

## Program Overview

The M.S. in Biotechnology, located on the Abilene & Lubbock campuses, is a 21 month Master of Science degree offered through the Graduate School of Biomedical Sciences. Our Master's program prides itself on offering a blend of science, technology and business in the academic setting and a wide variety of funded research opportunities in our friendly and collaborative environment. Internal or external internships complete our research requirements.

Those with a strong entrepreneurial spirit may be interested in our dual MS/ MBA program administered in cooperation with Texas Tech University (TTU).

Students admitted to the JD program at TTU or the MD program at TTUHSC may also receive dual degrees with an MS in Biotechnology, and 12 shared credits.

Students with a desire to continue in a Biomedical Sciences Ph.D. program at TTUHSC will have completed most of the core requirements and some electives.

**Check us out at:** [www.ttuhsbc.edu/biomedical-sciences/program/biotechnology](http://www.ttuhsbc.edu/biomedical-sciences/program/biotechnology)



### Requirements:

- ◆ Science-based undergraduate background
- ◆ GRE
- ◆ Final U.S. Transcripts (with GPA)
- ◆ TOEFL or IELTS (International Students)
- ◆ Transcript Evaluation (for International Students Only)
- ◆ Application can be found at: <http://www.bioraider.com>
- ◆ Application Deadline: May 1
- ◆ Program Locations: Abilene or Lubbock, TX campuses

### Application Information:

Applicants should submit the following required documents:

- ◆ Completed application
- ◆ At least 2 letters of recommendation
- ◆ Official transcript(s) from all school(s)
- ◆ Admissions Information: <https://www.ttuhsbc.edu/biomedical-sciences/academics/admissions.aspx>
- ◆ Application Instructions: <https://www.ttuhsbc.edu/biomedical-sciences/apply>

### Contact Information:

#### Abilene Director:

Sanjay K. Srivastava, Ph.D.  
[sanjay.srivastava@ttuhsbc.edu](mailto:sanjay.srivastava@ttuhsbc.edu)

#### Lubbock Director:

Susan E. Bergeson, Ph.D.  
[susan.bergeson@ttuhsbc.edu](mailto:susan.bergeson@ttuhsbc.edu)



TEXAS TECH UNIVERSITY  
HEALTH SCIENCES CENTER™

## Master's Degree in Biotechnology



Abilene, TX  
Lubbock, TX

## Master's of Biotechnology

Biotechnology is currently one of the most exciting scientific career opportunities. The job market is expanding to create solutions that harness the power of biotechnology to tackle issues in health & medicine.

### Abilene campus:

The Department of Immunotherapeutics and Biotechnology faculty members are well-funded by the NIH, CPRIT, DOD, and private foundations, all with primary membership in the GSBS Biotechnology program. The research conducted in the department is highly translational with an emphasis on cancer biology, cancer immunology and immunotherapy, nanoparticle drug delivery, the tumor microenvironment and drug screening. An open concept laboratory space promotes collaboration between research groups and full utilization of research infrastructure and specialized equipment.

[www.ttuhschool.edu/pharmacy/immunotherapeutics-biotechnology/](http://www.ttuhschool.edu/pharmacy/immunotherapeutics-biotechnology/)

### Lubbock campus:

Biotechnology members on the Lubbock campus are faculty in our basic science and clinical departments. As such, they represent a wide variety of research areas including: addiction, Alzheimer's disease, cancer, diabetes, epilepsy, HIV, immunology, neurobiology, pain, parasitology, protein biophysics, reproductive biology, role of microbiota in GI disorders, transporter function, virology and vision.

## Overview of the Biotechnology Program

Students in the 21-month M.S. program complete the Biotechnology curriculum in the first year, which consists of classwork and lab rotations. After two semesters, students are matched to a TTUHSC lab and conduct research or obtain an internship with a company in the biotechnology industry. A very attractive feature of the program is its reasonable cost.

[http://www.fiscal.ttuhschool.edu/studentbusserv/description\\_of\\_tuition\\_and\\_fees.aspx](http://www.fiscal.ttuhschool.edu/studentbusserv/description_of_tuition_and_fees.aspx)

The cost of tuition/fees is partially offset by a scholarship in the first year of the program and by a paid research assistantship after two semesters (TTUHSC RA = \$25,000 annually, for 11+ months). The cost of living in West Texas is among the lowest in the United States.

Students have the option of completing a non-thesis or thesis project during the second year. More information about the program and curriculum can be found at:

[www.ttuhschool.edu/biomedical-sciences/program/biotechnology.aspx](http://www.ttuhschool.edu/biomedical-sciences/program/biotechnology.aspx)

## Curriculum

### First Year

#### Fall Semester

GSBS 5471	Core I: Molecules
GSBS 5372	Core II: Cells
GSBS 5373	Core III: Genes
GSBS 5174	Core IV: Biomedical Seminar
GSBS 5020	Biotechnology Laboratory Methods

#### Spring Semester

GBTC 6101	Biotechnology Seminar
GBTC 6202	Biomedical Informatics
GBTC 6301	Introduction to Biotechnology
GBTC 5101	Responsible Conduct of Research
GSBS 5350	Laboratory Methods (rotations)
Elective	(optional)

### Second Year—paid research June 1st—mid-May Summer Semester

#### Lab Option

GBTC 7000 Research

#### Industry Option

GBTC 6001 Biotechnology Internship

### Fall Semester

#### Lab Option

GBTC 7000 Research  
GBTC 5299 Biotechnology Report  
Elective (Optional)

#### Industry Option

GBTC 6001 Biotechnology Internship  
GBTC 5299 Biotechnology Report

### Spring Semester

#### Lab Option

GBTC 7000 Research  
GBTC 5299 Biotechnology Final Report  
Elective (Optional)

#### Industry Option

GBTC 6001 Biotechnology Internship  
GBTC 5299 Biotechnology Final Report

### Selected Electives

GBTC 5210	The Microbiome-Role in Health and Disease
GBTC 5212	Fundamentals of Bacteriology
GBTC 5213	Fundamentals of Virology/ Parasitology
GBTC 5214	Fundamentals in Immunology
GBTC 5340	Biology of Cancer
GBCM 6320	Advanced Cell Biology
GBCM 6333	Advanced Protein Biochemistry
GMBP 5302	Human Physiology
GSPH 5310	Introduction to Statistical Methods
GSBS 5399	Topics in Biomedical Sciences
GTNP 5303	Principles of Translational Neuro- science and Pharmacology

