



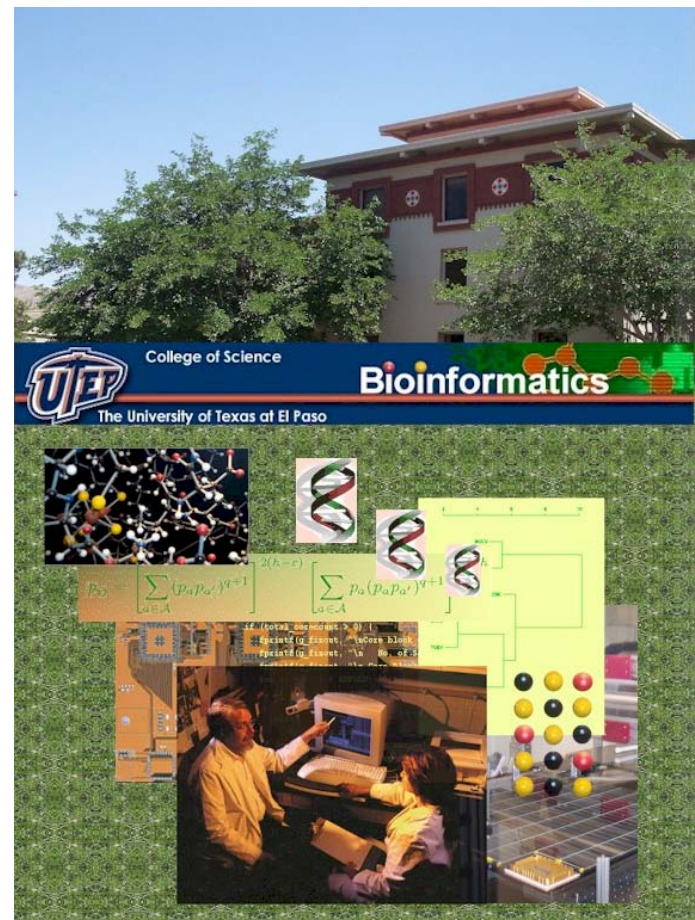
The University of Texas at El Paso (UTEP) is a comprehensive, doctoral research university, located in far west Texas on the US-Mexico border. In addition to the six-story University Library with up-to-date electronic resources and multimedia facilities for our students, UTEP also offers many cultural and social opportunities including musical and drama presentations through the UTEP Dinner Theatre and art exhibits at the Rubin Center.

On-campus housing is available at the Miner Village apartment complex and free transportation around campus is provided by the Miner Metro Shuttle Services. The Student Health Services and Student Fitness Center with its two swimming pools underline the University's commitment to provide a healthy environment for its students, faculty and staff. As a tradition of UTEP's vibrant athletic program, home games of our football and basketball teams at the Sun Bowl Stadium and Don Haskins Center on campus are popular events in the city.

El Paso is a 400-year-old community with beginnings going back to the Native Americans, Spanish conquistadores, Mexican immigrants, and American pioneers. UTEP's Centennial Museum is an excellent resource for learning about the cultural history of the region. The Chihuahua Desert Gardens adjacent to the Museum display examples of the stunning desert landscape distinctive to this area. For hiking or camping enthusiasts (see photo), the Guadalupe Mountain Range is a favorite spot, only 110 miles from El Paso, with over 80 miles of hiking trails and one of the finest rock and fossil collections in the world. At 8,749 feet, the Guadalupe Peak is the highest point in Texas.



UTEP Bioinformatics
Bell Hall, Room 138
The University of Texas at El Paso
500 W. University Avenue
El Paso, TX 79968-0514



UTEP Bioinformatics Program
Bell Hall, Room 138
The University of Texas at El Paso
El Paso, TX 79968-0514
Phone: (915)747-8484
Fax: (915)747-6502

Email: bioinformatics@utep.edu
Web: bioinformatics.utep.edu

Master of Science in Bioinformatics

The University of Texas at El Paso offers a Master of Science in Bioinformatics, an interdisciplinary degree administered by the College of Science. This Professional Science Master's (PSM) Degree was launched in 2001 with a grant from the Sloan Foundation and the support of the Departments of Biological Sciences, Chemistry, Computer Science, and Mathematical Sciences. The program aims at producing graduates who are ready to serve as research, managerial, or technical professionals in various areas of bioinformatics. It is part of the national effort in developing PSM degrees to enhance our future economy through promoting innovations in science and technology.



