Introduction

The College of Science is the home of the University's first doctoral degree program, the Doctor of Geological Sciences, which was approved in 1974. In 1991, the designation of the degree was changed to PhD in Geological Sciences. The College now offers the PhD programs in Biological Sciences, Chemistry and Ecology and Evolutionary Biology, and also participates in three interdisciplinary PhD programs. The Departments of Chemistry and Physics are participants in a program leading to the PhD degree in Materials Science and Engineering and the Departments of Biological Sciences, Chemistry, Geological Sciences, Mathematics, and Physics are participants in a program leading to the PhD degree in Environmental Science and Engineering. Information about admission to these programs and degree requirements is found in the Interdisciplinary Programs section of this catalog.

Doctor of Philosophy in Biosciences

The educational objective of the doctoral program in Biosciences is to prepare students for research on the pressing pathobiological problems of the region, with an emphasis on the pathogenesis of infectious diseases, the toxic and carcinogenic effects of environmental pollutants, and neurological and metabolic disorders.

Doctor of Philosophy in Ecology and Evolutionary Biology

Doctor of Philosophy in Environmental Science and Engineering

The University of Texas at El Paso presents both an extraordinary setting and excellent capabilities for the interdisciplinary doctoral program in Environmental Science and Engineering. Located on the U.S.-Mexico border and one of the most environmentally-impacted areas of North America, and with a global research footprint, UTEP has established itself as a hub for environmental science and engineering research and education. Our faculty and students have received support from multiple federal and state agencies, and foundations. The program is administered out of the Graduate School and includes the participation of faculty from more than 12 departments spanning four colleges, and numerous research centers (CERM, CyberShARE and, CIDS), and active collaboration with agencies, national labs, and industry. For information regarding admission and degree requirements, students should refer to the Interdisciplinary Programs section.

Doctor of Philosophy in Chemistry

The doctoral program in chemistry embraces a variety of advanced disciplines, which is a natural outcome of our research faculty's expertise. These areas include physical, computational, inorganic, organic, biochemistry, and environmental and materials chemistry. Through the adept leadership of the President of the University of Texas at El Paso and the dedication of the Chair of Chemistry, a new building for the Department of Chemistry was completed at the time the new Ph.D. program began. This was fortunate and because of the good timing, the new building has had a very positive effect on increasing the quality of the Ph.D. program, the quality of the facilities, and the quality of new professors that can be attracted to the department. Facilities that support Ph.D. research now include state of the art NMRs, LC-MS, EPR, MALDI-TOF MS, TEM, SEM, SPR, HPLC, Confocal microscopy, ICP-OES, ICP-MS, XRF, FTIR, UV-Vis, light scattering particle analyzer, high powered computing for modeling, AFM, and Raman IR and many others.

Doctor of Philosophy in Computational Science

The doctoral program in computational science combines Computer Science, Applied and Computational Mathematics, and Science and Engineering disciplines. CPS is an interdisciplinary program, crossing departmental and college boundaries, that yields an integrated knowledge base for the effective solution of complex systems in which computer usage plays a fundamental role. A CPS student is to acquire an integrated understanding of techniques such as mathematical modeling, algorithmic design, computer simulation, scientific visualization, statistical processing of large data sets, and high-performance computing on parallel and distributed systems.

Doctor of Philosophy in Materials Science and Engineering

The PhD in Materials Science and Engineering is an interdisciplinary doctoral program coordinated by the Materials Research and Technology Institute (MRTI) to prepare scientists and engineers to address the rapidly expanding opportunities and problems created by emerging materials-related industries. The program emphasizes a cross-disciplinary perspective of this vital field with a range of skills linking materials, structure, properties, synthesis and processing, and performance. For information regarding admission and degree requirements, students should refer to the Interdisciplinary Programs section.

Master’s Degrees

The College of Science offers 11 graduate degrees at the master’s level. These include Master of Science (MS) degrees in Bioinformatics, Biological Sciences, Chemistry, Computational Science, Environmental Science, Geological Sciences, Geophysics, Mathematics, Physics, and Statistics. Five-
year BS-MS programs are offered in Chemistry and Physics. The Department of Mathematical Sciences offers a Master of Arts in Teaching (MAT) with a major in Mathematics and the Office of the Dean houses a Master of Arts in Teaching (MAT) with a major in Science. For information regarding admission and degree requirements for these degrees, students should refer to the individual department sections. The College of Science also offers a Master of Science in Professional Science composed of two graduate certificates: one 15-18 hour graduate certificate must be taken in the College of Science; the second 15-18 hour graduate certificate can be taken in any college at UTEP or outside UTEP online or in-person as long as both the institution and the certificate are accredited.

