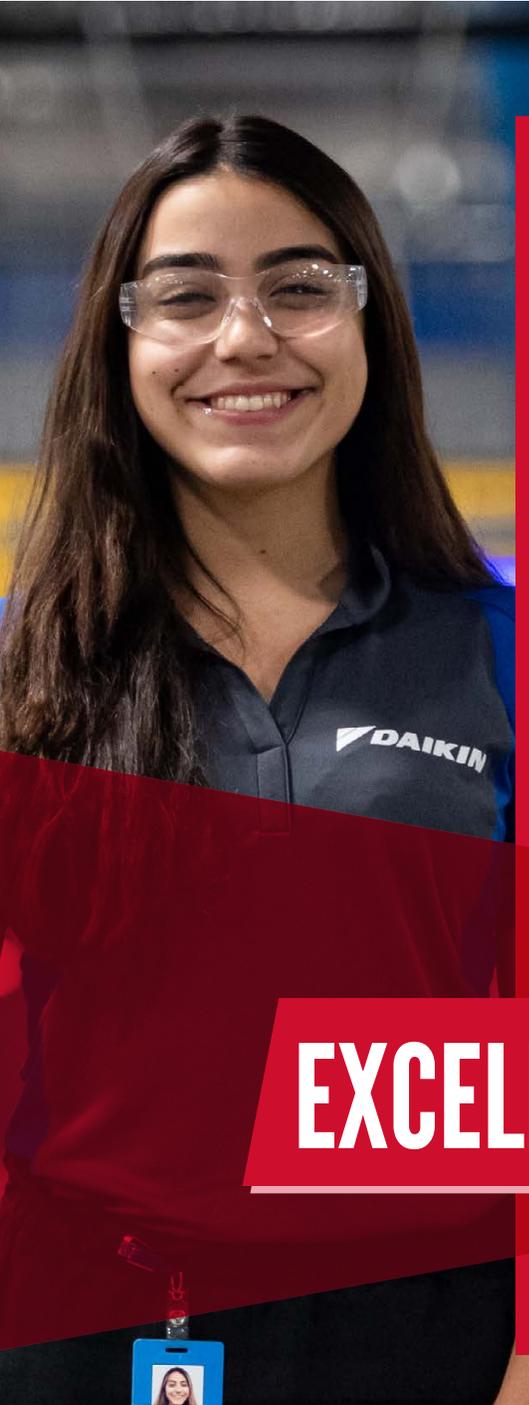


UH ENGINEERING

A Cullen College of Engineering Publication | **Undergraduate Catalog**



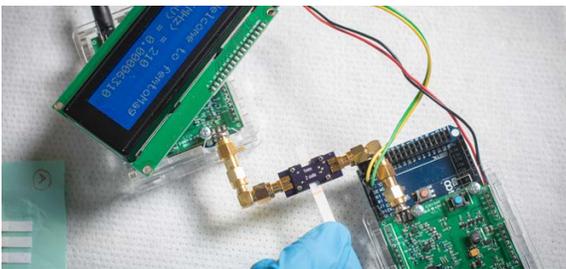
EXCELLENCE STARTS HERE

CULLEN
COLLEGE OF ENGINEERING
UNIVERSITY of **HOUSTON**



UH ENGINEERING

UNDERGRADUATE CATALOG



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46// YOUR FUTURE STARTS HERE

Imagine engineering the future in the city of Houston, the Energy Capital of the World.

CULLEN
COLLEGE OF ENGINEERING
UNIVERSITY of **HOUSTON**

INTRO INTO ENGINEERING

As you move through this world, we ask you to take a second look at the infrastructures, technologies, tools and machines that shape your daily life: the cars, cell phones, lights, bridges, buildings, clean water, cameras, computers – even the fuel powering our planet. Is there anything that an engineer has not touched?

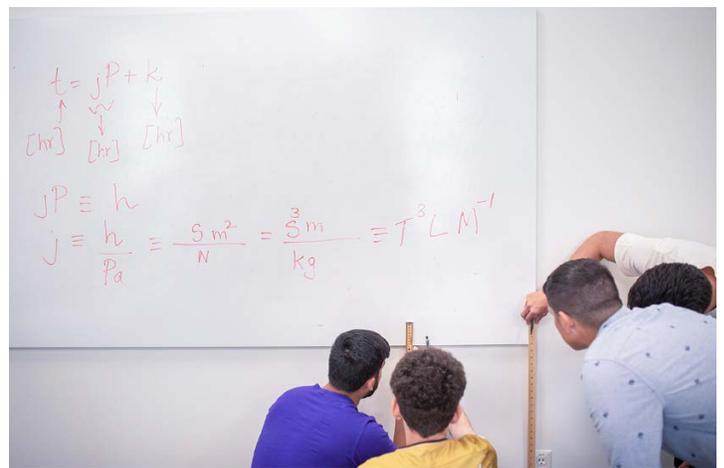




WHAT IS AN ENGINEER?

Engineers are the **thinkers, doers** and **creators of the modern world** we so often take for granted. They are the designers, builders, problem-solvers and inventors of our yesterday, today and tomorrow.

Engineers aren't just experts in science, mathematics, physics and chemistry – they are experts at applying these sciences to the real world in order to solve problems, overcome challenges, or simply improve the quality of life for current and future generations.



Engineers generally focus on one of the following fields:

- ▶ **biomedical engineering**
- ▶ **chemical engineering**
- ▶ **civil engineering**
- ▶ **environmental engineering**
- ▶ **electrical engineering**
- ▶ **computer engineering**
- ▶ **industrial engineering**
- ▶ **mechanical engineering**
- ▶ **petroleum engineering**



To learn more about the different engineering professions and fields of study, turn to page 4.



CAREERS IN ENGINEERING

Careers in engineering vary depending on which field of study you choose to pursue. However, due to a national shortage of qualified engineers, all engineering professionals are well-paid and jobs are very easy to come by – especially in the city of Houston, the Energy Capital of the World. Continue reading for a breakdown of the different types of engineering majors and their average annual salaries.

BIOMEDICAL

Without engineering, the world would not have X-rays, ultrasounds, heart monitors or many of the life-saving devices and equipment used in modern medicine. Many of the tools and technologies used in our hospitals and clinics are products of engineers and engineering. Biomedical engineers not only develop these cutting-edge devices and technologies, but also find new ways to diagnose conditions, fight diseases and improve patients' overall quality of life.



CHEMICAL

The foundation of the world boils down to chemicals, and chemical engineers turn those chemicals into everyday products and lifesaving medicines. Their work ranges from improving healthcare to finding safer and more efficient ways to retrieve oil and gas. Chemical engineers also play a leading role in the discovery of new, alternative fuels and energy sources that are less harmful to our environment.



CIVIL & ENVIRONMENTAL



When you make it safely across a bridge, thank a civil engineer! They are responsible for designing and constructing structures and infrastructure that we use in our daily lives – from the roads we drive on, to the buildings we work in, to the clean drinking water that flows from our faucets. Environmental engineers are vital to maintaining the health of our planet by finding new ways to curb pollution and ensuring our environment remains as clean and healthy as possible. Their influence touches most of our daily lives!

ELECTRICAL & COMPUTER



Electrical and computer engineers are responsible for some of our favorite toys, such as smartphones and video games, and many of our most crucial systems, including electrical grids and telecommunications. As innovators and creators at the forefront of technology, electrical and computer



engineers have an extremely wide array of employment options available to them. Anywhere you find electrical or computer systems – from energy and medicine to aviation and computer gaming – you'll find electrical and computer engineers.

INDUSTRIAL



Industrial engineers are on the front lines of engineering processes, working to make things run smoothly across all of the engineering disciplines. If there's a way to optimize a system or make a process more efficient, industrial engineers will find it. They take a holistic approach to problem solving by considering people, places, equipment and information in systems or processes to find new ways to optimize them.

For example, some industrial engineers design the lines for rides at Disney theme parks to ensure park-goers are comfortable and entertained while they wait. Others design and organize warehouses so that products can be identified and delivered to consumers more efficiently.



MECHANICAL



Mechanical engineers are masters-of-all-trades in the engineering field. Most of our daily activities involve mechanical processes, and anything with a mechanical process is the business of a mechanical engineer. These engineers build cars, computers, airplanes and toys. Their contributions to our world include new technologies and devices for the energy, medical, aerospace and biotechnology industries.

PETROLEUM



Petroleum engineers solve the most critical and pressing energy challenges facing the world, including how to meet increasing global demand for energy while ensuring the safety and health of our environment. Petroleum engineers are entrusted by the public to implement solutions to these problems in a safe, ethical and environmentally responsible manner. The field sets high standards for competency as well as ethics.

ENGINEERING EMPLOYMENT OUTLOOK



AVERAGE ANNUAL SALARIES IN ENGINEERING

	Avg entry-level salary ¹	Avg mid-career salary ²	Top 10% ³
Aerospace	\$68,871	\$92,444	\$164,210
Biomedical	\$61,700	\$80,608	\$144,350
Chemical & Biomolecular	\$66,630	\$86,762	\$169,770
Civil	\$57,620	\$74,391	\$142,560
Computer	\$68,897	\$85,985	\$172,630
Electrical	\$66,213	\$83,997	\$153,240
Environmental	\$56,669	\$74,320	\$137,090
Industrial/Manufacturing	\$60,887	\$77,581	\$132,340
Materials	\$66,890	\$85,089	\$148,110
Mechanical	\$62,541	\$79,472	\$136,550
Petroleum	\$84,016	\$117,117	\$250,000*
Subsea	\$98,583	\$109,000	\$300,000*

^{1,2} Figures from payscale.com, July 2020

³ Figures from National Occupational Employment and Wage Estimates, U.S. Department of Labor, 2018

* Figures from National Occupational Employment and Wage Estimates, U.S. Department of Labor, 2017

ENGINEERING JOB PROJECTIONS THROUGH 2023:

11% GROWTH

249,908 new jobs will be available for engineers



TOP 10 OCCUPATIONS

Growth forecast for engineering occupations:

Civil engineers	+45,745
Mechanical engineers	+25,485
Architectural and engineering managers	+19,650
Industrial engineers	+17,660
Electrical engineers	+16,561
Electronics engineers*	+12,139
Petroleum engineers	+11,469
Computer hardware engineers	+10,799
Biomedical engineers	+10,542
Environmental engineers	+10,129

TOP 10 LOCATIONS

These U.S. metropolitan areas will have the greatest demand for engineers:

Houston, TX	+14,925
Washington, D.C.	+9,864
Los Angeles, CA	+8,898
Dallas, TX	+8,163
San Francisco, CA	+7,312
New York, NY	+6,970
San Jose, CA	+6,820
Boston, MA	+6,773
Denver, CO	+6,385
Phoenix, AZ	+6,147

Source: kellyservices.us/engineeringcareers

*Excluding computer engineers

DID YOU KNOW?



UH graduates beat the national average for starting and mid-career salaries (Source: PayScale.com)



UH is #7 in U.S. for graduating students with the least amount of debt (Source: *U.S. News & World Report*)



UH is a "Best Value College" (Source: *Princeton Review*)



UH is awarded \$113 million in grants and scholarships each year



UH is among the "Top 100 Most Affordable Large Public Colleges" (Source: AffordableCollegesOnline.org)





YOUR ACADEMIC LIFE

Achieving and maintaining academic excellence at the UH Cullen College of Engineering is serious business.