What is Bioinformatics?

Bioinformatics focuses on the management and interpretation of biological information. It is the study whereby data acquired from complex biological phenomena are analyzed and modeled using sophisticated numerical methodologies. The availability of genomic sequence information from viruses to humans has created urgent needs for professionals who are able to decipher these sequences and give them meanings. The complexity of such an enormous amount of biological data requires efficient tools for their analysis and interpretation. Bioinformatics is the development and application of such tools based on mathematical models, statistical methods, and computational algorithms by well-trained professionals with broad scientific backgrounds.

Curriculum

The master's degree in bioinformatics at UTEP requires a total of 40 graduate credit hours of advanced courses in biology, biochemistry, computer science,

mathematics, and statistics. The interdisciplinary curriculum is designed for students with diverse backgrounds to acquire knowledge and skills in a cooperative learning environment. Typically, a student completes this graduate degree in two years by taking a combination of bioinformatics core courses, general courses in disciplines outside of their undergraduate major, and advanced graduate courses in a specialized area of bioinformatics. With options for writing theses, conducting research projects, or training in management and entrepreneurship as part of the curriculum, students completing the program will function as pivotal members of an interdisciplinary team.

Internship

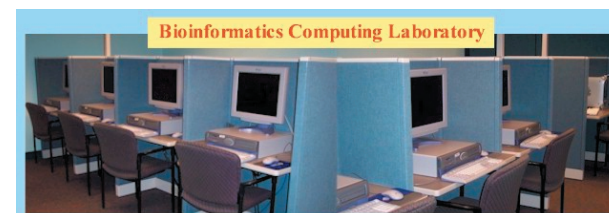
Before graduation, all students in this PSM program are required to gain practical working experience through an internship at an academic, industrial, or government institution. Host institutions for our students' internships in the past few years include the J. Craig Venter Institute, La Jolla, National Institutes of Health, Bethesda, Pittsburgh Supercomputing Center, and Ampel Bio Solutions LLC, Charlottesville, among many others.

Facilities and Research Training

The Bioinformatics Grid, a network of workstations, is maintained at our Bioinformatics Computing Lab (BCL), Structural Bioinformatics Lab (SBL), and Translational Bioinformatics Lab (TBL) with connections to the UTEP High Performance Computing. DNA sequencing and microarray facilities are available in the Department of Biological Sciences. Students will gain experience in both computational and experimental approaches in bioinformatics research by working with faculty members on a variety of projects funded by government, state, and private agencies. Our research themes are

- DNA sequence assembly and analysis
- Ecoinformatics and phylogenetics
- Genomics and proteomics data analysis
- RNA and protein structure prediction.

Students also have opportunities to present their works at national and international conferences and publish research findings in scientific journals.



Career Opportunities

Bioinformatics professionals now play a critical role in a wide variety of biomedical research and biotechnology industries. Some of our recent graduates have joined the workforce in the biotechnology and software industries, while others have become laboratory managers and program analysts in prestigious research organizations. Employers of our recent graduates include

- ARUP Laboratories, Salt Lake City
- MD Anderson Cancer Center, Houston
- National Center for Genome Resources
- Pfizer, Inc., New York
- US Department of Agriculture.

Tuition Costs and Financial Support

Texas resident graduate tuition is approximately \$3000 per semester for 10 credit hours; non-resident tuition cost is \$6500. Additional student fees may apply. Details on tuition and fees are published in the Class Schedule every semester. Depending on availability, a limited number of assistantships and scholarships are awarded each year on a competitive merit basis.

Program Contacts

Dr. Ming-Ying Leung

Program Director

(915)747-6836

mleung@utep.edu

For additional information, please visit

bioinformatics.utep.edu

or email us at bioinformatics@utep.edu.