USC Viterbi

School of Engineering

GRADUATE PROGRAMS

2020 | 2021





DEAN'S MESSAGE



Did you know that Southern California graduates the largest number of engineering and computer science graduate students in the country? This tremendous talent pool is fueling the explosion in the innovation ecosystem of the region.

The University of Southern California, and particularly the USC Viterbi School of Engineering, is strategically positioned in terms of both abundant human capital and physical location to creatively shape this environment. With two of our research powerhouses — the Information Sciences Institute and the Institute for Creative Technologies — located in the heart of Silicon Beach — we stand ready to serve as the premier private research university driving technology innovation in Southern California.

Yannis Yortsos
Dean, Viterbi School of Engineering







*U.S. News & World Report rankings for 2020


RANKED NUMBER
5
BEST COLLEGE FOR VETERANS*
STUDENTS FROM OVER
100
COUNTRIES
23
SCHOOLS AND UNITS
FOUNDED IN
1880
SIZE OF CAMPUS
226
ACRES

VITERBI SCHOOL OF ENGINEERING



USC Engineering began in 1905

#1
Game Design Program
(Princeton Review)

Ranked Graduate Engineering Program
(U.S. News & World Report)
#10

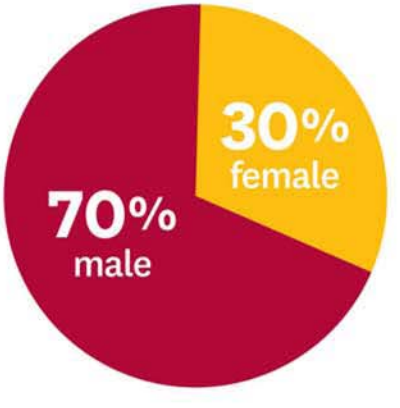
78,000
ENGINEERING ALUMNI WORLDWIDE

70
MS Programs

13
PhD Programs

42
Programs Available Online

GRADUATE ENGINEERING STUDENTS



~6,200 graduate students

~2,840 undergraduate students

**Statistics as of Fall 2019*

191

TENURE-TRACK FACULTY

41

Research Centers & Labs and a leader in federally-funded research

8

academic departments

APPLICANTS FROM OVER 70 COUNTRIES



Graduate Applications Received

31

Faculty members elected to the National Academy of Engineering

tr 35

15 junior faculty recognized by *MIT Technology Review* as "the world's 35 top innovators under 35" since 2009

AN EXCEPTIONAL COMMUNITY

As a global leader in education and research, the University of Southern California attracts talented students and scholars from around the world. The Viterbi School of Engineering is a diverse and welcoming community where students are encouraged to learn and grow from their peers and mentors.

Graduate engineering students can take advantage of the wealth of resources available for an enriching student experience. The **Viterbi Graduate Mentorship Program** helps graduate students adjust to life at USC and Los Angeles by pairing new students with a current Viterbi student mentor. The **Viterbi Graduate Student Association (VGSA)** promotes student interaction across engineering departments with various academic and social activities. The university has over 1,000 student organizations of which more than 50 are engineering oriented.

Viterbi Career Connections is a resource dedicated to the needs of our engineering students. It provides career-focused support to prepare students for internships and full-time employment. It also enables students to access information about engineering career events and resources. Throughout the year, Career Connections hosts a variety of technical companies that are actively looking to fill job openings.

The Viterbi School has a very robust CPT internship program. In 2019, 400+ companies provided internships for over 1300 international graduate engineering students.

Below is a sample of where some of our 2019 graduates are working:

- 3Diligent Inc.
- Activision
- Akuna Capital
- Amazon
- Amgen Inc.
- APC Workforce Solutions II
- Apple Inc.
- Applied Medical
- Baker Hughes
- Bose Corp.
- Chevron Corporation
- China Telecomm Americas Corp.
- Collins Aerospace
- Electronic Arts Inc.
- ESRI Inc.
- Expedia Inc.
- Facebook Inc.
- FedEx Services
- Flatiron Health
- Fox VFX Lab
- Goldman Sachs
- Google
- Guzman Energy
- Horizon Robotics Inc.
- Intel Corporation
- Jet Propulsion Laboratory
- Medtronic Inc.
- Microsoft Corporation
- Morgan Stanley
- Samsung Electronics
- Schlumberger Ltd.
- Schneider Structural Engineers
- Scry Analytics
- Siemens
- Stellium Inc.
- Sumo Logic
- Tesla Motors Inc.
- Toyota Motor N.A.
- Visa Inc.
- Zillow Group

As a student at USC, you will become part of the **Trojan Family**, a worldwide alumni network that provides a lifelong connection to the University and its partners. Trojan alumni can be found in all 50 U.S. states and virtually every region of the world.

WHAT OUR STUDENTS ARE SAYING...

"An unforgettable memory for me is running the 2019 LA Marathon as part of Team USC and raising nearly $10,000 that goes to combat homelessness in LA. Being an engineering student and training for running 26.2 miles wasn't easy, but having a study-life balance is achievable at USC."

—ABDULLAH ALSHABANAH, PHD IN COMPUTER ENGINEERING

"I got hired as an intern at AECOM in the beginning of my last semester at USC. After graduation, I became a full-time Project Engineer at AECOM. I have worked on incredible projects during the past 3 and half years."

—GONGHAO LI, MS IN CIVIL ENGINEERING (STRUCTURAL ENGINEERING)

"Not many universities have nice weather like this where you get to reach a skiing place within an hour. The fun thing about USC was I could switch seasons so quickly — I would be in shorts and t-shirts in the morning and within few hours would head up for volunteer ski patrol work and get bundled up, head to toe."

—JONATHAN SAUDER, MS IN PRODUCT DEVELOPMENT ENGINEERING & PHD IN MECHANICAL ENGINEERING

"We visited Children's Hospital Los Angeles to define a need, based on shadowing doctors or nurses or just simply by observing. I thought that I wouldn't be able to create a unique idea to fix a problem. When we went to their laboratories, I asked many questions, and at the end, I had not one but several ideas. This may have been the first time that I truly felt that I am a real engineer."