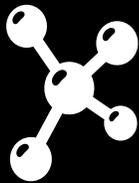
Admission standards for entering the Cullen College are very high – and the hard work doesn't end once you're admitted. It takes a great deal of studying and perseverance to make it through to graduation.

Luckily, your engineering classes will be small, averaging 22 students per class, and teaching assistants or graduate students rarely teach engineering courses. Most engineering courses are taught by full-time faculty members, even at the freshman level.

The Cullen College offers eight undergraduate majors: bio-medical engineering, chemical engineering, civil engineering, computer engineering, electrical engineering, industrial engineering, mechanical engineering and petroleum engineering.

It's not an easy road, but it's a worthwhile one. After graduation, career opportunities for engineers are limited only by their imaginations, and there's no better place than Houston to begin an engineering career!

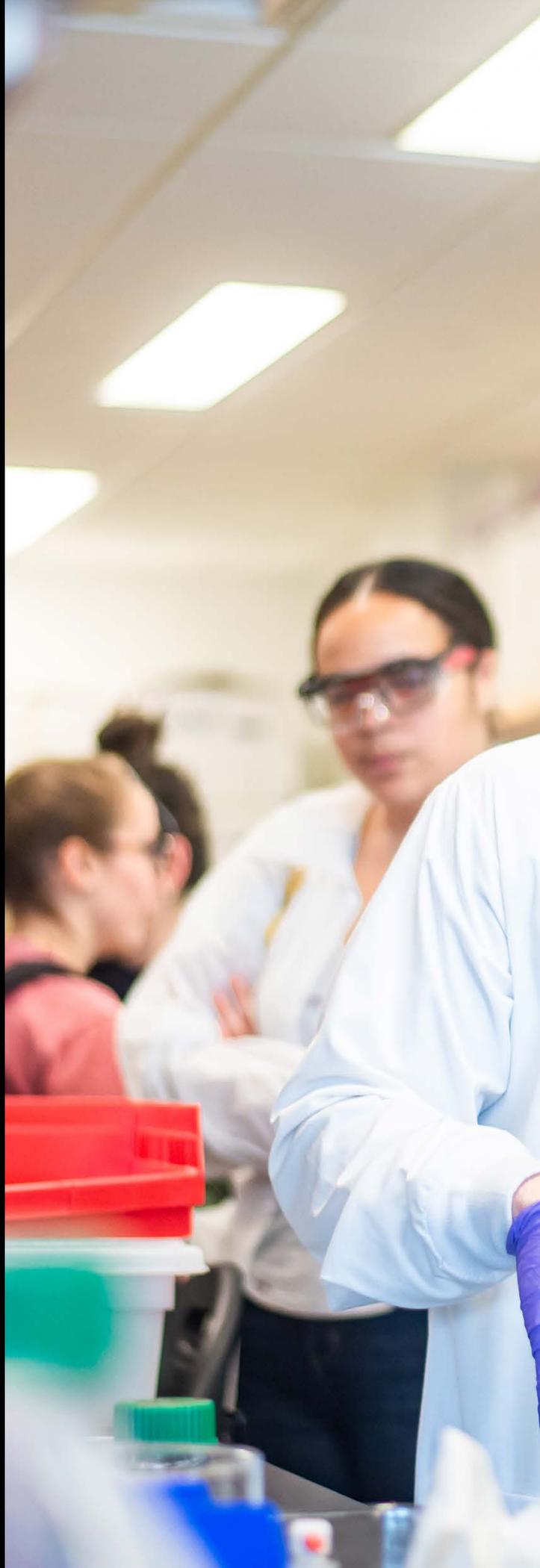
YOUR RESEARCH LIFE



At the UH Cullen College of Engineering, you're exposed to **hands-on, real-world training** with **cutting-edge technologies** inside **state-of-the-art facilities** starting on your very first day as a freshman.

By the time you earn your bachelor's degree from the Cullen College, you will have completed years of laboratory training and professional development. You will be confident and well-prepared to take on the future, no matter the direction your engineering career path takes you!

Several undergraduate research opportunities and scholarships are available in the college's many research laboratories, centers and industry consortiums. Moreover, many engineering faculty members welcome and encourage undergraduate students to join their research groups. **Just ask!**





STUDENT CENTER NORTH

Cheat sheet

YOUR CAMPUS LIFE*

*AS TOLD BY UH ENGINEERING STUDENTS

BEST PLACES TO STUDY

- #1 M.D. Anderson Library
- #2 Commons areas in the dorms
- #3 The Nook
- #4 Basement in E.E. Oberholtzer Residence Hall
- #5 Engineering Commons
- (1st floor of Engineering Building 1)
- #6 Outdoor picnic tables between Engineering Buildings 1 and 2
- #7 Student Center Satellite
- #8 Large stairs in the UC



BEST PLACES TO HANG OUT WITH FRIENDS

- #1 Azza Cafe
- #2 The Nook
- #3 Calhoun Rooftop Bar
- #4 The Den
- #5 The game room and bowling alley at the UC Center
- #6 Engineering Commons



BEST PLACES TO EAT ON CAMPUS

- #1 Pink's Pizza
- #2 Fat Bao
- #3 Calhoun's Rooftop Bar and Grill
- #4 McAlister's Deli
- #5 Fresh Foods at Moody Towers
- #6 Freshii at the UC

"It's my favorite because it's affordable and healthy!"
- Eugenia R.

- #7 Eric's
- #8 The food trucks!

"The food trucks during lunch are amazing!"
- Alex S.

BEST PLACES TO EAT BETWEEN CLASSES (OR WHEN YOU'RE IN A HURRY)

- #1 Convenience Stores (C-Stores)
- #2 Student Center Satellite
- #3 Einstein Bros. Bagels
- #4 Food court at the UC – Chick-Fil-A, Starbucks, Freshii and more
- #5 Cougar Woods Dining Hall
- #6 Café 101 (milk teas and tapioca teas!)

During the academic year, a rotation of local food trucks set up shop on campus



For the complete up to date list, visit dineoncampus.com/uh/food-trucks



- American Institute of Chemical Engineers (AICHE)
- American Society of Mechanical Engineers (ASME)
- American Society of Civil Engineers (ASCE)
- Institute of Electrical and Electronics Engineers (IEEE)
- National Society of Black Engineers (NSBE)
- Society of Asian Scientists and Engineers (SASE)
- Society of Petroleum Engineers (SPE)
- Society of Women Engineers (SWE)

BEST EXTRACURRICULARS FOR ENGINEERING STUDENTS

- #1 Cougar Paw
- #2 Tau Beta Pi Engineering Honor Society
- #3 Metropolitan Volunteer Program (MVP)



BEST THINGS TO DO WHEN YOU NEED A BREAK FROM STUDYING

- #1 Frontier Fiesta
- #2 Engineering Alumni Association football tailgates
- #3 IEEE Chili Cook Off
- #4 Beginning of Semester Party
- #5 Pre-OTC Crawfish Boil
- #6 Intramural sports
- #7 UH Rec Center

CoogLife gives away tickets to festivals around the city like Day for Night on Facebook



UH is #2 in Texas for number of beds in campus housing



UH has 7 residential communities, with more to come



UH has 30 campus restaurants and dining halls



UH has a First Year Residential Experience (FYRE) to help with the transition to college life



YOUR CITY LIFE



The UH Cullen College of Engineering is centrally located in the Energy Capital of the World. The city of Houston is home to the world's largest medical center, NASA, the Port of Houston and the second-most Fortune 500 headquarters of all major U.S. cities.

DID YOU KNOW?



Houston is the 4th largest city in the nation



Houston was named the 3rd best city for young professionals by *Forbes Magazine*



Houston has the largest medical center in the world



Houston ranks 2nd in employment growth in the nation



The University of Houston's location in the heart of Houston makes maintaining jobs, internships or fellowships while pursuing an undergraduate degree very doable. Cullen College students are strongly encouraged to take on internships or other professional development opportunities while they are still in school. Dedicated staff members in the Engineering Career Center provide students with direct access to internships, fellowships and full-time positions throughout the region. **We want you to turn your dream job into a reality!**

 | Visit career.egr.uh.edu



YOUR SUCCESS





OUR “PROMES” TO YOU...

If you've been accepted into the UH Cullen College of Engineering, then one thing is certain: You have what it takes to be a world-class engineer. It is our job to make sure you have all the tools and support you need to make it through your degree and on to the next steps of your career.

The Program for Mastery in Engineering Studies, or **PROMES** (pronounced “promise”), is a student success program dedicated to providing the help and support you need to succeed in engineering.

PROMES provides engineering students with academic advising, workshops, scholarships, and professional and personal development opportunities. We help you keep up with your classes, study for your exams, discover where you best fit in the college community, and find balance between your personal and academic lives.

PROMES is open to all undergraduate students in the college and provides a positive learning environment that supports your needs.

For more information, please visit
promes.egr.uh.edu



HONORS ENGINEERING PROGRAM (HEP)

The UH Cullen College of Engineering and the UH Honors College jointly offer a challenging program for Honors College students with majors in engineering. The Honors Engineering Program (HEP) offers courses that are tailored to the needs of high-achieving students.

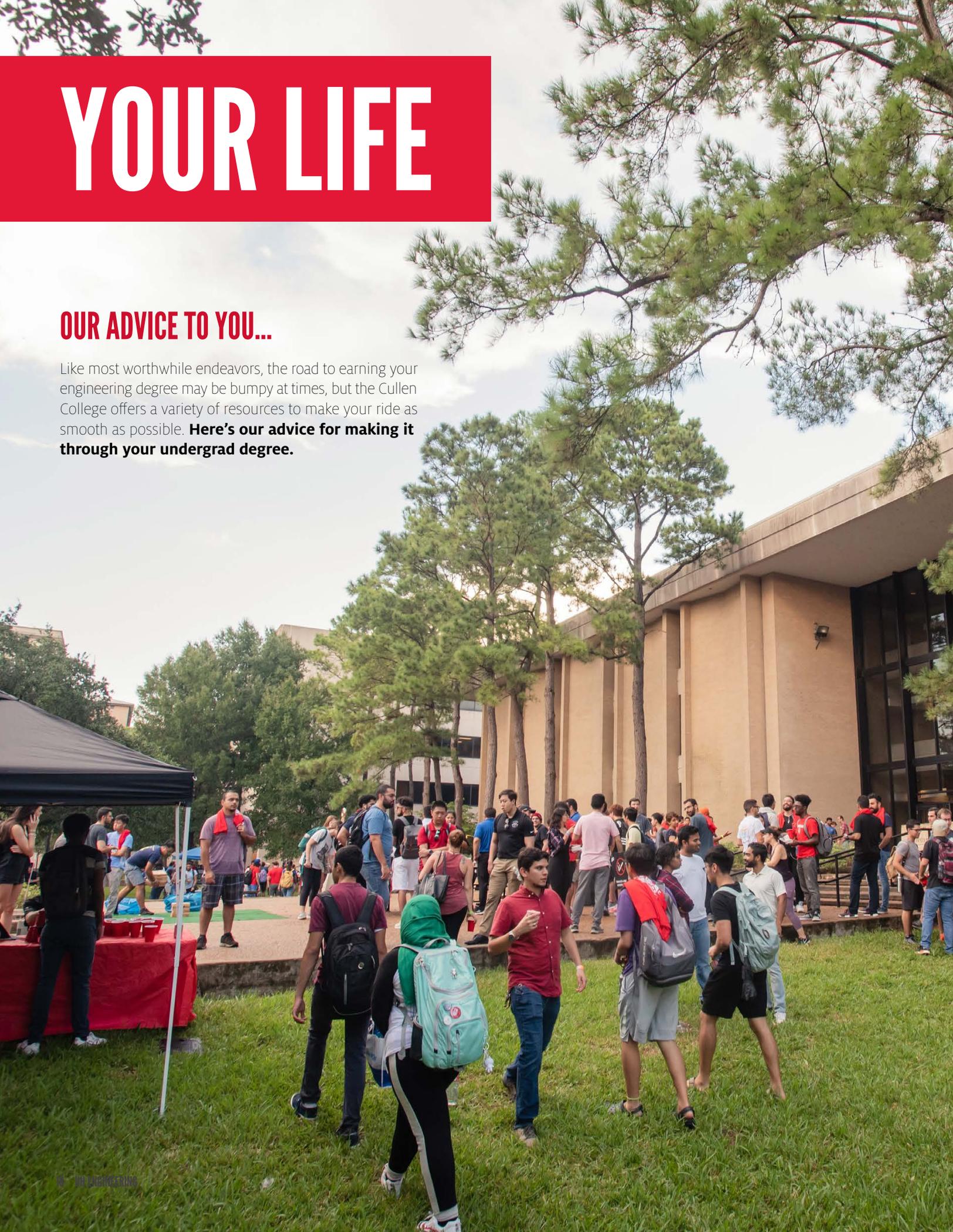
Freshman-level HEP courses emphasize team-based, project-oriented learning in small classes that are restricted to HEP students. These fun, hands-on courses focus on fostering creative, open-ended thinking and engineering design. HEP students will fulfill many required courses in Honors sections of required engineering courses. All in all, the HEP provides the academic environment of a small college with the resources of a large university.

