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 web page. 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 3101** Classical and Molecular Genetics Workshop

**BIOL 3102** Eukaryotic Molecular and Cell Biology Workshop

**BIOL 3161** Biochemistry Workshop I

**BIOL 3162** Biochemistry Workshop II

**BIOL 3301** Classical and Molecular Genetics

**BIOL 3302** Eukaryotic 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
<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>BIOL 3357</td>
<td>Mammalian Physiology with Lab</td>
</tr>
<tr>
<td>BIOL 3361</td>
<td>Biochemistry I</td>
</tr>
<tr>
<td>BIOL 3362</td>
<td>Biochemistry II</td>
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<tr>
<td>BIOL 3370</td>
<td>Exercise Physiology</td>
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<tr>
<td>BIOL 3380</td>
<td>Biochemistry Laboratory</td>
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<tr>
<td>BIOL 3385</td>
<td>Medical Histology</td>
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<tr>
<td>BIOL 3455</td>
<td>Human Anatomy and Physiology with Lab I</td>
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<tr>
<td>BIOL 3456</td>
<td>Human Anatomy and Physiology with Lab II</td>
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<tr>
<td>BIOL 3520</td>
<td>General Microbiology with Lab</td>
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<tr>
<td>BIOL 4310</td>
<td>Cellular Microbiology</td>
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<tr>
<td>BIOL 4315</td>
<td>Genes, Disease and Therapeutics</td>
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<tr>
<td>BIOL 4341</td>
<td>Genomics</td>
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<tr>
<td>BIOL 4345</td>
<td>Immunobiology</td>
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<tr>
<td>BIOL 4350</td>
<td>Medical Microbiology</td>
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<tr>
<td>BIOL 4353</td>
<td>Molecular Biology of HIV/AIDS</td>
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<tr>
<td>BIOL 4357</td>
<td>Molecular Neuropathology II</td>
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<td>BIOL 4366</td>
<td>Molecular Biology of Cancer</td>
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<tr>
<td>BIOL 4385</td>
<td>Oral Histology and Embryology</td>
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<tr>
<td>BIOL 4V40</td>
<td>Special Topics in Molecular and Cell Biology [when topic is Oral Histology]</td>
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**Chemistry**

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<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>CHEM 1311</td>
<td>General Chemistry I</td>
</tr>
<tr>
<td>CHEM 1111</td>
<td>General Chemistry Laboratory I</td>
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<tr>
<td>CHEM 1312</td>
<td>General Chemistry II</td>
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<tr>
<td>CHEM 1112</td>
<td>General Chemistry Laboratory II</td>
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<tr>
<td>CHEM 2123</td>
<td>Introductory Organic Chemistry Laboratory I</td>
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<tr>
<td>CHEM 2125</td>
<td>Introductory Organic Chemistry Laboratory II</td>
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<tr>
<td>CHEM 2323</td>
<td>Introductory Organic Chemistry I</td>
</tr>
<tr>
<td>CHEM 2325</td>
<td>Introductory Organic Chemistry II</td>
</tr>
<tr>
<td>CHEM 2401</td>
<td>Introductory Quantitative Methods in Chemistry</td>
</tr>
<tr>
<td>CHEM 3321</td>
<td>Physical Chemistry I</td>
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</tbody>
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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