—ZUMRA SEIDEL, PHD IN CHEMICAL ENGINEERING

"I will never forget my time with the Trojan Bhangra Group! I have always loved dancing and Bhangra is something that is very close to me. Being able to pursue that here in the U.S. was an amazing opportunity. I also got the chance to perform at the Bovard Auditorium. Performing in front of huge crowd was a different feeling in itself!"

—RUCHIT GANDHI, MS IN COMPUTER SCIENCE

ENTREPRENEURSHIP AND INNOVATION

USC Viterbi has been a proud base of innovation for many years and has helped transform multiple industries.

Today we are linked closely with and help anchor Silicon Beach, voted one of the top startup ecosystems in the world.

Through our Office of Technology Innovation and Entrepreneurship we offer many opportunities to learn entrepreneurial skills and how to build a startup.

In addition to education, mentorship and accelerator programs such as Synchrotron, Summer Smasher and the Viterbi Startup Garage; Viterbi also hosts competitions and awards including:

- Amazon Alexa Voice Prize
- Global Grand Challenges
- Maseeh Entrepreneurship Prize Competition
- Project SUNRISE

VITERBI STUDENT ORGANIZATIONS

The Viterbi School has over 50 student organizations. Below is a partial list:

- AeroDesign Team
- Association for the Advancement of Artificial Intelligence
- Code the Change
- Earthquake Engineering Research Institute
- Engineers Without Borders
- Eta Kappa Nu (HKN)
- Girls in Tech
- Graduates Rising in Informatics & Data Science
- HackSC
- Hyperloop at USC
- Korean Scientists & Engineers Association
- Minority Engineering Graduate Association
- National Society of Black Engineers
- Queers in Science Engineering & Technology
- Robogals USC
- SC Racing
- Sigma Eta Pi
- Society of Hispanic Professional Engineers
- Society of Women Engineers
- Trojan Blockchain Society
- USC Aerial Robotics
- USC Cyber Security and Digital Forensics Organization
- USC eSports
- USC Rocket Society
- USC Solar Car Team
- VEX Robotics Team
- Virtual Reality Organization
- Viterbi Student Graduate Association
- Women in Computing



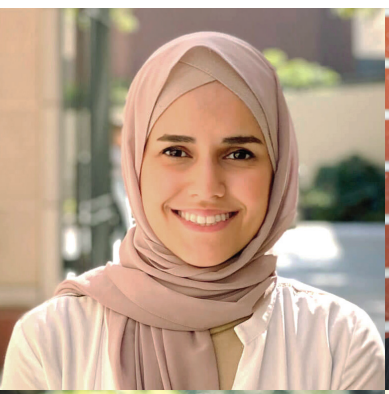



COMMITMENT TO DIVERSITY

The USC Viterbi School of Engineering is a preeminent engineering institution that takes pride in the part it plays in producing high-quality, diverse graduates that fully reflect our pluralistic society and global workforce.

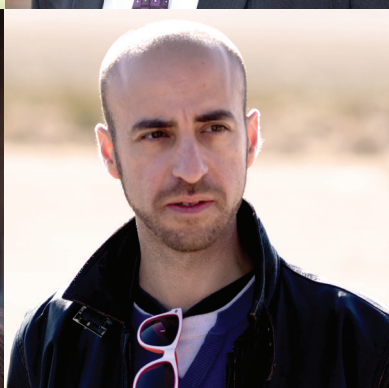
Through our world-class faculty, rich academic programs, stellar student services and mentoring resources, we are committed to attracting, retaining, training, and graduating outstanding students. One service of which we are particularly proud is our Center for Engineering Diversity. Founded in 1975, it is one of the first centers of its kind established at a private university and is dedicated to assisting historically underrepresented students pursuing engineering and computer science degrees.

The Viterbi School strives to be a national and international leader for producing high-quality, diverse engineering professionals that are life-long learners equipped to discover, integrate, and adapt new knowledge and experiences to improve the quality of life for people all over the world.

