CAREERS IN SCIENCE, TECHNOLOGY, ENGINEERING, and MATH (STEM Fields)

Choose Your Adventure

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Associate Dean for Student Success, College of Science
Director, CoS Academic Engagement Center (CoSAEC)
So why choose a career in STEM?

STEM fields help save lives, preserve the environment and improve the way in which we live.

Do You Have What it Takes to Be in Science/Math?

- Do you enjoy coming up with creative ideas?
- Do you remain determined, even after experiencing failure?
- Are you curious about the world around you?
- Do you enjoy solving problems?
- Do you work well under stress?
- Are you detail oriented?
- Do you have the ability to work and think clearly and systematically?
- Do you work well as part of a team?
- Are you patient with work that proceeds slowly?
- Do you have an aptitude for math and science?
How Do I Create the Adventure?

- Understand the Fields
  - Look at the wide range of opportunities to students in STEM majors

- Understand Academic Degrees
  - Associate, Bachelor, Masters, Ph.D., Certifications

- Understand what your options are AFTER graduation
  - Where do people with a STEM major go for work – it’s BIGGER than you think

- Experience, Explore, Investigate
  - Internships, undergraduate research, volunteer, study abroad, networking, student organizations, professional associations

Understand Academic Degrees

- Associate, Bachelor, Masters, Ph.D., Certifications

associated_degree

Bachelor of Science or Bachelor of Arts

Masters

Ph.D.

Professional Schools

Certifications
What can you do with a degree from the College of Science?

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<th>HEALTHCARE</th>
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<th>SOIL SCIENCE</th>
<th>PLANNING and CONSERVATION</th>
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<td>Ground water, Surface water</td>
<td>Soil and water conservation</td>
<td>Natural resource management</td>
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<td>Soil, Air, Sediments</td>
<td>Land use planning</td>
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<td>Audit</td>
<td>Reclamation of contaminated lands</td>
<td>Building/zoning</td>
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<td>Compliance</td>
<td>Agrichemical management</td>
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<td>Sustainability</td>
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<td>Land use</td>
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<td>Recreation management</td>
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<td>Testing/ Analysis</td>
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<td>Park/Reserve management</td>
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CRIMINALISTICS
- Crime scene reconstruction & mapping
- Fingerprint examination
- Firearm & toolmark identification
- Trace evidence collection
- Fire and explosives investigation
- Trace evidence investigation
- DNA collection and testing
- Drug analysis, Photography
- Blood splatter, Wildlife forensics
- Computer evidence examination

TOXICOLOGY
- Ante-mortem investigation
- Post-mortem investigation
- Drug testing
- Human performance monitoring
- Animal performance monitoring
- Environmental contamination testing

QUESTIONED DOCUMENTS
- Examination/Analysis
- Comparison
- Authentication
- Dating
- Alteration detection
- Restoration

ODONTOLOGY

PATHOLOGY

FORENSIC ANTHROPOLOGY

FORENSIC PSYCHOLOGY

ENERGY
- Stratigraphy
- Sedimentology
- Structural geology
- Geophysics
- Geochemistry
- Economic geology
- Paleontology
- Fossil energy
- Hydrogeology

MINERALS
- Mining
- Engineering
- Mineralogy
- Geochemistry
- Sedimentology
- Crystallography
- Economic geology

ENVIRONMENTAL GEOLOGY
- Sedimentology
- Hydrogeology
- Shallow geophysics
- Coastal and marine geology
- Geochemistry
- Oceanography
- Environmental Geology

GEOLOGICAL MAPPING
- Structural geology
- Stratigraphy
- Remote sensing
- Geophysics

HAZARDS
- Engineering geology
- Seismology
- Volcanology
- Geomorphology
- Geological Engineering

PLANETARY SCIENCES
- Remote sensing
- Geomorphology
- Minerology
- Petrology
- Geochemistry
ASTRONOMY/ASTROPHYSICS
Research
Consulting
Writing
Public relations
Education

ENGINEERING PHYSICS
Research
Quality control
Development
Instrumentation
Consulting
Process/testing

BIOPHYSICS/CHEMICAL PHYSICS
Research
Development
Consulting
Administration

ODONTOLOGY
Post-mortem ID
Age estimation
Bite mark analysis
Dental malpractice

MEDICAL/HEALTH PHYSICS
Research
Development
Clinical Service
Monitoring
Enforcement

NUCLEAR PHYSICS
Research
Development
Consulting
Instrumentation

IMAGING AND PHOTOGRAPHY
Gaming/Slot Machines
Computational
Biology/Bioinformatics
Parallel Programming
Virtual Environments
Imaging and Visualization
Simulation Engineering
Actuarial Science
Medical Modeling Systems
Video Game Developers
Cryptography
Quality Control
Commercial Litigation

Research (theoretical, applied)
Engineering analysis
Operations research
Accounting
Finance
Computer systems
Analysis and control of processes
Optimization of resources
Scheduling of resources
Statistical analysis
What does the College of Science have to offer?