For more information, please visit
www.uh.edu/honors

YOUR LIFE

OUR ADVICE TO YOU...

Like most worthwhile endeavors, the road to earning your engineering degree may be bumpy at times, but the Cullen College offers a variety of resources to make your ride as smooth as possible. **Here's our advice for making it through your undergrad degree.**





GET INVOLVED.

Getting involved in student organizations and professional societies not only increases your chances for success in engineering – it gives you access to leadership and networking opportunities that help to prepare you for life after college. Joining student organizations and professional societies is also a great way to meet fellow engineering students and connect with your classmates for study groups and academic support.

For more information, please visit



GET CONNECTED.

Being connected within the engineering community vastly increases the chances that you will successfully complete your engineering degree. We strongly encourage all students to connect with professional or student organizations, join a research group on campus and seek out jobs and internships with local employers.

GET HELP.

When the going gets tough during your engineering education, the tough get help.

The University of Houston offers a wide variety of resources to help you through any academic, personal, social or professional struggles you may have during your time on campus. UH students have access to free tutoring services, student advocacy and support services, accommodation and support services for students with disabilities, and wellness, recreation and health services.

As an engineering student, you will also have special access to the Engineering Computing Center, the Engineering Career Center and the various engineering student organizations and professional societies!



DID YOU KNOW?

UH HAS:



581 student organizations



46 fraternities and sororities



41 sports and intramurals



2,500+ on-campus jobs and internships posted annually by University Career Services



60+ group exercise classes (per week each semester)



21 outdoor adventure trips (each semester)



22 clinic/workshops (each semester)



a 264,000-square-foot Campus Recreation and Wellness Center



16 intercollegiate sports teams



a 667-acre park-like campus, full of lush trees, gardens and lawns



a stunning public art collection at the Blaffer Art Museum

UH Campus Recreation Center Normal Operating Hours*

Mon – Thurs: 6:00am – 11:30pm
Fri: 6:00am – 8:00pm
Sat: 10:00am – 8:00pm
Sun: Noon – 11:30pm

**For more information on modified hours and all of the recreational opportunities available to you, please visit*



www.uh.edu/recreation



BLOW OFF STEAM.

Although getting through your engineering degree will require you to spend a lot of hours with your nose in a textbook or your eyes glued to a computer screen, it's important to look up from your research, studies or homework for a break every now and then. And when break time rolls around, you'll have no shortage of fun activities to help you blow off steam and clear your mind before the next big exam or project.

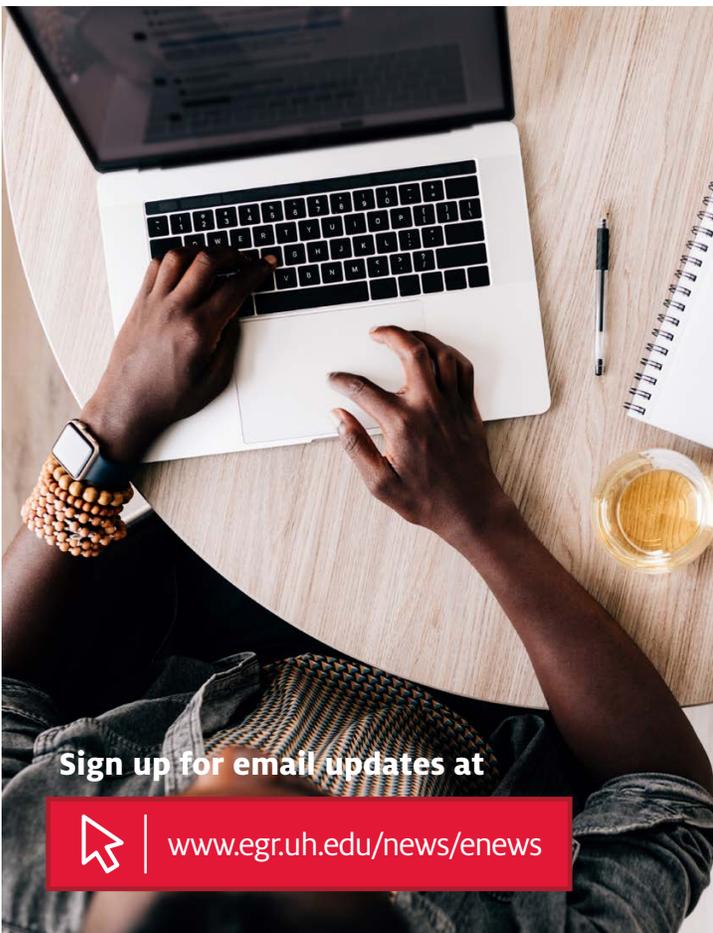
So after a long day of classroom lectures and studying, make sure you take the time to climb the 53-foot climbing wall before taking a dip in the 70-meter indoor pool, sauna or whirlpool inside the UH Campus Recreation Center – or sign up for an intramural sports team, join an aerobics class, or see a concert on campus with your friends and classmates.



MANAGE STRESS.

Stress management isn't only important while earning your engineering degree – it's important for your life after college as well. That's why UH offers a wonderful array of free support services for students, such as:

- UH Wellness, where you can take part in individualized programs or group fitness activities that help with improving both mind and body;
- Counseling & Psychological Services, where you can access mental health professionals any time you're feeling overwhelmed or just need someone to talk to;
- The Ombudservice, where you can get the help you need resolving any academic or nonacademic issue you might have, such as residency status, registration, fee payment, housing, financial aid, grades, parking and more.



Sign up for email updates at



www.egr.uh.edu/news/enews

CHECK IN AND STAY IN TOUCH.

At the Cullen College, our faculty and staff want to know you by name. We want to know your thoughts, suggestions, comments and what your hobbies are outside of engineering. Forming and maintaining a connection with your professors and the college staff members who help you is just as important as forming connections with fellow engineering students. So, when you have a bit of down time, please knock on our doors and tell us what's new with you! You are the reason we come to work at the college each and every day, and nothing makes us more excited to do our job and do it well than hearing from our students both during and after their time at the Cullen College.

Please visit www.egr.uh.edu/news/enews to sign up for email updates from the Cullen College and stay up-to-date on the latest news!

CULLEN COLLEGE OF ENGINEERING

By the Numbers

TOP 100 

Engineering Schools in the U.S.
(As Rated by U.S. News & World Report)

\$111,920 

Average Annual Salary of Engineering Professionals in Houston, Texas
(U.S. Bureau of Labor Statistics, 2018)

30+ 

Engineering Student Organizations

\$34M+ 

in Research Expenditures

22:1 

University-Wide Student-To-Faculty Ratio

14 

National Academy of Engineering Faculty Members

80% 

Of UH Engineering B.S. Students are Employed in Texas within 1 Year of Graduation

19,000+ 

Total Alumni of the Cullen College of Engineering



YOUR ENGINEERING MAJOR



Learn about the different departments and programs at the UH Cullen College of Engineering and choose how to customize the right degree for you.▶▶▶