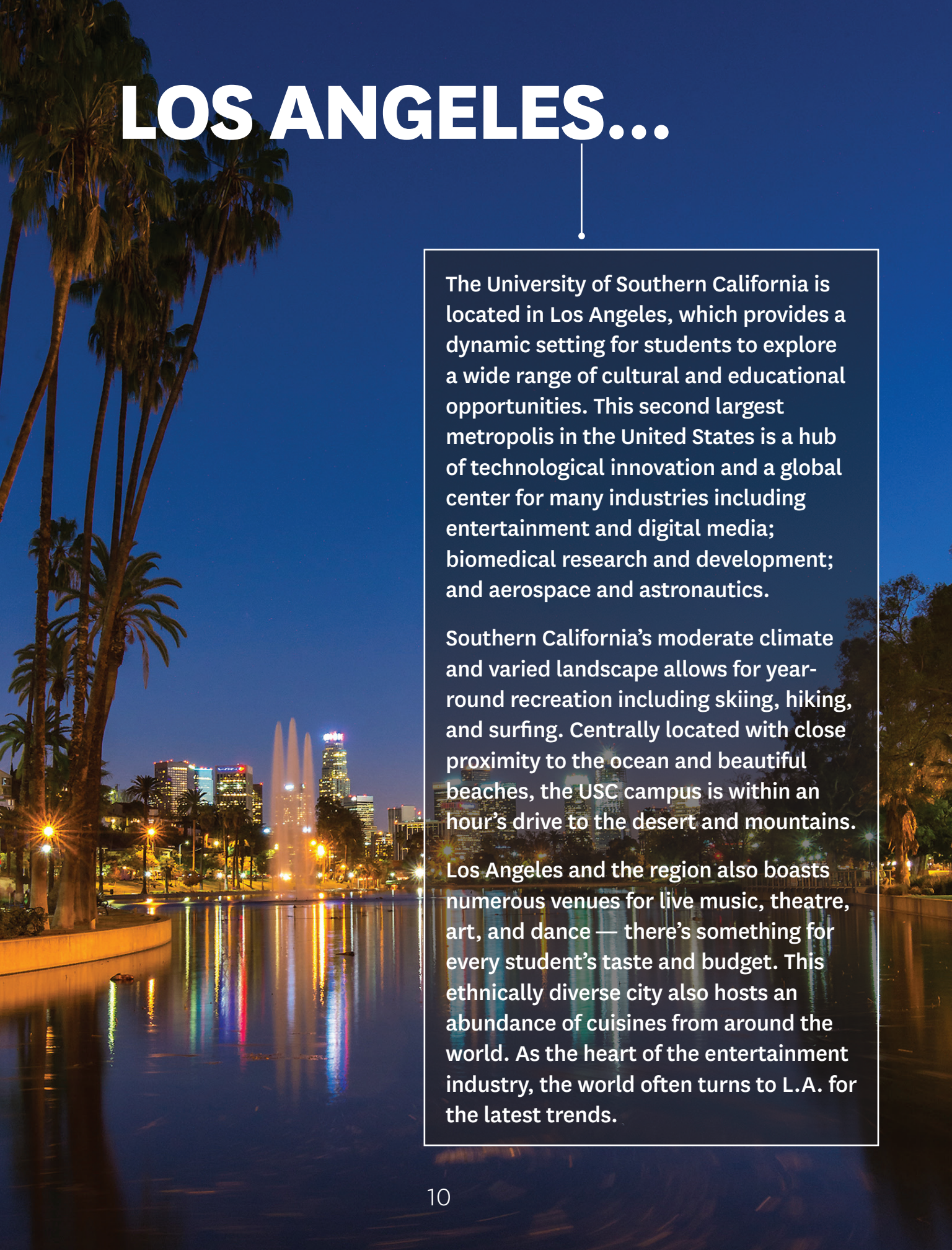






LOS ANGELES...



The University of Southern California is located in Los Angeles, which provides a dynamic setting for students to explore a wide range of cultural and educational opportunities. This second largest metropolis in the United States is a hub of technological innovation and a global center for many industries including entertainment and digital media; biomedical research and development; and aerospace and astronautics.

Southern California's moderate climate and varied landscape allows for year-round recreation including skiing, hiking, and surfing. Centrally located with close proximity to the ocean and beautiful beaches, the USC campus is within an hour's drive to the desert and mountains.

Los Angeles and the region also boasts numerous venues for live music, theatre, art, and dance — there's something for every student's taste and budget. This ethnically diverse city also hosts an abundance of cuisines from around the world. As the heart of the entertainment industry, the world often turns to L.A. for the latest trends.

BY THE NUMBERS



CLIMATE

average annual rainfall
15"/38 cm

average sunny/
partially sunny days
292

average high
74°F/23°C

average low
56°F/13°C

ENTERTAINMENT

121 kilometers of coastline

theaters **200+**

230+ museums

6+ amusement parks

80 kilometers of hiking trails

ACADEMICS & RESEARCH

Interdisciplinary Environment The Viterbi School of Engineering offers over 70 Master's and Doctoral program options in eight academic departments. Disciplines range from broad areas such as Mechanical Engineering and Computer Science to niche programs in Data Science, Financial Engineering, Cyber Security, Smart Oilfield Technologies, Medical Device & Diagnostic Engineering, Game Development, Green Technologies and Wireless Health Technology.

Collaboration among the Viterbi School's departments, as well as with the entire university — including the Dornsife College of Letters, Arts, and Sciences; the Sol Price School of Public Policy; the Annenberg School for Communication and Journalism; the Marshall School of Business; the School of Cinematic Arts and the Keck School of Medicine — enables Viterbi students to enjoy all the advantages of a first-class research institution.

Master's Programs The Viterbi School offers a wide range of Master's Programs to meet your educational and career objectives.

Graduates of our Master's programs will:

- solve engineering problems requiring advanced-level skills and strategies
- be prepared to assume leadership roles within industry, government or as an entrepreneur
- engage in effective communication as leaders of multidisciplinary teams in a diverse global economy

Doctoral Programs With a vibrant academic community that strongly supports interdisciplinary education and research, USC is an ideal place for innovative thinkers to earn their PhD degree. We seek to bring the most talented doctoral candidates worldwide to USC, to encourage and assist them in the pursuit and publication of their research.

Graduates of our doctoral programs will:

- apply knowledge of mathematics, science, and engineering to undertake teaching at the most advanced levels
- engage in engineering research to solve critical issues facing modern society
- be equipped to assume leadership roles in academia, industry, and public policy

USC VITERBI SCHOOL FIRSTS

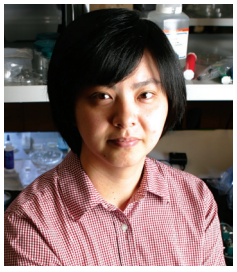
- *Basic research establishing the basis of JPEG and MPEG compression standards*
- *Co-creation of the Domain Name System and TCP/ICP protocols*
- *The first FDA-approved artificial retina (Argus II)*
- *Viterbi Algorithm — the theoretical basis for wireless communication systems, developed by alumnus Andrew Viterbi*
- *The first man on the moon — USC engineering alumnus Neil Armstrong*
- *World's first university-based operational quantum computing system*

RESEARCH

- *Our Institute for Creative Technologies (ICT), a partnership between academia, the U.S. Army and the entertainment industry is a prime example of interdisciplinary research. ICT has produced technology prototypes found on close to 70 military installations that have benefited more than 50,000 troops. The LightStage capture device and image-based facial rendering system earned USC professor Paul Debevec a Scientific and Engineering Academy Award®*
- *Bridging the disciplines of engineering and medicine, the USC Ming Hsieh Institute for Research on Engineering Medicine for Cancer's goal is to translate cancer discoveries into effective therapies for patients. It illustrates the critical synergy of healthcare and technology that has the potential to dramatically change the lives of cancer patients*
- *USC Viterbi's Quantum Computing Center (QCC) continues to have the only university-based commercial quantum computing system. The Center will soon upgrade to D-Wave's forthcoming Advantage™ system with more than 5000 qubits. This will enable QCC to host a new generation of D-Wave quantum annealers, and will be the first Leap™ quantum cloud system in the U.S. "This significant upgrade will help our faculty further advance the frontiers of quantum computing, and to usher in a very promising future for the solution of a host of challenging problems," said Yannis C. Yortsos, Dean of the USC Viterbi School of Engineering.*

OUR FACULTY

Viterbi faculty members reflect USC's support of interdisciplinary education and research.



