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 online application at 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**

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

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

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

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

[BOL 3101](#) Classical and Molecular Genetics Workshop

[BOL 3102](#) Eukaryotic Molecular and Cell Biology Workshop

[BOL 3161](#) Biochemistry Workshop I

[BOL 3162](#) Biochemistry Workshop II

[BOL 3301](#) Classical and Molecular Genetics

[BOL 3302](#) Eukaryotic Molecular and Cell Biology

[BOL 3303](#) Introduction to Microbiology

[BOL 3305](#) Evolutionary Analysis

[BOL 3318](#) Forensic Biology

[BOL 3320](#) Applied Genetics

[BOL 3335](#) Microbial Physiology

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

[BOL 3355](#) Clinical Pathophysiology
BIOL 3357  Mammalian Physiology with Lab
BIOL 3361  Biochemistry I
BIOL 3362  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 4315  Genes, Disease and Therapeutics
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  
GST 4325 Motherhood and the Technological Womb
**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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