BIOMEDICAL ENGINEERING



CHEMICAL & BIOMOLECULAR ENGINEERING



CIVIL & ENVIRONMENTAL ENGINEERING



ELECTRICAL & COMPUTER ENGINEERING



INDUSTRIAL ENGINEERING

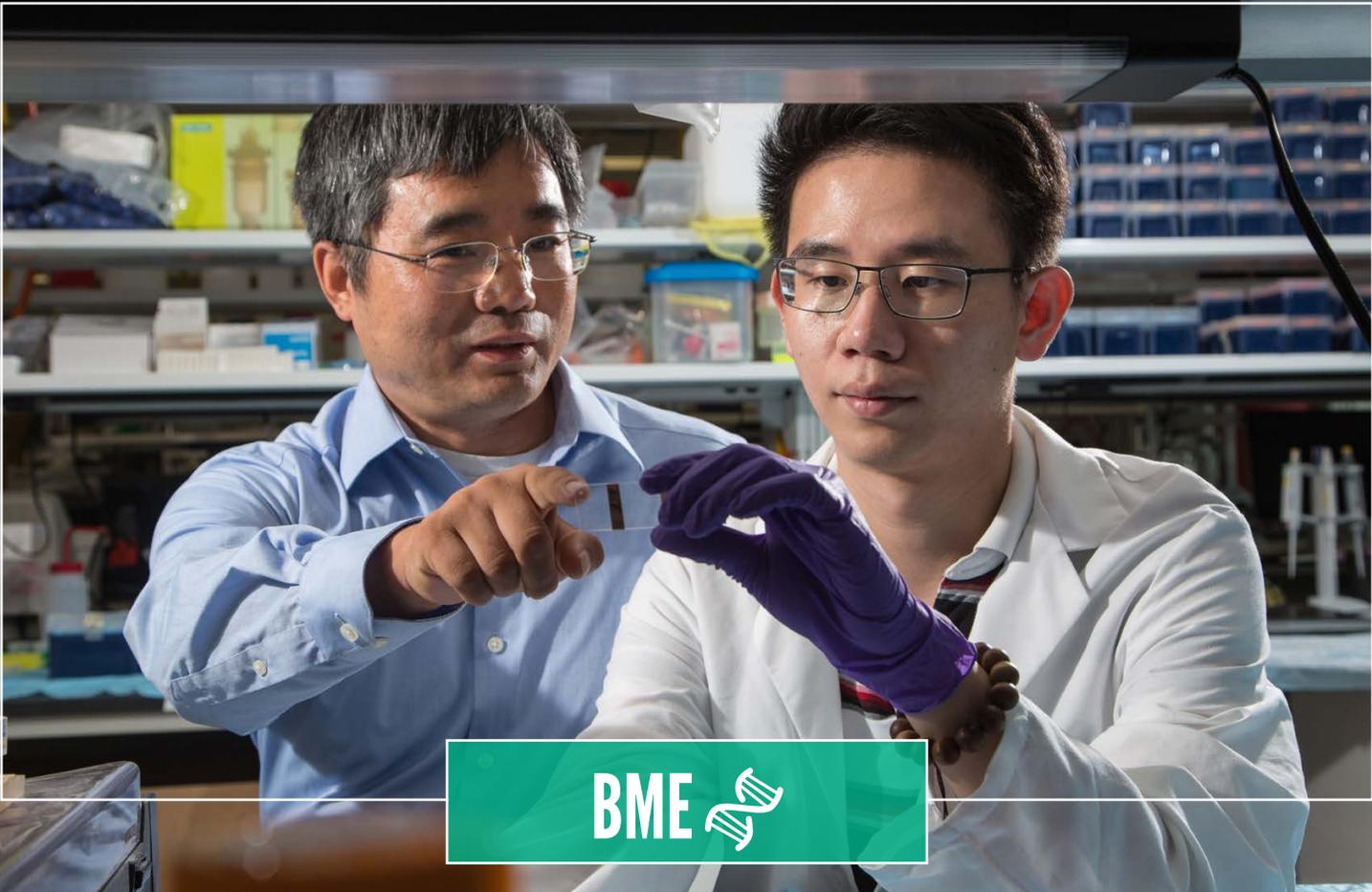


MECHANICAL ENGINEERING



PETROLEUM ENGINEERING





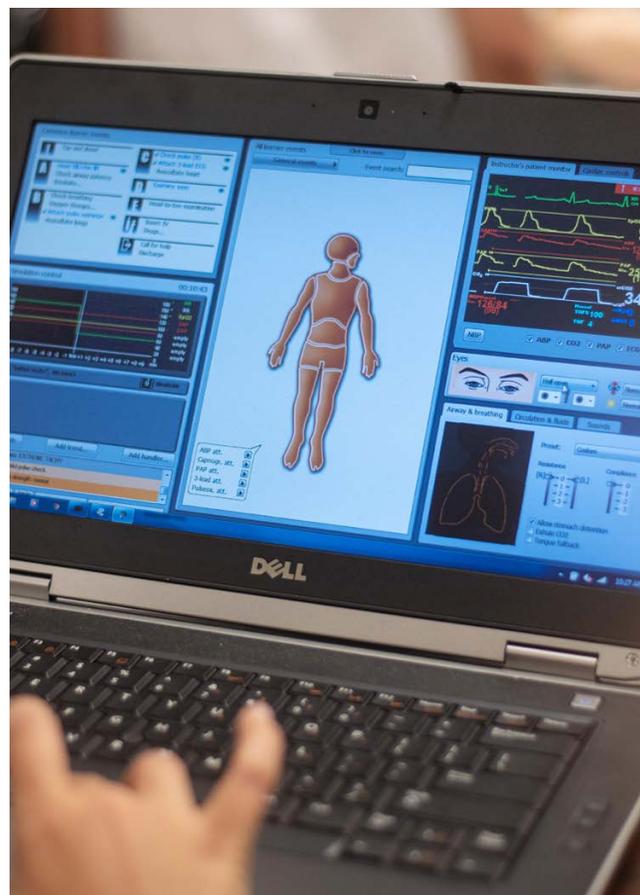
BIOMEDICAL ENGINEERING

WHAT IS BIOMEDICAL ENGINEERING?

Biomedical engineers solve problems in biology and medicine, playing a central role in advancing healthcare, medicine and patient care. At the University of Houston Cullen College of Engineering, biomedical engineering students and faculty members are researching new methods for diagnosing diseases, improving therapies for treatment of diseases and developing cutting-edge medical technologies that are being implemented in hospitals and clinics across the country.

CAREERS IN BIOMEDICAL ENGINEERING

Biomedical engineering students at the UH Cullen College of Engineering will be prepared for careers in the biomedical technology industry, graduate school or professional programs such as engineering, medicine, business and law. The Cullen College has a dedicated Engineering Career Center which connects hundreds of engineering students each year to internships and full-time positions throughout the region. A 2020 salary survey produced by Payscale.com found that new biomedical engineering graduates earned an average starting salary of \$61,700.





WHY EARN YOUR BIOMEDICAL ENGINEERING DEGREE AT THE UNIVERSITY OF HOUSTON?

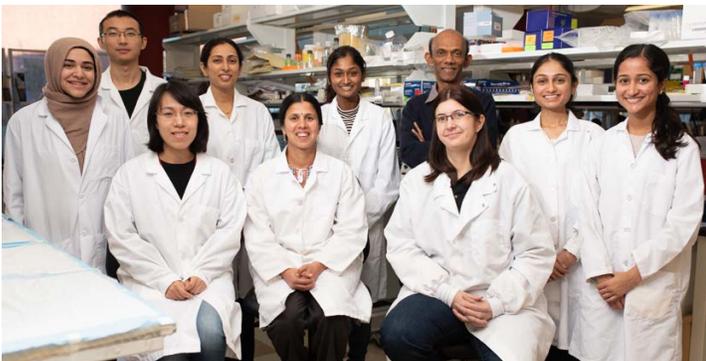
ACADEMICS

Biomedical engineering undergraduate students in the UH Cullen College of Engineering are taught by the world's leading experts and researchers in the biomedical engineering field. The biomedical engineering undergraduate program prepares students for a huge range of career opportunities, and places an emphasis on exposing students to cutting-edge technologies through such courses as "Biomedical Microdevices" and "Regenerative Medicine and Stem Cell Engineering." The courses lead up to a one-year Capstone senior design course that explores regulatory and business development issues in the fall and segues into the project design component with the start of the spring semester.

The biomedical engineering undergraduate program requires a working knowledge of life sciences and engineering tools and logic. The interdisciplinary curriculum incorporates math, physics, chemistry and biology with mechanical, electrical and chemical engineering.

Prior to the beginning of your junior year, you will have the option of customizing your biomedical engineering curriculum by choosing one of four emphasis areas: biomedical imaging, bionanoscience, neural & rehabilitation engineering or pre-medicine.

[Learn more at www.bme.uh.edu/undergraduate](http://www.bme.uh.edu/undergraduate)



RESEARCH

The biomedical engineering department at the UH Cullen College of Engineering is home to some of the world's most advanced biomedical research, touching on areas from neural and rehabilitation engineering to biomedical imaging and bionanoscience. Even during your freshman year at the Cullen College, you will be exposed to ongoing biomedical engineering research through classroom lessons and projects and will have opportunities to join faculty-led research groups across campus.

The University of Houston is conveniently located five miles from the Texas Medical Center (TMC), the largest medical complex in the world. Research opportunities for biomedical engineering undergraduates are endless, and all students are strongly encouraged to get hands-on experience working in either a research lab on campus, at TMC or at a local biotech company.

[Learn more at www.bme.uh.edu/research/undergrad](http://www.bme.uh.edu/research/undergrad)

SCHOLARSHIPS

The department funds undergraduate research fellowships for qualified, top-performing upperclassmen. Merit-based scholarships are also awarded by the Cullen College of Engineering.

Scholarships are also offered by the UH Office of Scholarships and Financial Aid. Additionally, the university's co-op program offers students the opportunity to receive career training while financing their education.

[Learn more at www.egr.uh.edu/academics/scholarships](http://www.egr.uh.edu/academics/scholarships)

STUDENT ORGANIZATIONS

Students are encouraged to join academic and professional organizations to build leadership, communication and networking skills. Members of student organizations receive career guidance from engineering professionals and participate in activities that promote engineering.

The UH Biomedical Engineering Society is a highly active organization. Members have opportunities to explore fascinating technology in medicine through talks by experts in the field, and the organization provides an environment for social interaction and exchange of ideas between all levels of undergraduate students, graduate students and faculty.

[Learn more at www.bme.uh.edu/links/bme](http://www.bme.uh.edu/links/bme)

FOR MORE INFORMATION

Biomedical Engineering Department: www.bme.uh.edu
Undergraduate Program: www.bme.uh.edu/undergraduate
Email: ckwaits@uh.edu

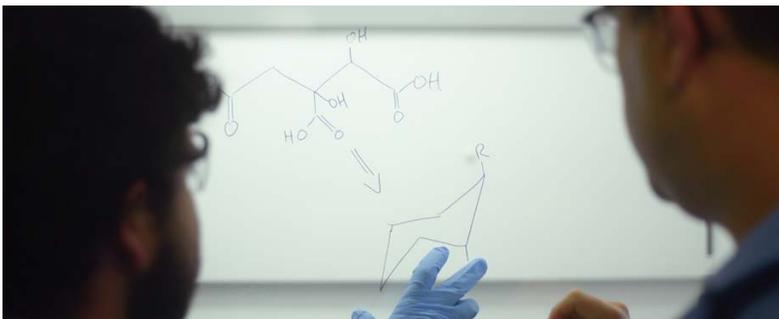
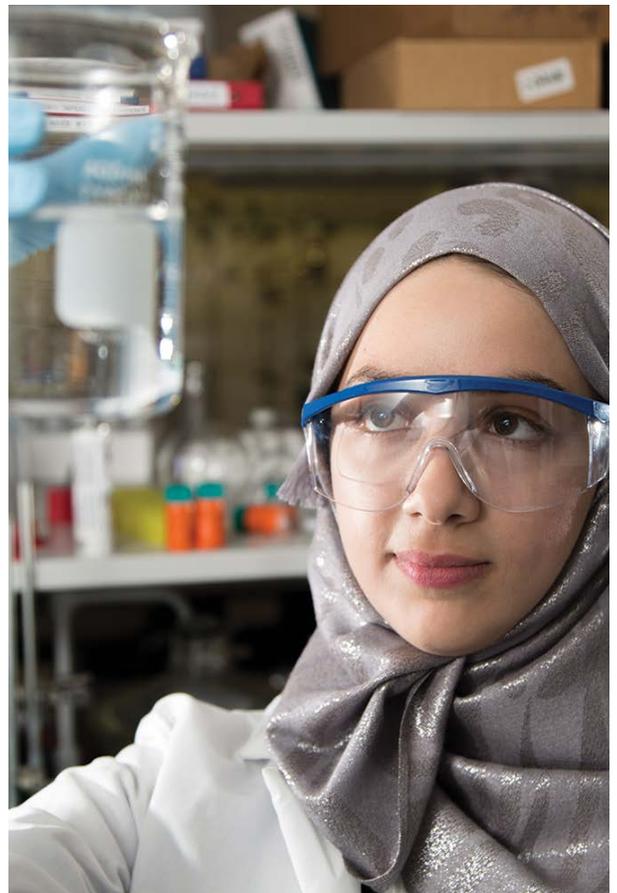
UH Department of Biomedical Engineering | Science and Engineering
Research Center | 3517 Cullen Blvd., Suite 2027 | Houston, Texas 77204-5060
832.842.8813



CHEMICAL & BIOMOLECULAR ENGINEERING

WHAT IS CHEMICAL ENGINEERING?