ELLIS MENG
Professor of Biomedical Engineering & Electrical Engineering



FRANCISCO VALERO-CUEVAS
Professor of Biomedical Engineering, Computer Science, Electrical & Computer Engineering, Aerospace & Mechanical Engineering, Neuroscience, and Biokinesiology & Physical Therapy



STACEY FINLEY
Assistant Professor of Biomedical Engineering, Chemical Engineering & Materials Science, and Biological Sciences



ANDREA ARMANI
Professor of Chemical Engineering & Materials Science, Biomedical Engineering, Electrical & Computer Engineering–Electrophysics, Aerospace & Mechanical Engineering, and Chemistry



GAURAV SUKHATME
Professor of Computer Science & Electrical Engineering

RESEARCH & INNOVATION



MARAL MOUSAVI wants to disrupt medical diagnostics and create better healthcare outcomes for patients for a fraction of the price. This assistant professor in the Department of Biomedical Engineering is using such unlikely materials as yarn, paper and even nail polish to develop low-cost diagnostic tests that people can do easily at home.



For years, Professor **VIKTOR PRASANNA** has developed models to better forecast what epidemics might do next. Along with **AJITESH SRIVASTAVA**, a USC Viterbi senior research associate, the two have begun inputting COVID-19 data into their models. The resulting open-access paper has earned them an NSF Rapid Award of $158K — a special classification for research that requires immediate results.



In an ambitious study (the largest of its kind), Professors **MAJA MATARIĆ** and **GISELE RAGUSA** placed socially assistive robots in the homes of 17 children with autism for at least 30 days. While the researchers anticipated some improvement in math skills, the results surpassed their expectations. At the end of the month's intervention, all the participants demonstrated improved math skills, while 92% also improved their social skills.

EARN YOUR DEGREE WHILE PURSUING YOUR CAREER

Educating the Working Professional Over 40 of the Viterbi School's graduate programs can be earned on a full or part-time basis, entirely online via USC Viterbi's top-ranked online delivery service, DEN@Viterbi. It is an ideal option for those who are working full-time or are unable to pursue their studies in the Los Angeles area. DEN@Viterbi students participate in the same curriculum, lectures, homework, and of course, earn the same diploma as their on-campus counterparts.

For over 40 years, DEN@Viterbi has provided thousands of engineers the opportunity to earn their Master's degree without setting foot on the USC campus. In addition, non-credit and short courses are offered via this innovative online delivery method.

