



THE UNIVERSITY OF ARIZONA
College of Engineering



BEAR DOWN TO SOLVE BIG PROBLEMS

Join the University of Arizona's best and brightest in the College of Engineering. Collaborate with renowned faculty and industry experts to tackle some of the most pressing global challenges – in health care, renewable energy, autonomous vehicles and cybersecurity, for example. Whether you dream of designing smart buildings or traveling to the vast corners of outer space, a UA Engineering degree can take you there.

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16 UNDERGRADUATE MAJORS TO EXPLORE

AEROSPACE ENGINEERING

Take flight and space exploration to new levels.

Develop technologies for companies such as Raytheon, Honeywell, Boeing, Lockheed Martin and General Dynamics. Immerse yourself in thermodynamics, fluid mechanics, solid mechanics, aerodynamics, gas dynamics and control system design. Test your designs in supersonic wind tunnels!

ame.engineering.arizona.edu



ARCHITECTURAL ENGINEERING

Build the bridge between architects, engineers and contractors.

Expand your options in the construction industry. Draw from civil, electrical and mechanical engineering principles. Learn to plan, design and manage construction of safe, economic, sustainable and resilient buildings – from structural integrity to efficient heating and cooling.

caem.engineering.arizona.edu

BIOMEDICAL ENGINEERING

Help change the practice of medicine, and improve health care.

Use your skills in engineering, biology and medicine to create technologies and methods ranging from advanced imaging and prosthetics to gene testing and drug therapies. This approved pre-med program includes options in biomaterials, biomechanics, and biosensors and microtechnologies.

bme.engineering.arizona.edu

BIOSYSTEMS ENGINEERING

Lead the charge to a sustainable future, on Earth and beyond.

Integrate engineering, mathematics and biology to design soil and water resource management systems and biomedical and biological technologies. Focus on intentional use of energy, materials, biochemicals and recyclables. Choose water resource engineering or biological engineering.

be.arizona.edu



CHEMICAL ENGINEERING

Discover ways to better the human condition – safely and economically.

Improve processes, materials and technologies for manufacturing consumer products; producing food and pharmaceuticals; and providing clean water, air and fuels. Build skills that are highly demanded by many industries. Or, embark on your journey to graduate studies or medical school.

chee.engineering.arizona.edu

CIVIL ENGINEERING

Build infrastructure to withstand the forces of nature and humankind.

From earthquake-proof construction to improved traffic flow, help bolster modern society. Engineering focus areas include environmental, geotechnical, hydraulic, structural, transportation and heavy construction management – all with underpinnings of sustainability and resiliency.

caem.engineering.arizona.edu

ELECTRICAL & COMPUTER ENGINEERING

Create technology to make life healthier, safer and more mobile.

Work at the heart of some of the most rapidly developing technology humankind has ever seen. Gain a solid foundation to advance smart grids, driverless cars, robots, cybersecurity, quantum computing and communications, remote disease diagnostics and mobile health care, for example.

ece.engineering.arizona.edu

ENGINEERING MANAGEMENT

Combine your love of engineering and business.

Study all things business while also focusing on one of the college's other majors. Position yourself for a career in quality engineering, technical sales and marketing, project and construction management, or reliability engineering. Or, prepare to start your own high-tech firm.

sie.engineering.arizona.edu

“ That’s what I love about this college: We don’t have to declare a major until our sophomore year. It allows us to find what engineering discipline really fits. ”

SARAH H., second-year student

ENVIRONMENTAL ENGINEERING

Protect, clean up, recycle and reuse the world's natural resources.

Develop ways to prevent pollution and rid soil and groundwater of hazardous materials. Create technologies for water purification, wastewater treatment, air pollution control, and recovery of resources and energy from waste.

Prepare for a career in industry or with a public agency.

chee.engineering.arizona.edu

INDUSTRIAL ENGINEERING

Devise effective processes for an increasingly smart world.

From making smartphones to streamlining hospital operations and shortening lines for roller coaster rides, efficiency is key in industry. Take courses in operations research, production analysis, information management, embedded computer systems, and human factors and ergonomics.

sie.engineering.arizona.edu

MATERIALS SCIENCE & ENGINEERING

Work at atomic and molecular levels to achieve globally significant results.

Become an expert in materials properties, failure analysis, manufacturing techniques and quality assurance. Use glass, ceramics, plastics, polymers, composites and metals to create devices and systems essential for solar energy production, information technology and medicine.

mse.engineering.arizona.edu

MECHANICAL ENGINEERING

Design, test, build and maintain almost anything that moves.

Use your math skills, computational tools and the laws of physics to work on vehicle parts, biomedical devices and solar energy systems. In this broad academic discipline, study solid and fluid mechanics, thermal sciences, dynamics and controls, nanotechnology, and mechanical design.

ame.engineering.arizona.edu





MINING ENGINEERING

Put on your hard hat and head down into the UA's San Xavier mine.