Chemical engineers are taught to link chemistry and engineering in order to produce substances or products that improve people's lives. Chemical engineers develop techniques and processes to convert raw materials into products such as plastics, food, pharmaceuticals, petroleum products and other consumer goods while maximizing efficiency and minimizing risk and environmental impact.



CAREERS IN CHEMICAL ENGINEERING

Chemical engineering careers span chemicals manufacturing, refining, advanced materials, resource management, medicine, pharmaceuticals development and production, pollution control and environmental remediation.

Career opportunities in chemical engineering are excellent – especially in the city of Houston, the Energy Capital of the World. A 2020 salary survey produced by Payscale.com found that new chemical engineering graduates earned an average starting salary of \$66,630.

Career opportunities for chemical engineers in Houston tend to be better than the national average. Almost half of Houston's economy is driven by energy, with more than 3,600 energy-related companies based in Houston. All of the major oil and gas companies have operations in Houston, and the region boasts almost 40,000 jobs just in oil and gas extraction, representing one-third of such positions worldwide!

WHY EARN YOUR CHEMICAL & BIOMOLECULAR ENGINEERING DEGREE AT THE UNIVERSITY OF HOUSTON?

ACADEMICS

The chemical and biomolecular engineering department at the University of Houston Cullen College of Engineering is one of the top-ranked chemical engineering programs in the nation. Chemical engineering undergraduates are prepared to meet or exceed the expectations of employers, particularly in the energy and chemical industries. Many graduates of the chemical engineering program are currently employed in leading positions in industry, academia and government across the Houston region and around the world.

Conveniently located in the Energy Capital of the World, students have direct access to internships and full-time positions throughout the region and are strongly encouraged to pursue professional opportunities while they are still in school.

Learn more at www.chee.uh.edu/undergraduate/degree



RESEARCH

At the University of Houston Cullen College of Engineering, there's no shortage of research for chemical engineers. The University of Houston is home to some of the world's most advanced energy research, touching on areas such as sustainability, alternatives, grid power, solar energy, wind energy and superconductivity. Moreover, the university has a 74-acre campus, called Energy Research Park, dedicated solely to bringing industry and academia together to conduct energy research in clean engines and fuels, wind energy, superconductivity and petroleum engineering. All undergraduate students in the chemical engineering department are strongly encouraged to get hands-on research experience in one of the many faculty research groups, labs or centers on campus while they are pursuing their degrees.

Learn more at www.chee.uh.edu/research/overview

SCHOLARSHIPS

Departmental scholarships are offered from the Lubrizol Foundation, Bayer, BP America, Chevron, ConocoPhillips, ExxonMobil, Founders/Worley, Scheller, Tiller and Fleischer Scholarship Funds. Merit-based scholarships are also awarded by the Cullen College of Engineering.

Scholarships are also offered by the University of Houston Office of Scholarships and Financial Aid. Additionally, the university's co-op program allows students to receive career training while financing their education.

Learn more at www.chee.uh.edu/undergraduate/scholarships/chbe-department

STUDENT ORGANIZATIONS

Students are encouraged to join academic and professional organizations to build leadership, communication and networking skills. Members of student organizations receive career guidance from engineering professionals and participate in activities that promote engineering.

Chemical engineering organizations include the American Institute of Chemical Engineers (AIChE) and the Society of Petroleum Engineers (SPE).

Learn more at www.chee.uh.edu/people/student_organizations

FOR MORE INFORMATION

UH Department of Chemical and Biomolecular Engineering: www.chee.uh.edu
Undergraduate Program: www.chee.uh.edu/undergraduate/overview
Email: vellison@central.uh.edu

UH Department of Chemical and Biomolecular Engineering | Engineering Building 1 | 4726 Calhoun Rd., Suite S222 | Houston, Texas 77204-4004 | 713.743.4300



CIVIL & ENVIRONMENTAL ENGINEERING

WHAT IS CIVIL ENGINEERING?

Civil engineering is the professional discipline that focuses on the development and maintenance of both man-made and natural infrastructure. Civil engineers produce the facilities on which modern life depends, including roads, bridges, buildings, offshore structures, airports and levees, as well as the infrastructure required for the supply of clean water.

Civil engineering includes a multitude of sub-disciplines including environmental engineering, structural engineering, geotechnical engineering, materials engineering, water resources engineering, geosensing systems engineering and more. Civil engineering offers a very wide variety of opportunities!



CAREERS IN CIVIL ENGINEERING

Civil engineers find employment opportunities in both the private and public sectors. Career opportunities in civil engineering are excellent – especially in Houston, the Energy Capital of the World. Employment for civil engineers is expected to increase significantly, spurred by ongoing emphasis to improve our nation's infrastructure.

A 2020 salary survey produced by Payscale.com found that new civil engineering graduates earned an average starting salary of \$57,620.

WHY EARN YOUR CIVIL ENGINEERING DEGREE AT THE UNIVERSITY OF HOUSTON?

ACADEMICS

The civil engineering undergraduate program at the University of Houston Cullen College of Engineering is rigorous and hands-on. The program is designed to offer undergraduate students a broad-based education in the freshman and sophomore years and a more focused education in the junior and senior years. The jobs available in the field of civil and environmental engineering are diverse, so a broad base is provided to prepare graduates for a variety of positions. Luckily, the civil and environmental engineering department has one of the most loyal and active alumni bases in the entire college, with UH civil engineering graduates employed in top positions throughout the region – so landing your dream job, internship, co-op or fellowship shouldn't be too difficult!

Learn more at www.cive.uh.edu/programs/undergraduate

RESEARCH

The civil engineering undergraduate program at the University of Houston Cullen College of Engineering is well-known for its research, and faculty in the department have expertise in environmental engineering, geotechnical and materials engineering, structural engineering, oceans and water resources engineering and geosensing systems engineering. The civil and environmental engineering department is also home to the NSF-funded National Center for Airborne Laser Mapping (NCALM). Undergraduate students have the opportunity to become involved in the fascinating research being conducted by faculty members and graduate students in the department.

Learn more at www.cive.uh.edu/research/overview



SCHOLARSHIPS

Departmental scholarships for undergraduate students include those endowed by or in memory of M.P. "Pat" Anderson, Charles A. Beyer Houston Contractors Association, Cobb/Fendley, Vishnu and Rohini Divecha, DFI Educational Trust Charles J. Berkel, BGE/Ronald L. Mullinax, R. P. Doss Houston Contractors Association, Jesse G. Gonzalez, Houston Chapter of the American Concrete Institute, Klotz Associates, Herbert and Faye Lum, Structural Consulting Company/Monteith, Jimmie A. Schindewolf, Charles J. Tamborello, Stanford Daniel Ward, Jr., and others. Scholarships are also awarded by the Cullen College of Engineering and by the University of Houston Office of Scholarships and Financial Aid. Additionally, the University's internship program allows students to receive career training while helping to finance their education.

Learn more at www.cive.uh.edu/programs/undergraduate/scholarships

STUDENT ORGANIZATIONS

Students are encouraged to join academic and professional organizations to build leadership, communication and networking skills. Members of student organizations receive career guidance from engineering professionals and participate in activities that promote engineering.

The civil and environmental engineering department has student chapters of the American Society of Civil Engineers (ASCE) and American Concrete Institute (ACI). The UH ASCE chapter is very active and its members are engaged in the Texas/Mexico Regional Concrete Canoe Competition and the Daniel W. Mead Ethics Paper Competition each year.

Learn more at www.cive.uh.edu/programs/undergraduate/student-activities

FOR MORE INFORMATION

UH Department of Civil and Environmental Engineering: www.cive.uh.edu
Undergraduate Program: www.cive.uh.edu/programs/undergraduate
Email: civil@egr.uh.edu

UH Department of Civil and Environmental Engineering
Engineering Building 1 | 4726 Calhoun Rd., Suite N107
Houston, Texas 77204-4003 | 713.743.4250

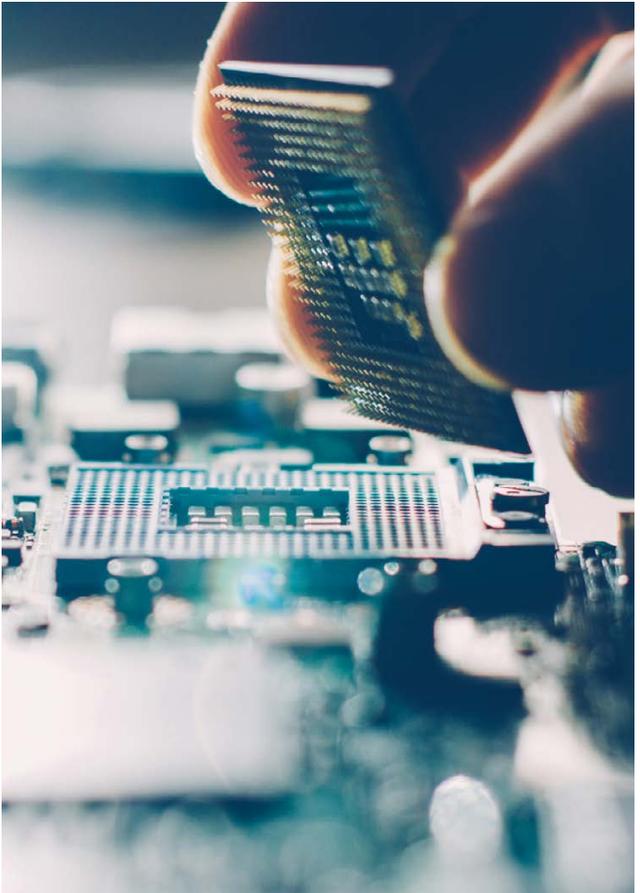


ELECTRICAL & COMPUTER ENGINEERING

WHAT IS ELECTRICAL & COMPUTER ENGINEERING?

Electrical engineering is a very broad field – it encompasses virtually anything you can think of that requires electric power to operate! As an electrical engineering student at UH, you will get a broad sampling of courses from several areas involving electrical and electronic systems, but in your last two years you will choose from among six specialty areas: electronics; nanotechnology; power and alternative energy; computers and embedded systems; electromagnetics; and signals, systems and communication.

Computer engineering combines electrical engineering and computer science. It is about the interface between machines (hardware) and computers (software). Electrical engineers and computer engineers do both things, but computer engineers are more involved with software than electrical engineers. Computer engineers design and maintain hardware and software in computer-based systems, from PCs to supercomputers, as well as computer systems that are embedded in vehicles, appliances and communication networks. Specialized areas in computer engineering include system architecture, computer chip design, layout design, package/board design and system integration.



CAREERS IN ELECTRICAL & COMPUTER ENGINEERING

Career opportunities for both electrical and computer engineers are fantastic across all specialties. A 2019 salary survey produced by Payscale.com found that new electrical engineering and computer engineering graduates earned an average starting salary of \$66,213 and \$68,897, respectively. However, starting salaries for UH electrical and computer engineers are above the annual national average. Alumni of the electrical and computer engineering department work locally and overseas for Halliburton, Schlumberger, Hewlett Packard, CenterPoint Energy, Burns & McDonnell, as well as other telecommunications, construction and petrochemical companies.



WHY EARN YOUR ELECTRICAL & COMPUTER ENGINEERING DEGREE AT THE UNIVERSITY OF HOUSTON?