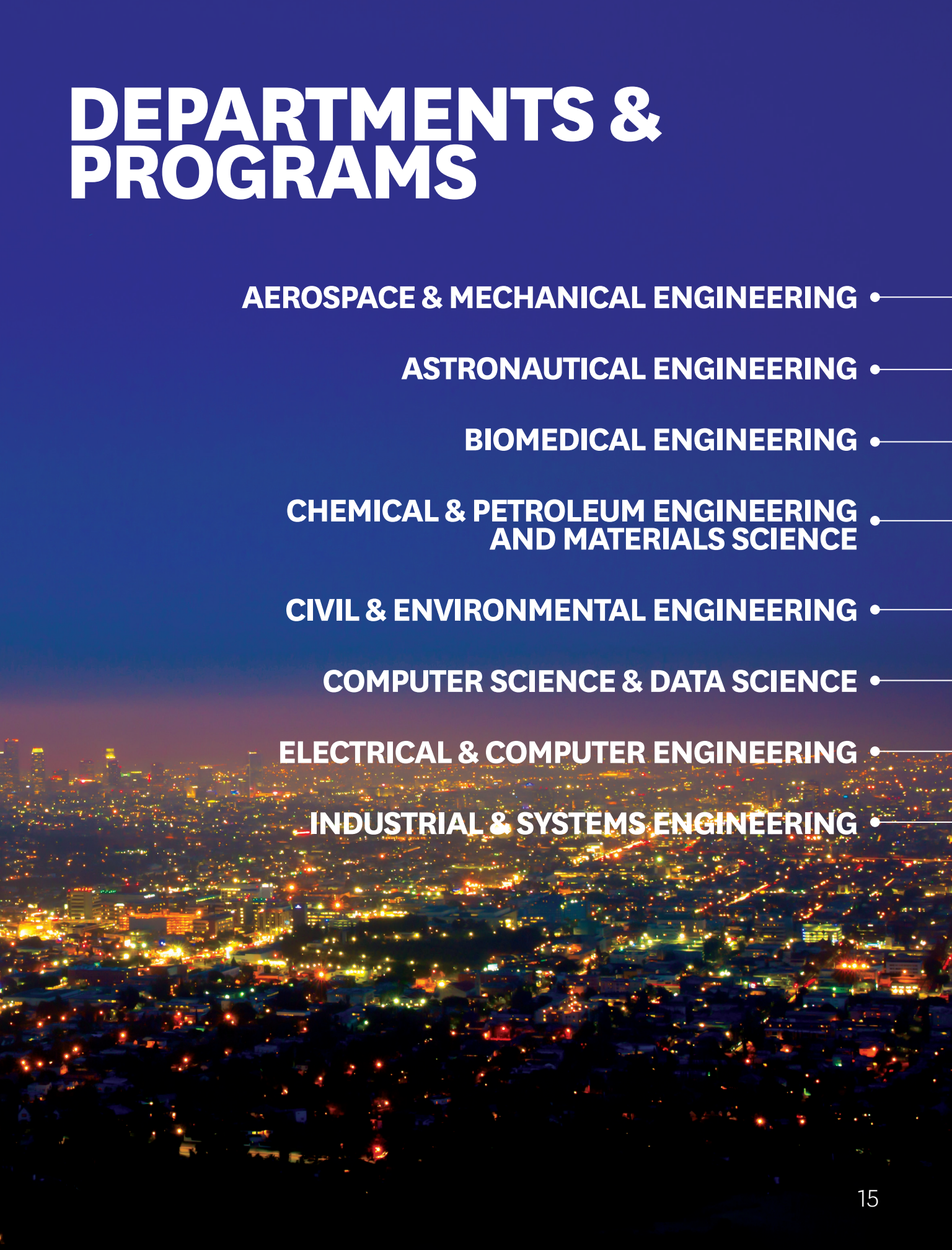
How it Works

- DEN@Viterbi uses an online delivery system that enables students to access classes live, on-demand or by download. Students view the same lectures as on-campus students, with fresh content every semester.
- Live instruction is highly interactive — students can communicate with professors and fellow classmates via web conferencing, telephone, live chat and virtual meetings. Students have access to a wide variety of web-based tools for communicating with professors and other students during and outside of class hours.
- Homework is submitted electronically and exams are proctored at testing centers near the student's home or work.

Industry Connections Thousands of engineers working for global organizations, such as the following, have completed their MS degrees via online delivery:

- Amgen
- BAE Systems
- The Boeing Company
- Cedars Sinai Medical Center
- Chevron Corporation
- Cisco Systems, Inc.
- GE Energy
- General Dynamics
- Google, Inc.
- Edison International
- EMC Corporation
- ExxonMobil
- Intel Corporation
- Kaiser Permanente
- Korean Air
- Kuwait Oil Company
- Lockheed Martin
- Los Angeles Department of Water & Power
- Medtronic, Inc.
- Motorola
- Microsoft
- MITRE Corporation
- NASA
- Nokia
- Northrop Grumman Corporation
- Occidental Petroleum Corporation
- Oracle
- Qualcomm
- Raytheon Company
- SpaceX
- United States Armed Forces
- United Technologies Corporation
- Walt Disney Imagineering
- Yahoo! Inc.