Drill deep into your interests with focus areas in mine operations, geomechanics, sustainable resource development and mineral processing. Take advantage of a lab experience like none other – the only student-run, multilevel mine in the United States with a working vertical shaft.

mge.engineering.arizona.edu

OPTICAL SCIENCES & ENGINEERING

Produce lenses, microscopes, telescopes, lasers and fiber optics.

Work on projects like the Giant Magellan Telescope and OSIRIS-REx, an uncrewed space probe that will land on an asteroid and return to Earth with a sample. Four focus areas – optics, optoelectronics, optical materials and optomechanics – are geared to industry needs and grad school.

www.optics.arizona.edu

SOFTWARE ENGINEERING

Prepare for some of the world's top technology jobs.

Software engineers build the technological infrastructure for our increasingly connected world. Learn to solve complex engineering problems throughout the software development lifecycle, and apply your skills to areas including automation, big data and space exploration.

ece.engineering.arizona.edu

sie.engineering.arizona.edu

SYSTEMS ENGINEERING

Use your imagination – from concept to production to operation.

Design and manage complex systems involving machines, people, software, hardware, materials and energy. Improve health care, transportation, environmental, defense and space systems. Among course topics are probability and statistics, system theory, decision analysis, and simulation.

sie.engineering.arizona.edu

ENGINEERING YOUR SUCCESS

› engineering.arizona.edu/study

While earning an engineering degree is a rigorous undertaking, resources abound to help you stay on track. For example, consistently attending math study groups helps undergraduates improve their grades. And taking part in faculty office hours positions students to obtain letters of recommendation and secure research roles. Taking advantage of opportunities provided by the College of Engineering is key to success in your major and beyond.

ACADEMIC SUPPORT & SERVICES

- Weekly math study groups
- Test reviews
- Study-a-thons
- Individualized advising
- Course registration labs
- Academic skills workshops
- Peer tutoring
- Supplemental instruction



JOIN THE CLUB

► engineering.arizona.edu/clubs

Engineering Wildcats are highly successful inside and outside the classroom. The College of Engineering's 40+ clubs and organizations provide opportunities for you to delve deeper into your interests, build camaraderie with classmates, create and compete, gain leadership and practical skills, and connect with professionals.

3D for Everyone	Material Advantage
Alpha Epsilon, <i>Eta Beta Chapter</i>	Materials Research Society
American Institute of Aeronautics and Astronautics	Medical Device Club
American Institute of Chemical Engineers	National Society of Black Engineers
American Society for Engineering Education	Out in Science, Technology, Math and Engineering
American Society for Engineering Management	Phi Sigma Rho, <i>Alpha Kappa Chapter</i>
American Society of Civil Engineers	Rube Goldberg Club
American Society of Mechanical Engineers	Society for Advancement of Hispanics/Chicanos and Native Americans in Science
Arizona Autonomous Vehicle Club	Society of Asian Scientists and Engineers
Associated General Contractors	Society of Automotive Engineers
Autonomous Underwater Vehicle Club	Society of Hispanic Professional Engineers
Baja Racing Team	Society for Mining, Metallurgy & Exploration
Biomedical Engineering Society	Society of Women Engineers
Biosystems Engineering Club	Student Optics Chapter
Design-Build Institute of America	Students for the Exploration and Development of Space
Engineering Student Council	Tau Beta Pi – <i>Engineering Honor Society</i>
Engineers for a Sustainable World	Theme Park Entertainment Group (CoasterCats)
Engineers Without Borders	Theta Tau, <i>Chi Chapter</i>
Eta Kappa Nu, <i>Iota Xi Chapter</i>	Wildcat Formula Racing
Hardware and Computing Knowledge Society	Wildcat Rocket Engineering Club
Homebrewers of Arizona	Women in Engineering Programming Board
Institute of Electrical and Electronics Engineers	Women in Information and Computer Science
Institute of Industrial & Systems Engineers/ International Council on Systems Engineering	Women in Mining
Institute of Transportation Engineers	Women in Optics
Keramos National Professional Ceramic Engineering Fraternity – <i>UArizona Chapter</i>	

OPEN DOORS WITH INTERNSHIPS & RESEARCH

Practical experience through internships, co-ops and research helps undergraduates build resumes for job searches and graduate school applications. The majority of Wildcat Engineers complete at least one industry internship, and many do vital research with faculty members.



