no more difficult than applying to USC.

To apply, please complete the Common Application and the USC Writing Supplement at usc.edu/commonapp by the stated deadlines. You must list one of the engineering programs as your first choice major on the USC Supplement to be considered for the Viterbi School. If you are not sure what type of engineering you would like to study, then you may indicate your first choice major as Undeclared Engineering.

- There are no additional applications, test scores, or extra materials you need to submit in order to apply to engineering.
- If you are admitted to one of the majors in Engineering, you are admitted to all of the majors in engineering and never locked in to one major.
- There are no absolute “cutoffs” for grades, rank in class, or test scores. We are interested in the each of these elements as well as your personal accomplishments and other factors in our comprehensive application review process.

**FIRST-YEAR APPLICANTS**

You are a first-year applicant if you are currently enrolled in high school, even if you have completed some college credits.

First-Year candidates are evaluated on the content and rigor of their course work, grades, and scores from either the SAT or ACT, among other factors. Strong candidates for admission are prepared with the highest level of rigor available to them at their high school, and have exhibited success in challenging math and science courses. At least one year of Calculus is important preparation for all engineering majors.

**FIRST-YEAR DEADLINES**

**DECEMBER 1:** First-Year Application Deadline for Competitive Merit Scholarship Consideration

**JANUARY 15:** Final First-Year Application Deadline

**TRANSFER APPLICANTS**

You are a transfer applicant if you have completed any college level courses since graduating high school. Students interested in transferring to the Viterbi School of Engineering should have a strong foundation in math and science as well as an interest in analytical and creative problem solving.

Transfer candidates are evaluated on their achievement in specific engineering pre-requisite coursework at their prior college or university. Strong candidates for admission are prepared with ample higher level mathematics and lab-based science courses.

Please see viterbiadmission.usc.edu/transfer to determine which specific courses at your college or university will best prepare you for a successful transfer process.

**TRANSFER DEADLINE**

**FEBRUARY 1:** Final Application for Transfer Admission including Merit Scholarship Consideration
USC is committed to helping students finance their education through need-based financial assistance, merit-based scholarships, and affordable financing programs.

USC maintains a strong commitment to financial aid for undergraduate students and administers one of the largest financial aid programs in the United States. The University works with families to meet 100 percent of the USC-determined financial need for students who meet all deadlines and eligibility requirements. The USC Financial Aid office awards over $500 million in aid to more than two-thirds of our undergraduate students each year, with more than 70% in the form of gift aid.

Undergraduate financial aid can include grants, merit scholarships, loans, and Federal Work-Study. It can be awarded according to a student’s and family’s financial need (need-based) or based on a student’s merit.

MERIT-BASED SCHOLARSHIPS
In order to compete for the wide range of awards we offer, simply complete the Common Application and USC Writing Supplement by the scholarship consideration deadline (Dec. 1st for First-Year, Feb. 1 for Transfers). There is no separate scholarship application for these university-wide awards which range from $3,000 per year to four-year, full-tuition awards.

In addition the university-wide scholarships, we recommend seeking scholarships from as many sources as possible. Visit our financial aid website for a list of scholarship search services and more information.

NEED-BASED FINANCIAL AID
We recommend all applicants engage in the financial aid process. By completing the financial aid application process (CSS PROFILE, FAFSA, Tax information, etc.) our financial aid office can help you with what you need. The USC Financial Aid office works with families to meet a student’s full USC-determined financial need, subject to a review of the student’s financial aid application and the family’s finances, with available funds from federal, state, and university sources.

ENGINEERING SCHOLARSHIPS
There are additional scholarships available for continuing engineering students. Continuing students are eligible to apply for specific scholarships from companies, foundations, and other groups with an interest in encouraging future engineers. We help continuing students find and apply for a range of external scholarships.

APPLYING FOR FINANCIAL AID
Applying for need-based financial aid has no impact on your application for admission. Applying for need-based aid is a separate process and should be started soon after completing your application for admission.

✅ CSS PROFILE
Complete directly after applying for admission

✅ FAFSA
Available in January

✅ Additional Info
May be necessary in the Spring

See the following site for the details of how to apply.

USC.EDU/FINANCIALAID
Brochures, websites, videos, pictures... nothing really helps you understand a school like visiting it.

There are a number of great engineering schools in all parts of the country, each one different in their own ways. While many universities have great academic programs, you need to find which one is the best place for you. That means touring those campuses and learning about engineering too!

We want you to visit USC and get to know our programs first-hand through the programs below. Register for one of our on-campus events in order to get answers to all of your questions about USC and the Viterbi School of Engineering and find out if you want to apply to the USC Viterbi School of Engineering.

**MEET USC**

**MONDAYS, WEDNESDAYS, AND FRIDAYS**

**USC ADMISSION PRESENTATION, CAMPUS TOUR, AND ENGINEERING PRESENTATION FOR PROSPECTIVE FIRST-YEAR APPLICANTS ONLY**

This half day program is designed as the most comprehensive visit option for students and families to learn about Engineering at USC. Designed especially for high school juniors and seniors in their fall semester, this program includes an information session with Admission, a walking tour of campus, and a meeting with the Viterbi School of Engineering built in to the program. Meet USC’s run most Mondays, Wednesdays, and Fridays throughout the year.

Reservations are required for this program. Due to other on-campus events, Meet USC may not be always be available. Please check availability and make an appointment.

**DISCOVER USC & THE VITERBI EXPO**

**WEEKEND OPEN HOUSE IN THE FALL FOR BOTH FIRST-YEAR & TRANSFER APPLICANTS**

This full day program will provide you and your family with an opportunity to meet staff from Undergraduate Admission, Financial Aid, and the Viterbi School of Engineering, in addition to current Viterbi students and faculty.

During Discover USC, the Viterbi School hosts the Viterbi Expo. The Expo is an open house where our students, faculty, and staff showcase some of the numerous opportunities in engineering at USC. We will host information sessions about academic services and provide tours of the labs used by our undergraduate student design teams and research projects.

**TRANSFER DAYS**

**MONTHLY PROGRAM (DATES VARY)**

**FOR PROSPECTIVE TRANSFER APPLICANTS ONLY**

If you have questions about engineering and the transfer process – then Transfer Day is for you. Transfer Day is a half-day comprehensive program designed to give you the most in-depth look at the transfer process and academic life at USC. Specifically, the program includes presentations on the admission process, transfer credit policy, academics, and financial aid. You will also have the opportunity to visit with engineering and take a campus tour. Reservations are required.

If any of our Transfer Day programs are full, please consider attending one of USC’s weekly Transfer Information Sessions.

RESERVE YOUR SPOT AT ONE OF OUR PROGRAMS:

viterbiadmission.usc.edu/visit
The University of Southern California admits students of any race, color, national origin, ancestry, religion, gender, sexual orientation, age, physical disability or mental disability to all the rights, privileges, programs, and activities generally accorded or made available to students at the school. It does not discriminate on the basis of race, color, national origin, ancestry, religion, gender, sexual orientation, age, physical disability or mental disability in the administration of its educational policies, admissions policies, scholarship and loan programs, and athletic and other school-administered programs. The University’s full nondiscrimination policy can be found on the Web at policies.usc.edu.
Search "Viterbi" on your favorite podcast app for Viterbi Voices: The Podcast. Listen to stories about research, classes, student life and more from our faculty and students.