DEPARTMENTS & PROGRAMS



AEROSPACE & MECHANICAL ENGINEERING

ASTRONAUTICAL ENGINEERING

BIOMEDICAL ENGINEERING

CHEMICAL & PETROLEUM ENGINEERING AND MATERIALS SCIENCE

CIVIL & ENVIRONMENTAL ENGINEERING

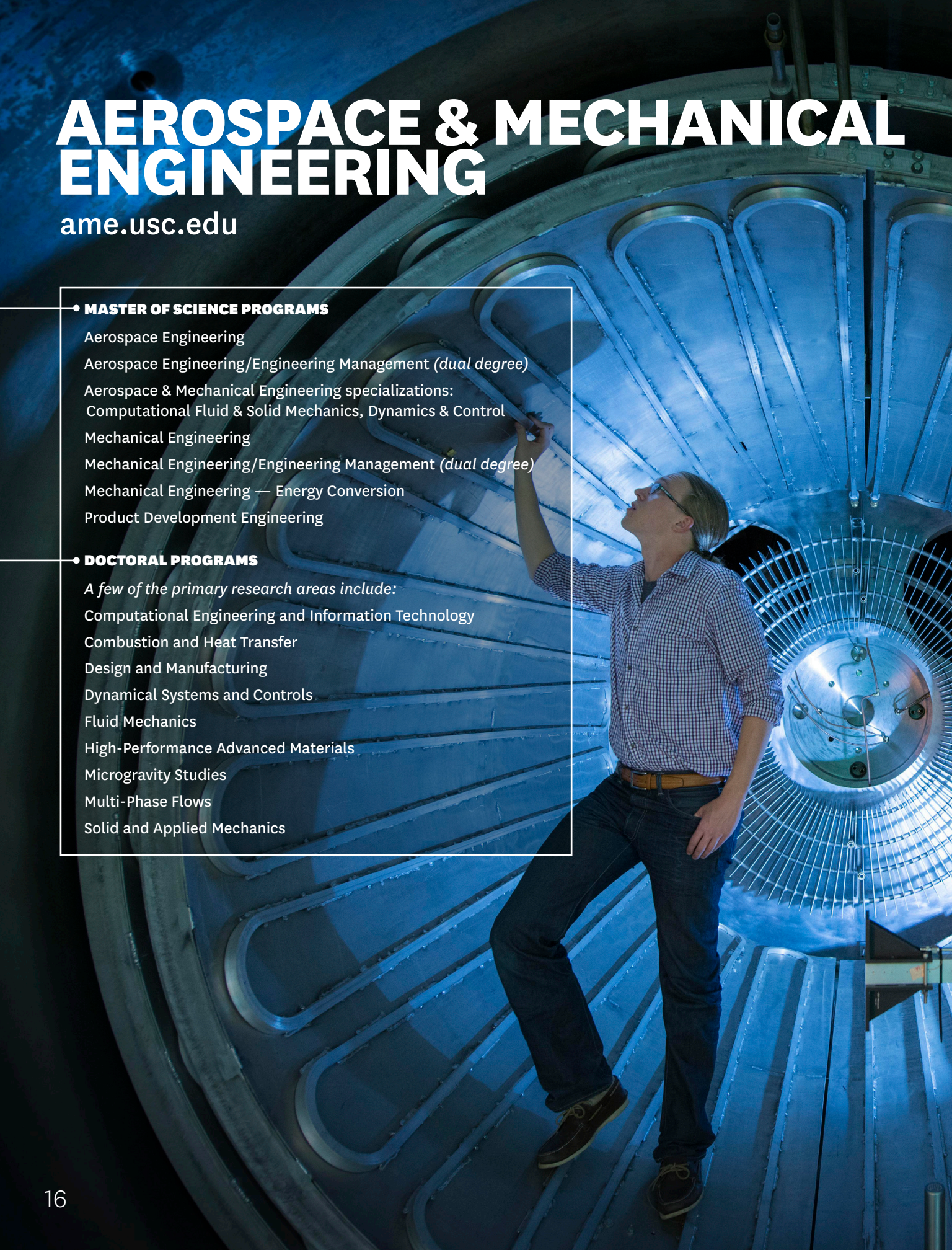
COMPUTER SCIENCE & DATA SCIENCE

ELECTRICAL & COMPUTER ENGINEERING

INDUSTRIAL & SYSTEMS ENGINEERING

AEROSPACE & MECHANICAL ENGINEERING

ame.usc.edu



MASTER OF SCIENCE PROGRAMS

Aerospace Engineering

Aerospace Engineering/Engineering Management *(dual degree)*

Aerospace & Mechanical Engineering specializations:
Computational Fluid & Solid Mechanics, Dynamics & Control

Mechanical Engineering

Mechanical Engineering/Engineering Management *(dual degree)*

Mechanical Engineering — Energy Conversion

Product Development Engineering

DOCTORAL PROGRAMS

A few of the primary research areas include:

Computational Engineering and Information Technology

Combustion and Heat Transfer

Design and Manufacturing

Dynamical Systems and Controls

Fluid Mechanics

High-Performance Advanced Materials

Microgravity Studies

Multi-Phase Flows

Solid and Applied Mechanics



MASTER OF SCIENCE PROGRAMS

Astronautical Engineering

Systems Architecting & Engineering

DOCTORAL PROGRAM

A few of the primary research areas include:

Advanced Spacecraft Propulsion

Astronautics

Atomic and Molecular Interactions

Hypersonic and Supersonic Flows

Kinetic Theory of Gases and Plasmas

Micropropulsion Devices

Monte-Carlo Simulations

Nanosatellite Applications

Non-Equilibrium in High-Temperature Gases

Plasma and Material Processing

Heliosphere and Planetary Magnetospheres

Space Plasmas

Space Exploration and Space Instrumentation

Spacecraft Technologies

Statistical Physics

Transport in Particles and Radiation

astronautics.usc.edu

ASTRONAUTICAL ENGINEERING

BIOMEDICAL ENGINEERING

bme.usc.edu



MASTER OF SCIENCE PROGRAMS

Biomedical Data Analytics

Biomedical Engineering

Biomedical Engineering *(Neuroengineering track)*

Biomedical Engineering — Medical Imaging & Imaging Informatics

Medical Device and Diagnostic Engineering

DOCTORAL PROGRAM

A few of the primary research areas include:

Biomedical Imaging

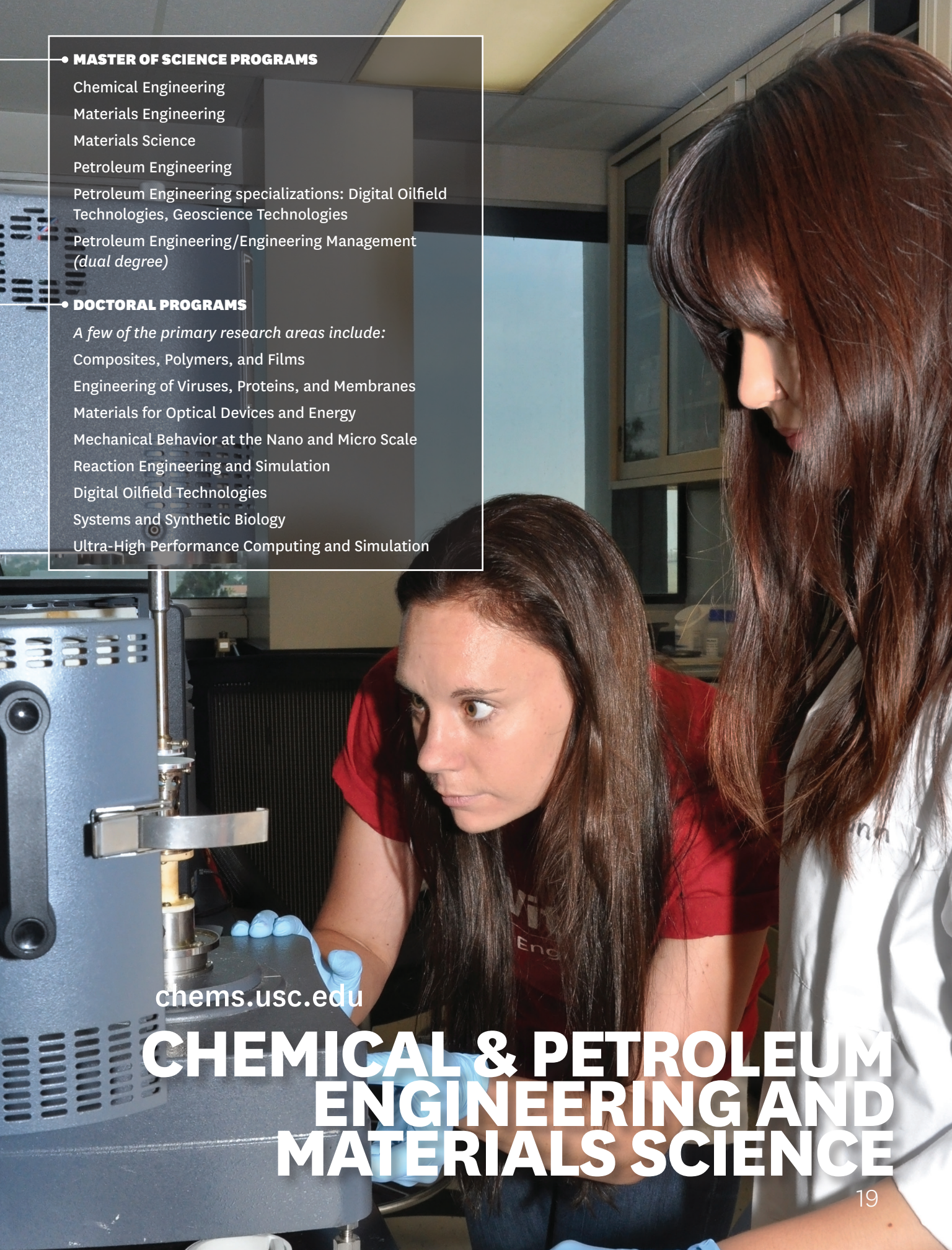
Biomedical Microelectromechanical Systems (BioMEMS)