MARCOS D., AEROSPACE ENGINEERING

INTERNSHIP: NASA Langley Research Center

During my summer at NASA, I worked on creating computer-aided design models for early prototype Mars landers. Not only did I have an absolute blast, but my internship gave me the skills and confidence to seek full-time positions. I applied through OSSI, a website dedicated to helping college students find NASA internships. Interning where countless astronauts and space pioneers have worked reinforced my interest in space exploration and reaffirmed that aerospace engineering at the UA was the right choice for me.

The experience at NASA impressed hiring managers and landed me interviews with companies like SpaceX, Raytheon, Orbital ATK and Lockheed Martin. All in all, the NASA internship was the fundamental starting point for my career and the focal point of the best summer I've ever had.



COURTNEY C., BIOMEDICAL ENGINEERING

RESEARCH: Sarver Heart Center

My undergraduate research project is under the guidance of one of my biomedical engineering professors, Dr. Marvin Slepian, at the Sarver Heart Center. I started this project my junior year after I reached out via email during the summer. It really is that easy to find a research position at the UA!

I am working on electrospinning soy with synthetic polymers to create a biodegradable bandage that will improve the healing process in wounds. This gauze could be incredibly important for people suffering from chronic wounds. The experience I am gaining is priceless. It has strengthened my plans to attend graduate school and provided the foundation for me to accomplish larger goals and tackle critical medical needs.



“Not only did I have an absolute blast,
but my internship gave me the skills and
confidence to seek full-time positions.”

MARCOS D.
recent grad, aerospace engineering

LIVE & LEARN ON CAMPUS

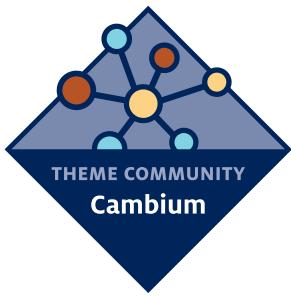
› housing.arizona.edu/theme-communities



ENGINEERING LEADERSHIP COMMUNITY

Yuma Hall

The Engineering Leadership Community, or ELC, serves as a home away from home for first-year Wildcat Engineers. Together, students living in the ELC attend classes, receive guidance from faculty, engage in social and leadership activities, and explore engineering professions. ELC residents are also paired with an experienced Wildcat Engineer to provide mentoring and assist with connections to campus resources. Yuma Hall is conveniently located in the historic heart of campus, near the Old Engineering Building and Student Union Memorial Center.



CAMBIVM: STEM SCHOLARS COMMUNITY

UA Honors Village

Cambium provides Honors College students in engineering and science with a tight-knit community focused on research. Students living in Cambium connect with like-minded peers, participate in a common course, interact with faculty mentors, and engage in social and academic activities. Cambium students are encouraged to participate in the Honors College First Year Project – displaying their faculty-supported research results at an annual showcase. The Honors Village, newly opened in fall 2019, is adjacent to a recreation and wellness center.





HONORS & ENGINEERING

› honors.arizona.edu

Many Wildcat Engineers also join the UA Honors College – a place where scholars come together around ideas and across disciplines. From unique course offerings to select study abroad experiences, honors engineers have access to a variety of benefits. Honors College admission requires a supplemental application.

HONORS ADVANTAGES

- Dedicated engineering support staff
- Undergraduate research connections
- Priority registration
- Exclusive residence halls and theme communities
- Social and academic programs
- Industry networking opportunities
- Honors distinction on degrees



DESIGN YOUR FUTURE

► icap.engineering.arizona.edu

All engineering students take design courses and complete design projects. That's one of the many reasons recruiters consider UA Engineering graduates work ready.

Teams of four to six seniors collaborate on industry or faculty projects in the fall and spring semesters as part of the Interdisciplinary Capstone Program. With dedicated budgets and the support of professional mentors, the teams plan, build and test tools and technologies in areas ranging from aerospace to electronics to energy to medicine.

The culmination of their efforts comes on Craig M. Berge Engineering Design Day, when students present their projects to industry judges and the public and compete for thousands of dollars in awards. Some projects result in patents, commercial products or full-time job offers.

2021 ENGINEERING DESIGN DAY



LAUNCH YOUR CAREER

UA Engineering degree programs aim to take you where you want to go – whether that's into graduate, law or medical school; an industry career; or an entrepreneurial endeavor. From resume creation in your first-year seminar to an industry-sponsored design project in your senior year, the college provides a multitude of ways for you to gain professional skills.

Additionally, the college encourages participation in a number of career-oriented happenings:



**INTERNSHIP READINESS
PROGRAM**



**EMPLOYER INTERVIEWS
ON CAMPUS**



**PROFESSIONAL SOCIETY
MEMBERSHIPS**



**INDUSTRY-HOSTED
RESUME REVIEWS**



**INDUSTRY
IMMERSION DAYS**



**ENGINEERING AND
DISCIPLINE-SPECIFIC JOB
FAIRS**

GET THE JOB AT IEXPO

► escuofa.com/iexpo

iExpo, managed by the UA Engineering Student Council, is the state's largest student-run engineering fair. For more than 25 years, current students and alumni have used this annual event to secure both internships and full-time employment.

