

# School of Natural Sciences and Mathematics

## Certificate in Biomedical Sciences

The post-baccalaureate Certificate in Biomedical Sciences (CBioMed) is offered through the School of Natural Sciences and Mathematics (NSM) and administered through the Health Professions Advising Center (HPAC). A rigorous curriculum allows students to further develop their scientific knowledge in preparation for application to schools of medicine, dentistry, or podiatry. Program requirements also include clinical, community service and/or research hours, independent from course credit and initiated by the student. Certificate students access HPAC services receiving assistance with the application process.

Application for the program is through the [ApplyTexas](https://www.applytexas.org/) online application at [www.utdallas.edu/admissions](https://www.utdallas.edu/admissions). Applicants apply as "Transfer, Undergraduate" students in the School of Natural Sciences and Mathematics, and select the "Undergraduate Certificate in Biomedical Sciences." A supplemental application, as well as the booklet "Information and Program Guidelines," can be found on the [HPAC webpage](#). Please contact the HPAC office for deadlines in submitting the supplemental application.

## Admission Requirements

Prospective students interested in enrolling in the Certificate in Biomedical Sciences program will be considered for admission based on the following standards:

- met University admission requirements established for transfer undergraduate students;
- earned a bachelor's degree from a U.S. college or university;
- exhibited clear motivation for a career in medicine, dentistry, or podiatry (as evidenced by previous coursework, clinical exposure and/or a realistic plan for preparation);
- completed the CBioMed program supplemental application; and,
- earned an undergraduate grade point average (GPA) of at least 2.750.

Note: Competitive applicants for the CBioMed program should have completed, or be in the process of completing, an introductory sequence - for science majors - of chemistry, biology and physics.

## Program Requirements

The certificate program is designed for students who are preparing for entrance into a medical, dental or podiatry school.

Requirements for completion of the Certificate in Biomedical Sciences program include:

- A minimum of 24 post-baccalaureate undergraduate semester credit hours of approved courses at UT Dallas.
- Of the 24 semester credit hours completed toward the certificate, a minimum of 9 semester credit hours must be HPAC advisor approved upper-division science courses.
- In addition to the science courses, students must complete at least one course with content covering health disparities, professionalism, and/or ethics.
- Completion of all admission prerequisite courses for the health profession schools to which the student will be applying.
- A UT Dallas post-baccalaureate GPA of at least 3.300.
- Evidence of at least 50 clock hours of approved clinical, community service and/or research activities documented according to program standards.
- Completion of the Health Professions Evaluation (HPE) Process and recommendation by the HPAC Advisory Committee.

## Curriculum

A variety of classes are available to students, depending on their particular needs and previous experience in undergraduate science courses. Students are required to work with an HPAC advisor in order to plan their curriculum for the program. HPAC advisors work with students to develop a curricular plan that is based on their individual circumstances, including past academic history and career goals. Courses that may be included to fulfill the certificate program requirements are listed below. Not all courses are taught every semester.

### Biology

[BIOL 2311](#) Introduction to Modern Biology I

[BIOL 2111](#) Introduction to Modern Biology Workshop I

[BIOL 2312](#) Introduction to Modern Biology II

[BIOL 2112](#) Introduction to Modern Biology Workshop II

[BIOL 3401](#) Genetics

[BIOL 3402](#) Molecular and Cell Biology

[BIOL 3303](#) Introduction to Microbiology

[BIOL 3305](#) Evolutionary Analysis

[BIOL 3318](#) Forensic Biology

[BIOL 3320](#) Applied Genetics

[BIOL 3335](#) Microbial Physiology

[BIOL 3336](#) Protein and Nucleic Acid Structure

[BIOL 3355](#) Clinical Pathophysiology

[BIOL 3357](#) Mammalian Physiology with Lab

[BIOL 3461](#) Biochemistry I

[BIOL 3462](#) Biochemistry II

[BIOL 3370](#) Exercise Physiology

[BIOL 3380](#) Biochemistry Laboratory

[BIOL 3385](#) Medical Histology

[BIOL 3455](#) Human Anatomy and Physiology with Lab I

[BIOL 3456](#) Human Anatomy and Physiology with Lab II

[BIOL 3520](#) General Microbiology with Lab

[BIOL 4310](#) Cellular Microbiology

[BIOL 4341](#) Genomics

[BIOL 4345](#) Immunobiology

[BIOL 4350](#) Medical Microbiology

[BIOL 4353](#) Molecular Biology of HIV/AIDS

[BIOL 4357](#) Molecular Neuropathology II

[BIOL 4366](#) Molecular Biology of Cancer

[BIOL 4385](#) Oral Histology and Embryology

[BIOL 4V40](#) Special Topics in Molecular and Cell Biology [when topic is Oral Histology]

## Chemistry

[CHEM 1311](#) General Chemistry I

[CHEM 1111](#) General Chemistry Laboratory I

[CHEM 1312](#) General Chemistry II

[CHEM 1112](#) General Chemistry Laboratory II

[CHEM 2123](#) Introductory Organic Chemistry Laboratory I

[CHEM 2125](#) Introductory Organic Chemistry Laboratory II

[CHEM 2323](#) Introductory Organic Chemistry I

[CHEM 2325](#) Introductory Organic Chemistry II

[CHEM 2401](#) Introductory Quantitative Methods in Chemistry

[CHEM 3321](#) Physical Chemistry I

[CHEM 3322](#) Physical Chemistry II

[CHEM 4381](#) Green Chemistry and Green Fuels

## Neuroscience

[NSC 3361](#) Introduction to Neuroscience

[NSC 4351](#) Medical Neuroscience

[NSC 4352](#) Cellular Neuroscience

[NSC 4354](#) Integrative Neuroscience

[NSC 4356](#) Neurophysiology

[NSC 4358](#) Neuroscience of Pain

[NSC 4362](#) Molecular Neuroscience

[NSC 4363](#) Neuropharmacology

[NSC 4366](#) Neuroanatomy

[NSC 4367](#) Developmental Neurobiology

[NSC 4371](#) Neural Plasticity

[NSC 4373](#) Sensory Neuroscience

## Physics

[PHYS 3330](#) Numerical Methods in Physics and Computational Techniques

## Statistics

[STAT 2332](#) Introductory Statistics for Life Sciences

## Other Disciplines

[ISIS 3309](#) Dental Anthropology

[GEOG 3357](#) Spatial Dimensions of Health and Disease

[GEOS 2324](#) Energy, the Environment and Human Health

All certificate students are required to take, as a part of their program curriculum, a class covering topics in health disparities, professionalism and/or ethics.

## Elective Courses

[ECON 3330](#) Economics of Health

[GEOG 3357](#) Spatial Dimensions of Health and Disease

[HIST 3328](#) History and Philosophy of Science and Medicine

[HLTH 1100](#) Career Explorations for the Health Professions

[HLTH 1322](#) Human Nutrition

[HLTH 3101](#) Medical Terminology

[HLTH 3300](#) Pre-Health Professional Development

[HLTH 3305](#) The U.S. Healthcare System

[HLTH 4380](#) Special Topics in Healthcare

[HMGT 3301](#) Introduction to Healthcare Management

[PHIL 3320](#) Medical Ethics

[PHIL 4321](#) Philosophy of Medicine

[PSY 2301](#) Introduction to Psychology

[PSY 4346](#) Human Sexuality

[PSY 4328](#) Health Psychology

[SOC 1301](#) Introduction to Sociology

[SOC 4369](#) Public Health and Society

[SOC 4371](#) Mental Health and Illness

[SOC 4372](#) Health and Illness

[SPAN 3330](#) Medical Spanish

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