ACADEMICS

Faculty and staff in the electrical and computer engineering department at the UH Cullen College of Engineering takes pride in their commitment to undergraduate education. Students are treated as individuals and have access to faculty advisors throughout their undergraduate career. Small classes are the rule, especially at the junior and senior level. From the introductory level to the more advanced courses, teaching is done primarily by full-time faculty members, many of whom have received prestigious teaching awards. Students will receive real-world, hands-on training in the field to introduce them to electrical and computer engineering in an exciting and relevant way. In the senior design courses, students work on real-world problems with faculty and industry engineers guiding them. For those desiring additional learning opportunities, special workshops are available in some of the required freshman and sophomore courses.

Learn more at www.ece.uh.edu/undergraduate/general-information



RESEARCH

The electrical and computer engineering department provides numerous opportunities to undergraduate students interested in doing research. Many professors hire students to work in their labs, and the university offers stipends on a competitive basis for both summer and regular semester research projects. There is an amazing array of research going on inside of the department's labs, so students can get exposure to cutting-edge technologies and research tools.

Learn more at www.ece.uh.edu/research/undergraduate

SCHOLARSHIPS

Many scholarships are available to incoming and current undergraduate students in the electrical and computer engineering department. Some are administered by the Office of Scholarships and Financial Aid and are open to all University of Houston students. The Cullen College of Engineering also offers merit-based scholarships. Additionally, the university's co-op program allows students to receive career training while financing their education.

Learn more at www.ece.uh.edu/undergraduate/scholarships-careers

STUDENT ORGANIZATIONS

Electrical and computer engineering students at UH like to get involved! We encourage you to join academic and professional organizations like the student chapter of the Institute of Electrical and Electronics Engineers (IEEE), Society of Women Engineers (SWE), National Society of Black Engineers (NSBE) and many others. Student organizations help you build leadership, communication and networking skills. Members of student organizations receive career guidance from engineering professionals and participate in activities that promote engineering. IEEE events include the Region 5 Robotics Competition and the annual IEEE Chili Cook-Off.

Learn more at www.ece.uh.edu/people/students

FOR MORE INFORMATION

UH Department of Electrical and Computer Engineering: www.ece.uh.edu
Undergraduate Program:
www.ece.uh.edu/undergraduate/general-information
Email: azabaneh@central.uh.edu

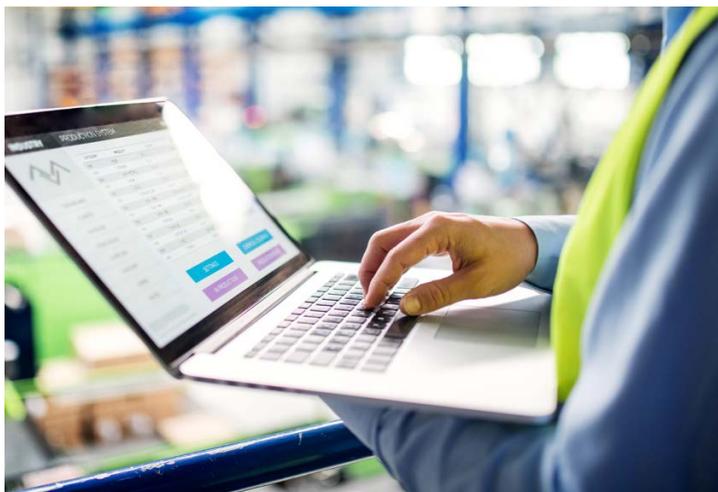
UH Department of Electrical and Computer Engineering
Engineering Building 1 | 4726 Calhoun Rd., Suite N308
Houston, Texas 77204-4005 | 713.743.4400



INDUSTRIAL ENGINEERING

WHAT IS INDUSTRIAL ENGINEERING?

Industrial engineers are optimization experts, focusing on the effective use of people, machines, materials, information and energy to improve processes for products and services. This unique engineering field includes the development of analytical methods and techniques that concentrate on higher productivity and better quality. Firms looking to develop more efficient processes hire industrial engineers to reduce costs and waste while increasing safety and efficiency.





CAREERS IN INDUSTRIAL ENGINEERING

Industrial engineers are trained to work virtually anywhere in industry to improve system performance. Specific industries include manufacturing, logistics and transportation, supply chain, energy, oil and gas, healthcare, retail, hotel chains, airlines, construction companies, banks, social services and government.

Examples of industrial engineering projects include:

- Making wait times shorter for rides at Walt Disney World to increase guest satisfaction
- Optimizing the nursing staff levels at a hospital to improve patient care
- Streamlining the manufacturing processes of automobiles to make cars more affordable
- Simplifying a supply chain for UPS so deliveries can be made more expediently
- Leading a team of engineers to design new equipment for NASA
- Improving the quality of your favorite candy bar at Hershey's to increase customer satisfaction
- Performing energy audits to enable more companies to go green
- Consulting and training people to use the latest technology to improve operations
- Designing safer and more ergonomic ways to work on the factory floor at a manufacturing plant

A 2020 salary survey produced by Payscale.com found that new industrial/manufacturing engineering graduates earned an average starting salary of \$60,887.

WHY EARN YOUR INDUSTRIAL ENGINEERING DEGREE AT THE UNIVERSITY OF HOUSTON?

ACADEMICS

The industrial engineering department at the University of Houston Cullen College of Engineering is highly-ranked, consisting of top-performing students and world-class faculty and researchers. Undergraduate students in the industrial engineering department are taught by professors who are actively conducting research in the areas of healthcare and medical decisionmaking, homeland and port security, energy, reliability and maintenance, logistics and transportation, supply chains and manufacturing. Additionally, undergraduate students are exposed to professional and research opportunities throughout their education. Houston is home to the second-most Fortune 500 headquarters of all major U.S. cities. This means that, just minutes down the road, your new career beckons! The department recently launched the first BSIE/MBA joint degree, providing IE students the opportunity to get their industrial engineering bachelor's as well as a master of business administration while saving 24 credit hours of course work.

Learn more at www.ie.uh.edu/undergraduate-program/overview



RESEARCH

The industrial engineering department at the University of Houston Cullen College of Engineering places a huge emphasis on undergraduate research, encouraging all undergraduate students to get involved with faculty-led research projects or Capstone design projects before they graduate. With an incredible array of industrial engineering research taking place inside of the engineering buildings, students have unique access to some of the world's most cutting-edge technological research and discoveries – so you have no excuse not to get involved!

Learn more at www.ie.uh.edu/research/overview

SCHOLARSHIPS

Industrial engineering students can apply for the Sam Scharff Scholarship, Melody Snider-Porter Scholarship, Durga and Sushila Agrawal Endowment, Brij and Sunita Agrawal Scholarship, Hari and Anjali Agrawal Scholarship, Charles E. Donaghey Scholarship, Victor Zaloom Scholarship, Scott T. Poage Matching Scholarship, Piping Technology Scholarship, and others. Merit-based scholarships are also awarded by the Cullen College of Engineering.

Scholarships are also offered by the University of Houston Office of Scholarships and Financial Aid. Additionally, the university's co-op program allows students to receive career training while financing their education.

Learn more at www.ie.uh.edu/undergraduate-program/scholarships

STUDENT ORGANIZATIONS

Students are encouraged to join academic and professional organizations to build leadership, communication and networking skills. Members of student organizations receive career guidance from engineering professionals and participate in activities that promote engineering.

Student organizations include Alpha Pi Mu, an industrial engineering national honor society and the Institute of Industrial Engineers (IIE).

Learn more at www.ie.uh.edu/people/student-organizations

FOR MORE INFORMATION

UH Department of Industrial Engineering: www.ie.uh.edu

Undergraduate Program: www.ie.uh.edu/undergraduate-program/overview

Email: rwsitton@Central.UH.EDU

UH Department of Industrial Engineering | Engineering Building 2
4722 Calhoun Rd., Suite E206 | Houston, Texas 77204-4008 | 713.743.4180



ME 

MECHANICAL ENGINEERING

WHAT IS MECHANICAL ENGINEERING?

Mechanical engineers are the jack-of-all-trades within the engineering profession. Just about everything you can think of involves a mechanical process, and anything with a mechanical process is the business of a mechanical engineer. These engineers work in nearly every industry you can imagine, addressing problems in such areas as energy conversion, aerospace, design of mechanical components and systems, man and machine environments, product reliability and safety, polymers, materials, and instrumentation and control of processes.

CAREERS IN MECHANICAL ENGINEERING

Career opportunities in mechanical engineering are excellent – especially in the city of Houston, the Energy Capital of the World. A 2020 salary survey produced by Payscale.com found that new mechanical engineering graduates earned an average starting salary of \$62,541. The American Society of Mechanical Engineers (ASME) reports median mid-career salaries for mechanical engineers as \$145,000.





WHY EARN YOUR MECHANICAL ENGINEERING DEGREE AT THE UNIVERSITY OF HOUSTON?

ACADEMICS

The mechanical engineering department at the University of Houston Cullen College of Engineering is top-ranked, attracting the highest quality and hardest working students, faculty members and researchers. Undergraduate students in the mechanical engineering department are taught to connect the dots between classroom lessons and their real-world applications through project-based learning, hands-on laboratory research, Capstone design projects and seminars led by industry professionals. The department's curriculum provides students with the opportunity to learn how to think creatively and logically, and how to use new-found knowledge to address complex problems. Throughout the curriculum, but particularly in the three-course design sequence, students are challenged with creative design problems. To solve these problems, students use skills learned from classes in mechanics of materials, experimental methods, engineering analysis, controls, materials science, thermodynamics, fluid mechanics and heat transfer.

Learn more at www.me.uh.edu/undergraduate/overview



RESEARCH

The mechanical engineering department at the University of Houston Cullen College of Engineering places great emphasis on undergraduate research, encouraging all undergraduate students to get involved with faculty-led research projects or Capstone design projects before they graduate. Mechanical engineering faculty members are incredibly active and productive researchers, focusing on research projects that are motivated by the challenges of the 21st century and grounded in the fundamentals of the mechanical sciences. With so many exciting research opportunities in the mechanical engineering department – touching on areas including applied mechanics, controls and dynamical systems, biomedical engineering, design of mechanical systems, materials engineering, and thermal and fluid sciences – students are guaranteed to get hands-on research experience before they graduate!

Learn more at www.me.uh.edu/research/overview

SCHOLARSHIPS

Scholarships are offered through the mechanical engineering department for qualified, top-performing students. Merit-based scholarships are also awarded by the Cullen College of Engineering.

Additional scholarships are offered by the University of Houston Office of Scholarships and Financial Aid. Also, the university's co-op program allows students to receive career training while financing their education.

Learn more at www.me.uh.edu/undergraduate-program/scholarships

STUDENT ORGANIZATIONS

Students are encouraged to join academic and professional organizations to build leadership, communication and networking skills. Members of student organizations receive career guidance from engineering professionals and participate in activities that promote engineering.

The UH chapter of the American Society of Mechanical Engineers (ASME) is a highly active organization, promoting teamwork and collaboration throughout the duration of a student's academic career. Several events are held annually for students to gain knowledge and meet professional contacts and colleagues.

