

College of Engineering

# MATERIALS SCIENCE AND ENGINEERING

## Small Particles, Big Solutions

New advances in today's technological world depend on materials science and engineering. These in-demand engineers work from the atomic level to devices, designing innovative new materials that serve as the essential building blocks for renewable energy production, transportation, space exploration, information technology, medicine and more.



### HANDS-ON KNOWLEDGE

University of Arizona materials science and engineering students don't just learn about materials in the classroom – they apply their knowledge to solve real-world problems. Students gain direct experience in the synthesis and application of new alloys for additive manufacturing, high-temperature ceramics for hypersonic vehicles, semiconductors for integrated circuits and solar energy, and new glasses for fiber optical and quantum communication. They work directly with faculty researchers creating new materials and advanced manufacturing processes for a safer, healthier, and more sustainable future.

### REWARDING CAREER PATHS

U.S. News & World Report ranks materials engineering among the top 10 highest-paying college majors, and the median salary is over \$98,000, according to the Bureau of Labor Statistics. Graduates' expertise makes them leaders in lucrative fields such as aerospace, energy, optics, biomedicine and semiconductor manufacturing.



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## EXCELLENCE IN EDUCATION & RESEARCH

University of Arizona materials science and engineering students work with renowned faculty in a ratio of 5:1. Modern research centers and labs further their work on some of the most pressing issues of today, such as:

- Materials for extreme conditions and hypersonic vehicles
- Materials and structures for microelectronics and optics
- Renewable energy generation and storage materials
- Planetary materials science and space manufacturing
- Integrated computational materials engineering and informatics
- 3D printing/additive manufacturing



“ There’s not really a company you can’t work for as a materials engineer. ”

*Alum Austin Grimm, Magma Foundry Technologies*

## LEARNING FROM EXPERIENCE

Outside the classroom, students participate in a variety of activities to build leadership skills and prepare for the workforce.

- Paid internships with longtime industry partners
- Formal networking opportunities with faculty, alumni and industry
- Senior design projects with experienced industry mentors
- Research opportunities and field experience
- Student chapters of professional organizations
- Student clubs, such as Material Advantage, and national competitions

## A PLACE FOR EVERYONE

Various engineering clubs – American Indian Science & Engineering Society; National Society of Black Engineers; Out in Science, Technology, Engineering, and Mathematics; Society of Hispanic Professional Engineers, and Society of Women Engineers, for example – help ensure all students feel welcome and connected.

“ Materials make the impossible possible. Every engineering project relies on a material with certain attributes to function properly. ”

*Sammy Tin, department head*



### Recruiting and Admissions

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### Advising

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