**Graduate Certificates**


**Fast Track to Graduate Programs**

When a student is within 30 hours of graduating and has met the departmental requirements. This permits students to take graduate courses while an undergraduate that count toward both their undergraduate program and graduate program. The College of Science offers the follow fast track programs:

**Biology**

- BS in Biology to MS Biology ([link](http://catalog.utep.edu/undergrad/college-of-science/biological-sciences/fast-track/bs-biology-to-ms-biology/))
- BS in Biological Sciences to MS in Bioinformatics ([link](http://catalog.utep.edu/undergrad/college-of-science/biological-sciences/fast-track/bs-biological-sciences-to-ms-bioinformatics/))
- BS in Microbiology Sciences to MS in Bioinformatics ([link](http://catalog.utep.edu/undergrad/college-of-science/biological-sciences/fast-track/bs-microbiology-sciences-to-ms-bioinformatics/))
- BS in Biological Science With Biomedical Science Concentration to MBA ([link](http://catalog.utep.edu/undergrad/college-of-science/biological-sciences/fast-track/bs-biological-sciences-biomedical-conc-mba/))
- BS in Biological Sciences with Ecology in Evolutionary Biology Concentration to MBA ([link](http://catalog.utep.edu/undergrad/college-of-science/biological-sciences/fast-track/bs-biological-sciences-ecology-evolutionary-biology-conc-mba/))
- BS in Microbiology to MBA ([link](http://catalog.utep.edu/undergrad/college-of-science/biological-sciences/fast-track/bs-microbiology-mba/))

**Chemistry**

- BS in Chemistry to MS in Chemistry ([link](http://catalog.utep.edu/undergrad/college-of-science/chemistry/fast-tracks/bs-chemistry-to-ms-chemistry/))
- BS in Chemistry to MS in Bioinformatics ([link](http://catalog.utep.edu/undergrad/college-of-science/chemistry/fast-tracks/bs-chemistry-to-ms-bioinformatics/))

**Geology**

- BS in Geological Science to MS in Geological Science ([link](http://catalog.utep.edu/undergrad/college-of-science/geological-sciences/fast-track/bs-geological-science-to-ms-geological-science/))
- BS in Geological Sciences to MBA ([link](http://catalog.utep.edu/undergrad/college-of-science/geological-sciences/fast-track/bs-geological-sciences-to-mba/))
- BS in Environmental Sciences to MS in Environmental Sciences ([link](http://catalog.utep.edu/undergrad/college-of-science/geological-sciences/fast-track/bs-environmental-sci-ms-environmental-sci/))

**Physics**

- BS in Physics to MS in Physics ([link](http://catalog.utep.edu/undergrad/college-of-science/physics/fast-track/bs-physics-to-ms-physics/))
- BS in Physics with Applied Physics Concentration to MBA ([link](http://catalog.utep.edu/undergrad/college-of-science/physics/fast-track/bs-physics-applied-physics-conc-to-mba/))

**Mathematics**

- BS in Mathematics to MS in Mathematics ([link](http://catalog.utep.edu/undergrad/college-of-science/mathematical-sciences/fast-track/bs-math-to-ms-math/))
- BS in Mathematics to MS in Statistics ([link](http://catalog.utep.edu/undergrad/college-of-science/mathematical-sciences/fast-track/bs-math-to-ms-statistics/))
- BS in Mathematical Sciences to MBA ([link](http://catalog.utep.edu/undergrad/college-of-science/mathematical-sciences/fast-track/bs-math-to-mba/))
- BS in Mathematical Sciences with Applied Mathematics Concentration to MBA ([link](http://catalog.utep.edu/undergrad/college-of-science/mathematical-sciences/fast-track/bs-math-applied-conc-mba/))
- BS in Mathematical Sciences with Actuarial Concentration to MBA ([link](http://catalog.utep.edu/undergrad/college-of-science/mathematical-sciences/fast-track/bs-math-actuarial-conc-mba/))
- BS in Mathematical Sciences with Statistics Concentration to MBA ([link](http://catalog.utep.edu/undergrad/college-of-science/mathematical-sciences/fast-track/bs-math-stat-conc-mba/))
• BS in Mathematical Sciences to MS in Bioinformatics (http://catalog.utep.edu/undergrad/college-of-science/mathematical-sciences/fast-track/bs-math-ms-bioinformatics/)