Learn more at www.me.uh.edu/undergraduate/student-organization

FOR MORE INFORMATION

UH Department of Mechanical Engineering: www.me.uh.edu
Undergraduate Program: www.me.uh.edu/undergraduate/overview
Email: cedwards4@uh.edu

UH Department of Mechanical Engineering | Engineering Building 1
4726 Calhoun Rd., Suite N207 | Houston, Texas 77204-4006 | 713.743.4500



PETROLEUM ENGINEERING

WHAT IS PETROLEUM ENGINEERING?

Global economies would collapse without it. Life as we know it would cease to exist without oil and gas, and petroleum engineers are the only ones who know how to extract it safely and efficiently from the earth. They solve the most critical and pressing global energy challenges facing humanity, including how to meet increasing global demand for energy while ensuring the safety and cleanliness of our environment.

Projections from the United States Energy Information Administration predict a substantial increase in demand for energy of all types over the next 30 years. They predict that oil and natural gas will constitute about 50 percent of the total energy supply throughout that period. They also predict that, unless significant improvements in technology are discovered, the increased demand for energy will result in increased atmospheric carbon dioxide concentrations. However, new technologies and practices in directional and horizontal drilling, as well as hydraulic fracturing, have opened vast, new domestic natural gas production capabilities which offer the prospect of an ample supply of low-carbon energy for the next century or more in the U.S.



CAREERS IN PETROLEUM ENGINEERING

Career opportunities for petroleum engineers are fantastic, especially in the city of Houston, the Energy Capital of the World. Employment opportunities are widely available with the major integrated international energy companies and service providers, or the many intermediate and independent oil and gas producers, drilling companies, special equipment companies and industry support companies. Employment can be domestic or international, onshore or offshore, and can involve the most sophisticated intelligent systems and technologies. Early on, it can involve specific technical and operational assignments, and later, engineering and business leadership positions. Petroleum engineers with appropriate experience and knowledge often start their own oil and gas companies.

A 2020 salary survey produced by Payscale.com found that new petroleum engineering graduates earned an average starting salary of \$84,016.

WHY EARN YOUR PETROLEUM ENGINEERING DEGREE AT THE UNIVERSITY OF HOUSTON?

ACADEMICS

The vision for the UH Cullen College of Engineering's petroleum engineering department is to be the center of world-class petroleum engineering education, research and service in the city of Houston, the center of the world's petroleum industry. Petroleum engineering undergraduate students are taught by leading researchers and industry professionals. Students are prepared to address the challenges of the world's energy needs responsibly, to exceed the evolving expectations of employers in the petroleum and energy industries, to sustain industry leading skills and to be leaders in industry, academia and government.

Learn more at www.petro.uh.edu/undergraduate/overview

INTERNSHIPS

Almost half of Houston's economy is driven by energy, with more than 3,600 energy-related companies based in Houston. All of the major oil and gas companies have operations in Houston, and the region boasts almost 40,000 jobs just in oil and gas extraction, representing one-third of such positions worldwide! The petroleum engineering department at UH is located just a few miles down the road from the world's leading energy companies, so you are expected to hold internships in some of the world's most prestigious offices while working to obtain your bachelor's degree in petroleum engineering.

Internships can be summer-based or can involve 10-20 hours per week throughout the year while taking classes, which is difficult at universities that aren't located in the city of Houston. Interns receive compensation and valuable experience in real petroleum engineering assignments, enhancing the opportunity for direct hire upon graduation.

Learn more at www.petro.uh.edu/undergraduate/internships



RESEARCH

At the University of Houston Cullen College of Engineering, there's no shortage of research for petroleum engineering students. The University of Houston is home to some of the world's most advanced energy research in areas such as sustainability, alternatives, grid power, solar energy, wind energy and superconductivity. Moreover, the university has a 74-acre campus, called Energy Research Park, dedicated solely to bringing industry and academia together to conduct energy research in clean engines and fuels, wind energy, superconductivity and petroleum engineering. All undergraduate students in engineering are strongly encouraged to get hands-on research experience in one of the many faculty research groups, labs or centers on campus while they are pursuing their degrees.

Learn more at www.petro.uh.edu/undergraduate/research_resources

SCHOLARSHIPS

Departmental scholarships are offered through the petroleum engineering program for qualified, top-performing students. Merit-based scholarships are also awarded by the Cullen College of Engineering.

Additional scholarships are offered by the University of Houston Office of Scholarships and Financial Aid. Also, the university's co-op program allows students to receive career training while financing their education.

Learn more at www.petro.uh.edu/undergraduate/scholarship

STUDENT ORGANIZATIONS

Students are encouraged to join academic and professional organizations to build leadership, communication and networking skills. Members of student organizations receive career guidance from engineering professionals and participate in activities that promote engineering.

Petroleum engineering organizations include the Society of Petroleum Engineers (SPE) and the American Association of Drilling Engineers (AADE).

Learn more at www.petro.uh.edu/people/student-organizations

FOR MORE INFORMATION

UH Department of Petroleum Engineering: www.petro.uh.edu

Undergraduate Program: www.petro.uh.edu/undergraduate/overview

Email: mastrum@uh.edu or tajohnson@uh.edu

UH Petroleum Engineering | UH Energy Research Park
5000 Gulf Fwy, Bldg. 9 Rm. 219 | Houston, Texas 77204-0945

FINANCIAL AID

The University of Houston offers several different kinds of financial assistance, ranging from scholarships that are awarded on the basis of academic merit to loans awarded on the basis of financial need. A typical financial aid package includes more than one type of aid.



WHAT TYPES OF FINANCIAL AID ARE AVAILABLE?

SCHOLARSHIPS

Merit-based awards that you do not have to repay.

GRANTS

Need-based awards that you do not have to repay.

LOANS

Need-based, federally funded loans that you repay at below-market interest rates, plus private bank loans if you don't qualify for federal loans.

WORK-STUDY

Need-based job placements on campus.

FINANCIAL INCENTIVES

Financial incentives are special programs available at the University of Houston that help students balance course hours and the cost of tuition over time while still encouraging them to make the most of their educational experience.

SUMMER AID

Available if you are enrolled at least half-time and have remaining aid that was NOT used during the fall and spring semesters.

SPRING AID

Available if you are enrolled at least half-time and have remaining aid that was NOT used during the fall semester.

Visit uh.edu/typesofaid for more information on financing your education.

Please note that all students receiving financial aid will need to apply and be approved on an annual basis to receive financial assistance. In order to be eligible for federal funding, you must be a fully admitted degree-seeking student.



FINANCING YOUR EDUCATION

ESTIMATED ANNUAL COSTS

To learn more about tuition and fees, check out UH's academic tuition calculator online at:

www.uh.edu/financial/graduate/tuition-fees/

FINANCIAL AID

To apply for federal financial aid, file the Free Application for Federal Student Aid (FAFSA) at fafsa.gov (school code: 003652). Check online for the priority submission deadline. Our helpful and knowledgeable financial aid staff can help you pursue these options:

- Grants
- Work-study and on-campus student jobs
- Loans (student and parent)

Visit uh.edu/typesofaid for more information on financing your education.



UHin4

UHin4 provides a comprehensive plan for on-time graduation in four years for incoming freshmen and select transfer students. You'll receive academic maps and be offered fixed tuition rates to help you achieve your academic goals.

Read more about this program at uh.edu/provost/UHin4



SCHOLARSHIPS

As a new student, tuition numbers can be scary. But with a wide array of scholarship and financial aid opportunities available at UH, college can truly become affordable.

The University of Houston and the Cullen College of Engineering offer many scholarship opportunities, and encourage you to also explore outside scholarship options on websites like FastWeb (www.fastweb.com), StudentScholarships.org, Collegeboard (www.collegeboard.org), Hispanic College Fund (hsf.net/en/scholarships), The National Data Base Scholarships (www.free-4u.com) and US College Scholarships and Grants (www.scholarshipsandgrants.us).

Learn more and apply for scholarships at www.uh.edu/financial/undergraduate/types-aid/scholarships

CULLEN COLLEGE OF ENGINEERING SCHOLARSHIPS

After two semesters of classes at UH, Cullen College students may apply for college-specific scholarships from the Dean's Office. These scholarships are competitive and generally require a cumulative and major GPA of 3.0. In addition, several endowments support scholarship awards for currently enrolled Cullen College students annually.

The Cullen College also offers department-specific scholarships, as well as scholarships supported by the Engineering Alumni Association and Society of Iranian American Women for Education. New scholarships are also offered throughout the year.

UNDERGRADUATE RESEARCH SCHOLARSHIPS

The University of Houston encourages undergraduates to participate in research with a faculty mentor. In addition to programs offered through various departments and colleges, two programs currently award a stipend for qualified students from all majors to engage in a mentored research experience.



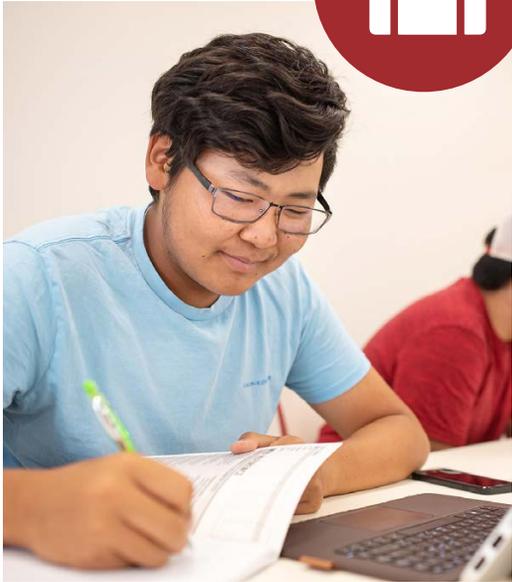
STATE-FUNDED SCHOLARSHIPS

The state of Texas provides funding for multiple scholarships available to outstanding students attending Texas colleges and universities. Some of the scholarships will require students to maintain a certain GPA or be part of a specific degree program. Additionally, most of the scholarships require the student to be a Texas resident.

UNIVERSITY-FUNDED SCHOLARSHIPS

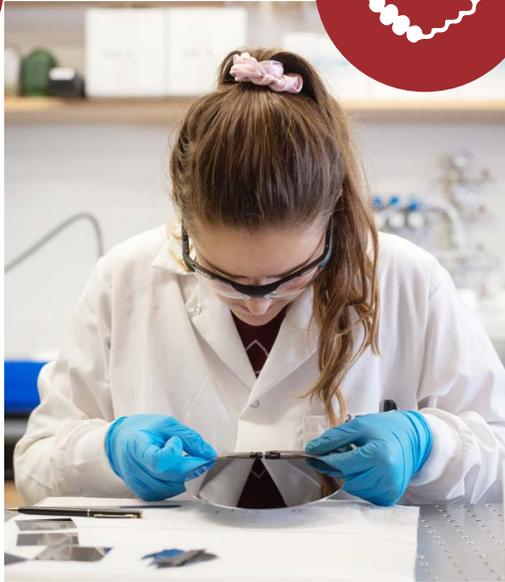
The University funds several scholarships for incoming freshmen with awards ranging from \$500 to \$8,500 per year. Scholarship recipients are selected on the basis of academic credentials as measured by high school performance and standardized test scores. Award criteria vary from one scholarship to another.

The award amount and length may vary based on merit, financial need, continued academic performance and major. Funds availability is limited. Students are strongly encouraged to complete the application process early.