Biosignals & Biosystems Engineering

Neural Engineering and Computation

Medical Devices

Systems Cellular-Molecular Bioengineering Biomechanics



MASTER OF SCIENCE PROGRAMS

Chemical Engineering

Materials Engineering

Materials Science

Petroleum Engineering

Petroleum Engineering specializations: Digital Oilfield Technologies, Geoscience Technologies

Petroleum Engineering/Engineering Management *(dual degree)*

DOCTORAL PROGRAMS

A few of the primary research areas include:

Composites, Polymers, and Films

Engineering of Viruses, Proteins, and Membranes

Materials for Optical Devices and Energy

Mechanical Behavior at the Nano and Micro Scale

Reaction Engineering and Simulation

Digital Oilfield Technologies

Systems and Synthetic Biology

Ultra-High Performance Computing and Simulation

chems.usc.edu

CHEMICAL & PETROLEUM ENGINEERING AND MATERIALS SCIENCE

CIVIL & ENVIRONMENTAL ENGINEERING

cee.usc.edu



MASTER OF SCIENCE PROGRAMS

Civil Engineering

Civil Engineering specializations: Advanced Design & Construction Technology, Structural Engineering, Transportation Engineering, Transportation Systems, Water & Waste Management

Construction Management

Environmental Engineering

Transportation Systems Management

DOCTORAL PROGRAMS

A few of the primary research areas include:

Climate and Particulate Air Pollution

Construction IT and Human-Building Interaction

Optimization and Control of Networked Systems

Probabilistic Modeling and Uncertainty Quantification

Structural Control and Health Monitoring

Tsunami and Coastal Engineering

Water, Energy and Environment

Water Quality, Delivery and Access



MASTER OF SCIENCE PROGRAMS

Applied Data Science

Communication Data Science

Computer Science

Computer Science specializations: Artificial Intelligence, Computer Networks, Computer Security, Data Science, Game Development, High Performance Computing & Simulation, Intelligent Robotics, Multimedia & Creative Technologies, Software Engineering

Computer Science for Scientists & Engineers *(developed for students who do not have a BS in Computer Science)*

Cyber Security Engineering

Environmental Data Science

Healthcare Data Science

Public Policy Data Science

Spatial Data Science

DOCTORAL PROGRAM

A few of the primary research areas include:

Artificial Intelligence, Agents, Natural Language, and Vision

Databases and Information Management

Graphics, Games, and Multimedia

Robotics, Brain Theory, and Computational Neuroscience

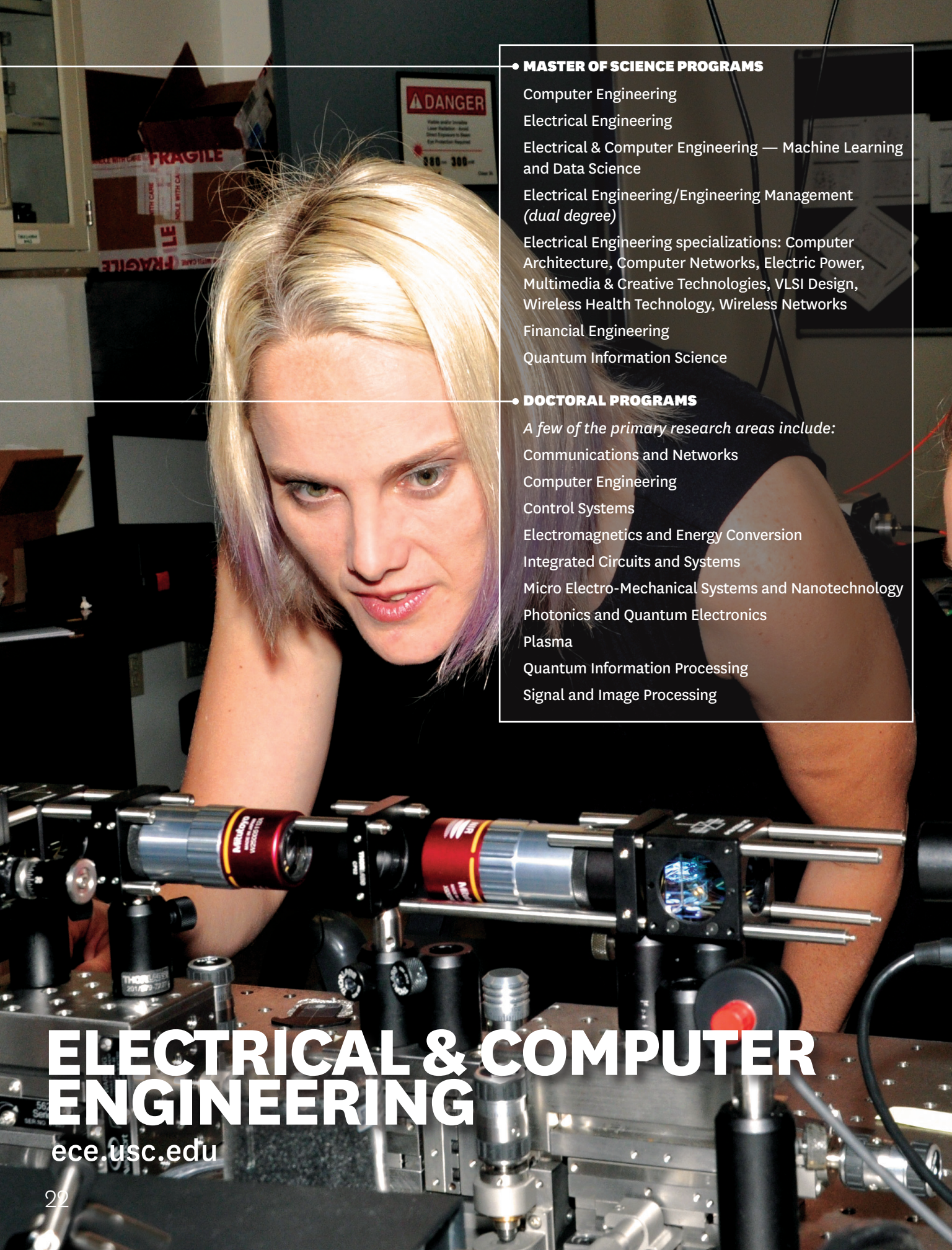
Software Systems and Engineering

Systems, Distributed Systems, and Communication Networks

Theory and Computational Sciences

COMPUTER SCIENCE & DATA SCIENCE

cs.usc.edu



MASTER OF SCIENCE PROGRAMS

Computer Engineering

Electrical Engineering

Electrical & Computer Engineering — Machine Learning and Data Science

Electrical Engineering/Engineering Management *(dual degree)*

Electrical Engineering specializations: Computer Architecture, Computer Networks, Electric Power, Multimedia & Creative Technologies, VLSI Design, Wireless Health Technology, Wireless Networks

Financial Engineering

Quantum Information Science

DOCTORAL PROGRAMS

A few of the primary research areas include:

Communications and Networks

Computer Engineering

Control Systems

Electromagnetics and Energy Conversion

Integrated Circuits and Systems

Micro Electro-Mechanical Systems and Nanotechnology

Photonics and Quantum Electronics

Plasma

Quantum Information Processing

Signal and Image Processing

ELECTRICAL & COMPUTER ENGINEERING

ece.usc.edu

INDUSTRIAL & SYSTEMS ENGINEERING

ise.usc.edu



MASTER OF SCIENCE PROGRAMS

Analytics
Engineering Management
Health Systems Management Engineering
Industrial & Systems Engineering
Manufacturing Engineering
Operations Research Engineering

DOCTORAL PROGRAMS

A few of the primary research areas include:

Decision Analysis
Energy Systems
Medical Decision Making
Medical Informatics
Nanomanufacturing and Nanoinformatics
Optimization Methodologies
Production and Operations Management
Rapid Automation Fabrication Technologies
Risk Modeling
Stochastic Modeling
Transportation Research

GRADUATE PROGRAMS:

MASTER'S PROGRAMS

APPLICATION DEADLINES

FALL → **DECEMBER 15** (SCHOLARSHIP DEADLINE) → **JANUARY 15** (FINAL DEADLINE)

SPRING* → **AUGUST 31** (SCHOLARSHIP DEADLINE) → **SEPTEMBER 15** (FINAL DEADLINE)

**Not all Master's programs have a spring admission.*

INTERNATIONAL APPLICANTS

FINANCIAL SUPPORT DOCUMENTATION
International applicants (those who are, or will be, in the United States on a non-immigrant visa) must submit documented evidence of financial support

ENGLISH PROFICIENCY REQUIREMENT
USC graduate applicants are required to submit TOEFL or IELTS scores to demonstrate English-language proficiency as part of the application process

ADDITIONAL INFORMATION

Detailed information on the following can be found at **uscengineer.com**:

- Application criteria & tips for applying
- Tuition & Funding
- Frequently Asked Questions

GENERAL APPLICATION CRITERIA FOR MASTER'S PROGRAMS

1. *A bachelor's degree or equivalent in engineering, math or hard science*
2. *Graduate Record Exam (GRE) and, if an international student, TOEFL or IELTS*
3. *Online application and fee*
4. *Official academic transcripts (submitted as part of the online application)*
5. *CV/Résumé and Personal Statement (other materials such as Letters of Recommendation may be required)*

VISIT USCENGINEER

HOW TO APPLY

DOCTORAL PROGRAMS

The Viterbi School aims to fully fund all candidates admitted to the PhD program through fellowships and assistantships that cover tuition, a stipend and health benefits.

- Most PhD candidates at USC complete the degree program in 5-6 years
- 60 course units are required for completion of the PhD program

TYPICAL DOCTORAL PROGRAM PROGRESSION AT USC*

COURSEWORK

↓

SCREENING EXAM

TAKEN AFTER THE 1ST YEAR

↓

QUALIFYING EXAM

TYPICALLY TAKEN IN YEAR 3 OR 4

↓

DISSERTATION AND DEFENSE

TYPICALLY COMPLETED IN YEAR 5 OR 6

**This information is provided as a general guideline, but the PhD timeline may vary by academic discipline*

GENERAL APPLICATION CRITERIA FOR DOCTORAL PROGRAMS

1. *A bachelor's degree or equivalent in engineering, math or hard science is required*
2. *Demonstrated research experience*
3. *Graduate Record Exam (GRE) and, if an international student, TOEFL or IELTS*
4. *Online application and fee*
5. *Official academic transcripts*
6. *Letters of Recommendation, CV/ Résumé and Personal Statement*
7. *Visit **viterbi.usc.edu/PhD** to review research areas and specific requirements for your program of interest*

The online application and all other required materials including test scores must be received by:

December 15

.COM FOR DETAILS





Commencement at the University of Southern California

USC VITERBI SCHOOL OF ENGINEERING

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Los Angeles, California 90089-1455

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viterbi.gradadmission@usc.edu

USC University of Southern California