Excellence in Teaching

Dr. German Rosas-Acosta, Associate Professor of Biological Sciences, has received one of the highly recognized UT System Regents’ Outstanding Teaching Awards (ROTA) for tenured faculty.

Dr. Lawrence Lesser, Professor of Mathematical Sciences, has been named a “Piper Professor” by the Minnie Stevens Piper Foundation.

Dr. Jorge Lopez, Professor of Physics, has received one of the highly recognized UT System Regents’ Outstanding Teaching Awards (ROTA) for tenured faculty.
Undergraduate Research Opportunities

FYRIS
Freshmen Year Research Intensive Sequence

A program designed to provide freshmen with course-based undergraduate research experiences
Our Research Driven Courses are designed to integrate authentic research experiences into undergraduate coursework, fulfill the learning objectives of existing traditional lab or lecture courses and engage students in cutting-edge projects that generate data for the research agendas of the lead faculty who guide the courses.

http://buildingscholars.utep.edu/web/index.php/curriculum-development/research-driven-courses/college-of-science

Undergraduate Research Training Programs

BUILDing SCHOLARS Program
COURI MERITUS Program
RISE – Research Initiative to Research Careers Program
MARC – Minority Access to Research Careers Program
URM – Undergraduate Research Mentoring Program in Ecosystem Health
Medical Professions Institute

MPI advises and prepares students for medical, dental, optometry, pharmacy, physician assistant, physical therapy, and veterinary school. Students are supported academically, professionally, and personally to prepare for health professions.

The MPI provides students with the following opportunities:

- Group and individual pre-health profession advising
- Early admission programs to medical and dental schools
- University 1301 class “Preparing for a Career in the Med Professions
- Student Organizations
- Biology 4395 “Pre-Med Internship”
- Texas Medical School bus trip
- MCAT Preparation
- MPI Fantastic Forty Seminar Series
- Additional Workshops
- Application support
ADP MaST ACADEMY

ADP Math and Science Teachers (MaST) Academy enhances the scope and quality of secondary mathematics and science teachers that graduate from UTEP to serve students in schools across the El Paso region.

MaST provides students with the following opportunities:

- Mentored field experience
- A monthly stipend
- Assistance and guidance in pedagogy
- Professional development
  - Observation in the classroom
  - Introduction to Texas Essential Knowledge and Skills
- Classroom management
- Technology in the classroom
- Addressing issues of adolescent students
College of Science Academic Engagement Center

Our mission is to work with students to clarify their academic goals and to connect the students to opportunities for academic exploration within and beyond the traditional classroom.

How do students in the College of Science perform?
• **Biological Sciences:** 2nd in the Nation in graduating Hispanic Biomedical Scientists.

• **Chemistry:** Luis Aguirre Quintana (B.S. in Chemistry, May 2016), a Mexican national who crossed the bridge from Juarez every single day to come to UTEP to complete his BS in Chemistry, is going to the Georgia Institute of Technology for his PhD in Chemistry.

• **Geological Sciences:** Students win Imperial Barrel Award

• **Mathematical Sciences:** Top 10 Universities awarding degrees in mathematics and statistics to Hispanic students.

• **Physics:** Israel Chavarria - a UTEP Physics junior - is the first “Victor Blanco” fellow at Fermilab.
MPI STUDENT SUCCESS

For 2016, 47% of UTEP students applying to Medical School through UTEP’s Medical Professions Institute were accepted.

For 2014, the national acceptance rate was 18.1% overall and 30.9% for Hispanic students. (source: AAMA)

For 2016, the acceptance rate for the state of Texas was 29.9%. (source: TMDSAS)

MaST ACADEMY STUDENT SUCCESS

100% Graduation rates

Over 120 $10,000 scholarships awarded (competitive)

100% of graduates hired within 6 months.
SCIENCE is the HUMAN EXPERIENCE

http://www.youtube.com/watch?v=i3byt7xMSCA

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