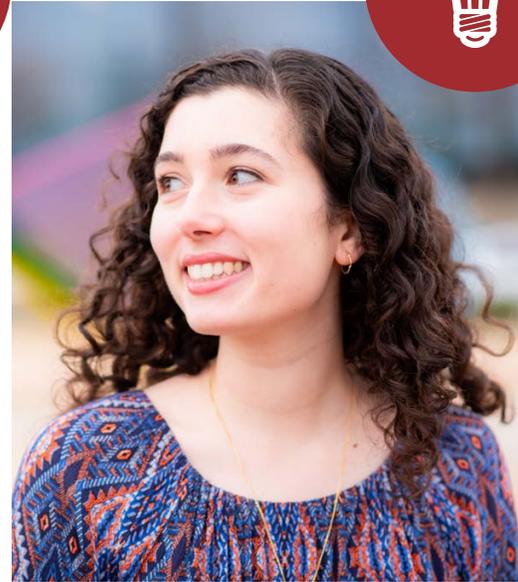
UNIVERSITY ENDOWED SCHOLARSHIPS

University endowed scholarships are available on an annual basis based on collaborations between UH and outside donors, which can vary from private donors to companies like NASA, CenterPoint, Reliant Energy and the Houston Office Leasing Brokers Association. Scholarship opportunities can change every year, and many are designed for students interested in particular areas like energy or aerospace – perfect for engineering majors!



PRIVATELY FUNDED SCHOLARSHIPS

Each year, a number of foundations, corporations and individuals provide funding for UH scholarships. Some of these privately funded scholarships are designed to support students in a particular discipline or from a specific heritage or geographic region; others are open to students of any major or background. Offerings change often according to availability of funds and the time of the school year.



OUT-OF-STATE STUDENTS

Want to pay in-state tuition – but you live out-of-state? You may qualify for an out-of-state tuition waiver if you are a:

- Nonresident of the state of Texas AND
- Recipient of eligible UH or individual college scholarships totaling more than \$1,000 annually

The waiver allows you to pay tuition at the same rate as a Texas resident – a savings of thousands per semester. Waivers are limited, so we encourage you to apply as early as possible.

NOTE:

State law requires that each student identify any relation to a current University of Houston Board of Regent member. A student who is related to a current member of the governing board of that institution is prohibited from receiving scholarships unless the scholarship is awarded exclusively based on academic merit or is an athletic scholarship.

FRESHMAN REQUIREMENTS



THE APPLICATION.

You must apply online using the ApplyTexas Application (www.applytexas.org).

THE \$75 APPLICATION FEE.

Submit your application fee by credit card on the ApplyTexas website or mail a check or money order to the Office of Admissions.

YOUR HIGH SCHOOL TRANSCRIPT.

We need your official transcript with your class rank, so ask your high school registrar to send it (electronically or in a sealed envelope) to UH. Fax and photocopies are not accepted.

YOUR TEST SCORES.

Official SAT or ACT scores should be sent directly to UH from the testing agency. SAT and ACT policy allows students to send test scores to several colleges. Scores can also be sent through The College Board (www.collegeboard.org; code 6870) or ACT (www.act.org; code 4236).

Please note that your official test scores must have been taken within the last five years.

Please visit uh.edu/admissions/apply for more information about freshman, transfer and international admissions.

MINIMUM TEST SCORES

CLASS RANK	ORIGINAL SAT (PRIOR TO MARCH 2016)	OR	REDESIGNED SAT (SINCE MARCH 2016)	OR	ACT COMPOSITE AND ACT ENGLISH
	Minimum SAT Score Total (Critical Reading and Math)/ Minimum SAT Critical Reading (CR) Section (200 — 800)		Minimum SAT Score Total/ Minimum SAT Evidence-Based Reading and Writing (ERW)		
Top 25%	1200 and 570		1270/630		26 and 24
26 — 50%	1260 and 570		1320/630		28 and 24
51 — 75%	1340 and 570		1400/630		30 and 24
All Others	1370 and 570		1420/630		31 and 24

RECOMMENDED HIGH SCHOOL COURSES FOR ENGINEERING MAJORS:

ENGLISH: 4 **SOCIAL STUDIES: 3**
CHEMISTRY: 1 **PHYSICS: 1**
MATHEMATICS: 4 (including 2 credits in algebra, 1 in geometry and ½ in either elementary analysis or analytical geometry)

**Mechanical Engineering Students Only: Course in mechanical drawing/drafting in the 10th, 11th or 12th grade. A deficiency in this area may be made up during the first year at the University of Houston.*

ADMISSIONS REQUIREMENTS FOR THE HONORS COLLEGE

To complete your Honors College application:

- Check the Honors box on the ApplyTexas (www.applytexas.org) application OR complete the online application at The-HonorsCollege.com
- Email your academic essay sample to honors@uh.edu
- Email your list of interests and activities to honors@uh.edu

Honors uses the transcripts and test scores submitted with your UH application for admission decisions. **Learn more about how to apply to the Honors College at www.uh.edu/honors/students/prospective-students/honors-admissions**

DID YOU KNOW?

Students pursuing an Associate of Science in Engineering Science degree at Houston Community College, San Jacinto College or Lone Star College who meet UH Engineering's admission requirements have a seamless transfer option into UH! Learn more at www.egr.uh.edu/academics/community-college-programs

REQUIREMENTS FOR TRANSFER, INTERNATIONAL AND FORMER STUDENTS

Some students, like transfer students, international students and former UH students applying for readmission will be required to submit additional information in addition to the application and application fee. **To learn more about all admissions processes at UH, visit www.uh.edu/admissions/apply**

Transfer students

Please visit www.uh.edu/admissions/apply/apply-transfer to learn more about transfer student admissions.

International students

Please visit www.uh.edu/admissions/apply/international to learn more about international student admissions.

TRANSFER REQUIREMENTS	REQUIRED GPA
All college-level work attempted	3.25
All calculus courses and math courses with calculus prerequisites attempted	3.0
All college level science courses* required by any engineering major attempted	3.0
All college-level English courses attempted	2.5
All college-level engineering courses attempted	3.0

** Biology 1361/1161 and 1362/1162, Chemistry 1331/1111, 1332/1112, 1372/1117, 3221, 3331, and 3332, Geology 1330/1130, Physics 1321/1121 and 1322/1122.*

FRESHMAN STUDENT CHECKLIST

BEFORE YOU APPLY:

1. Schedule a campus visit, attend one of our special events for prospective students, or simply get in touch with us! Learn more at www.egr.uh.edu/students or www.uh.edu/campusvisits
2. Research available engineering majors at www.egr.uh.edu/academics/undergraduate-programs
3. Check admissions requirements and deadlines. Speak with a freshman admissions counselor if you have any questions. Locate your counselor at www.uh.edu/freshmancounselor

ONCE ADMITTED:

1. If you haven't already started the financial aid process, complete the FAFSA. (See "Financing Your Education" on page 47 for more information!)
2. All new students are required to attend a New Student Orientation (NSO). Sign up for your NSO through your myUH portal.



YOU'RE IN! NOW WHAT?

COMING TO COLLEGE IS A BIG CHANGE.

You'll fill out a lot of paperwork, make a lot of choices and face a lot of questions. Since it can be an overwhelming transition, we've created a checklist to help you bridge the gap between high school and college – in style!



COMFY SNEAKERS

The engineering curriculum at UH can be rigorous at times. Did you know a great way to blow off steam, reduce stress and increase focus is cardiovascular activity? Cardio increases blood flow, releases endorphins and promotes heart health. As a student at UH, you'll be granted full use of the Campus Recreation and Wellness Center, so go sweat your stress away!

A LAPTOP

Technology is present in every aspect of our lives. Having a reliable laptop will not only come in handy in classes and with homework, but social media can keep you connected to your friends and family, whether they're across campus or across the world. (However, if you don't have the money to invest in a high-powered laptop, it's not the end of the world! Laptop computers can be checked out of the M.D. Anderson Library whenever you need one!)

AN IMAGINATION

Part of being a great engineer is being open to new concepts, techniques and processes. To keep improving our world, a good engineer will constantly be imagining, "What if?"

A SMILE

At the Cullen College, we work hard, but we play hard, too! Throughout the year we host several parties, like the Beginning of Semester (BOS) party, the IEEE Chili Cook-off and several department banquets, galas and mixers. Bring your smile (and your appetite) and have a blast!

A GREAT TRANSLATOR APP

Did you know UH is one of the most diverse college campuses in the country? In the Cullen College alone, we have professors and students from all over the world! Surprise them by saying "hi" in their native language – you never know what friends you might make!

A GREAT PILLOW

If you're living on campus, you'll be surrounded by excitement 24/7, but you'll need to remember to catch some zzz's! According to the National Institutes of Health, the average adult needs 7 to 8 hours of sleep a night. Any less and you may not be functioning at your best, and trust us, you'll need all your brainpower to ace your engineering courses!

AN INSPIRATION

Engineers are changing the world every day. What drives you to join this elite group of builders, makers and scientists? Is it a famous engineer? A family member? A feat of science? Find what inspires you and remember it. It will help you power through your classes and find a way to make your mark on the world.



UNIVERSITY OF HOUSTON



About **6,000 STUDENTS** live on campus in residence halls, apartments and townhouses.



UH is a designated **TIER ONE RESEARCH INSTITUTION** by the Carnegie Foundation for the Advancement of Teaching.



581 student organizations to join.



40 research centers on campus.



Over **120** undergraduate majors and minors.



2ND MOST ETHNICALLY DIVERSE UNIVERSITY in the U.S. with students from 127 countries.



Over **2,500 ON-CAMPUS JOBS** and internships available annually.



One of the most **ENVIRONMENTALLY RESPONSIBLE** universities in the nation (*Princeton Review*).



Wear red for **COUGAR RED FRIDAYS!**



Brand new, state-of-the art **TDECU FOOTBALL STADIUM.**



FRONTIER FIESTA is a campus-wide carnival held every spring with live music, booths and a BBQ cook-off.



There is a **HEALTH CENTER** located on campus where students, faculty and staff can go for medical attention on a walk-in basis.



The **CAMPUS RECREATION AND WELLNESS CENTER** has a lounge area, rock wall, indoor and outdoor pools, and various courts and fields in addition to standard gym and fitness equipment.



HOUSTON has an NFL football team, NBA basketball team, MLB baseball team, MLS soccer team and NWSL soccer team



The annual **HOUSTON LIVESTOCK SHOW AND RODEO** attracts more than 2 million visitors each spring.



Over **6 MILLION** people live in the greater Houston metro area.



Houston is home to a **17-BLOCK THEATER DISTRICT** with eight performing arts organizations and over 12,000 seats. Only New York City has more seats concentrated in one geographic area!



More than **90 LANGUAGES** are spoken throughout the Houston area.



If Houston were an independent nation, it would rank as the world's

30TH LARGEST ECONOMY.



Houston's **MUSEUM DISTRICT** offers a range of museums, galleries, and art and cultural institutions.



The **PORT OF HOUSTON** ranks 1st in the United States in international waterborne tonnage handled and 2nd in total cargo tonnage handled.



Houston is known as the **"ENERGY CAPITAL OF THE WORLD,"** and is home to more than 5,000 energy-related firms.



The **TEXAS MEDICAL CENTER**, located near downtown Houston, is the world's largest medical center.

FORTUNE

500

Houston is home to the

2ND MOST FORTUNE 500 COMPANIES of all major U.S. cities.





HOUSTON

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