“ At iExpo, it was easy to talk to a large number of companies in a smaller environment than the UA’s all-major career fair. ”

MAKENA S.
chemical engineering

INCOMING WILDCAT ENGINEERS



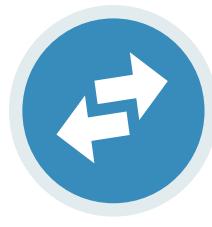
40%
STUDENTS OF COLOR



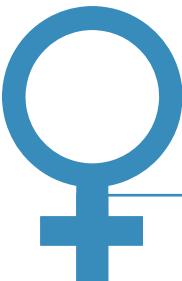
35%
HONORS
STUDENTS



625
FRESHMEN



125
TRANSFER STUDENTS



30%
WOMEN



40%
NON-ARIZONA
RESIDENTS

COLLEGE STATS



\$15.3 MILLION
TOTAL MERIT AID &
SCHOLARSHIPS RECEIVED
ANNUALLY



of the
HONORS COLLEGE
MAJORS IN ENGINEERING

INCOMING FRESHMEN AVERAGES



FUTURE
WILDCAT
ENGINEER

HIGH SCHOOL GPA

3.75

ACT SCORE

29

SAT SCORE

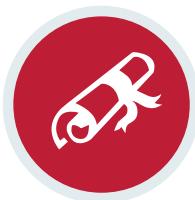
1340



150
TENURED & TENURE-TRACK
FACULTY



\$53 MILLION
ANNUAL RESEARCH
EXPENDITURES



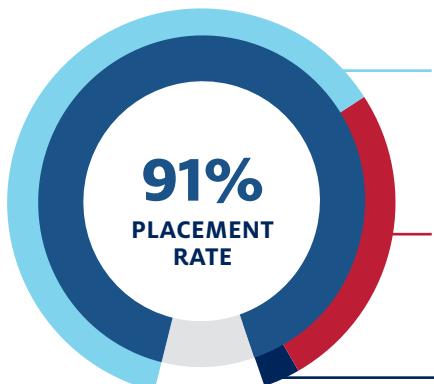
620
BACHELOR OF
SCIENCE DEGREES

GRADUATE OUTCOMES



\$69,961
AVG. NATIONAL
STARTING SALARY

NACE, 2020



62%
INDUSTRY

26%
HIGHER EDUCATION

3%
MILITARY

self-reported at time of graduation

APPLY TO THE UA COLLEGE OF ENGINEERING

› arizona.edu/apply

- APPLY TO THE UA ONLINE.** No additional application required. Simply select “Engineering (All Majors)” as your intended major and submit optional information, if desired.
- UNDERGO REVIEW.** UA Engineering staff review applications on an individual basis. In particular, the following are considered for admissibility: core unweighted GPA (3.0 minimum), math and science coursework, academic rigor, and optional information like personal statement and/or standardized test scores (not required).
- ADMIT TO ENGINEERING.** Qualifying new first-year students are admitted to “No Major Selected” for engineering. Students may select their specific major after at least one semester of coursework and exploration.
- RECEIVE A DECISION.** Students who are not directly admitted will be placed into their second-choice major. You may choose to reapply – with new, qualifying information – prior to the beginning of the academic year or after successfully completing a semester of related courses at the UA.

TRANSFER APPLICANTS

› engineering.arizona.edu/admissions

A UA transfer student is someone who has completed 12 or more post-high school credits at the time of application.

- APPLY TO THE UA ONLINE.** Complete the application as a transfer student, and select your specific engineering major. Submit all previous transcripts.
- UNDERGO REVIEW.** University of Arizona staff review transfer applicants for transferable GPA, math and science grades, and program fit. GPA requirements for each program mirror the requirements for current student advanced standing.
- RECEIVE A DECISION.** Once your application is processed, you will receive a decision regarding entry into your chosen major along with information on important next steps for getting started.



Before (or after) applying, plan a visit to make sure UA Engineering is the right place for you. Check out offerings at:

► engineering.arizona.edu/visit

ABOUT THE COVER

A 2021 Architectural Engineering graduate shows off her custom mortarboard at the spring commencement ceremony, held in partnership with the James C. Wyant College of Optical Sciences at the Arizona Stadium.

REACH OUT TO US!

The College of Engineering recruiting and admissions staff are here to help you through the admissions process, arranging campus visits and guiding your transition to the college.

Photo by Amee Hennig, Wyant College of Optical Sciences.

COLLEGE OF ENGINEERING ADMISSIONS



520.621.6032



engr-admissions@email.arizona.edu



engineering.arizona.edu

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