DEAN: Dr. Robert Kirken (http://facultyprofile.utep.edu/default.aspx?ID=irkirken/)
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Research Interests: Depression, addiction, diabetes, cognitive decline, neurodegeneration, stroke, prostate cancer, sex and age differences

Departments and Programs
College of Science (Dean's Office)
Go to information for this department. (http://catalog.utep.edu/grad/college-of-science/college-science-deans-office/)

Programs
Master of Arts in Teaching
• Master of Arts in Teaching Science (http://catalog.utep.edu/grad/college-of-science/college-science-deans-office/teaching-science-master-of-arts/)

Master of Science
• M.S. in Bioinformatics (http://catalog.utep.edu/grad/college-of-science/college-science-deans-office/bioinformatics-ms/)
• M.S. in Computational Science (http://catalog.utep.edu/grad/college-of-science/college-science-deans-office/computational-science-ms/)
• M.S. in Interdisciplinary Studies (http://catalog.utep.edu/grad/college-of-science/college-science-deans-office/interdisciplinary-studies-ms/)

Doctor of Philosophy
• Ph.D. in Computational Science (http://catalog.utep.edu/grad/college-of-science/college-science-deans-office/computational-science-phd/)

Biological Sciences
Go to information for this department. (http://catalog.utep.edu/grad/college-of-science/biological-sciences/)

Programs
Master of Science
• M.S. in Biological Sciences (http://catalog.utep.edu/grad/college-of-science/biological-sciences/biological-sciences-ms/)

Doctor of Philosophy
• Ph.D. in Biological Sciences-Pathobiology (http://catalog.utep.edu/grad/college-of-science/biological-sciences/biological-sciences-pathobiology-phd/)
• Ph.D. in Ecology and Evolutionary Biology (http://catalog.utep.edu/grad/college-of-science/biological-sciences/ecology-evolutionary-biology-phd/)

Chemistry
Go to information for this department. (http://catalog.utep.edu/grad/college-of-science/chemistry/)
College of Science

Programs
Master of Science

- M.S. in Chemistry (http://catalog.utep.edu/grad/college-of-science/chemistry/chemistry-ms/)

Doctor of Philosophy

- Ph.D. in Chemistry (http://catalog.utep.edu/grad/college-of-science/chemistry/chemistry-phd/)

Geological Sciences
Go to information for this department. (http://catalog.utep.edu/grad/college-of-science/geological-sciences/)

Programs
Master of Science

- M.S. in Environmental Science (http://catalog.utep.edu/grad/college-of-science/geological-sciences/environmental-science-ms/)
- M.S. in Geological Sciences (http://catalog.utep.edu/grad/college-of-science/geological-sciences/geological-sciences-ms/)
- M.S. in Geophysics (http://catalog.utep.edu/grad/college-of-science/geological-sciences/geophysics-ms/)

Doctor of Philosophy

- Ph.D. in Geological Sciences (http://catalog.utep.edu/grad/college-of-science/geological-sciences/geological-sciences-phd/)

Mathematical Sciences
Go to information for this department. (http://catalog.utep.edu/grad/college-of-science/mathematical-sciences/)

Programs
Master of Arts in Teaching

- Master of Arts in Teaching Mathematics (http://catalog.utep.edu/grad/college-of-science/mathematical-sciences/teaching-mathematics-master-of-arts/)

Master of Science

- M.S. in Mathematical Sciences (http://catalog.utep.edu/grad/college-of-science/mathematical-sciences/mathematical-sciences-ms/)
- M.S. in Statistics (http://catalog.utep.edu/grad/college-of-science/mathematical-sciences/statistics-ms/)

Graduate Certificate

- Graduate Certificate in Applied and Computational Mathematics (http://catalog.utep.edu/grad/college-of-science/mathematical-sciences/graduate-certificate-in-applied-and-computational-mathematics/)
- Graduate Certificate in Applied Statistics (http://catalog.utep.edu/grad/college-of-science/mathematical-sciences/graduate-certificate-in-applied-statistics/)

Physics
Go to information for this department. (http://catalog.utep.edu/grad/college-of-science/physics/)

Programs
Master of Science

- M.S. in Physics (http://catalog.utep.edu/grad/college-of-science/physics/physics-ms/)