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. Students enrolled in the CBioMed program must meet the 3.300 GPA after two semesters CBioMed coursework at UT Dallas or be subject to dismissal from the program.

Application for the program is through the ApplyTexas online application at www.utdallas.edu/missions. 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 credit hours of approved courses at UT Dallas.

• Of the 24 credit hours completed toward the certificate, a minimum of 9 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 3101** Classic 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 3305** Evolutionary Analysis
- **BIOL 3318** Forensic Biology
- **BIOL 3335** Microbial Physiology
- **BIOL 3336** Protein and Nucleic Acid Structure
- **BIOL 3361** Biochemistry I
- **BIOL 3362** Biochemistry II
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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>BIOL 3370</td>
<td>Exercise Physiology</td>
</tr>
<tr>
<td>BIOL 3380</td>
<td>Biochemistry Laboratory</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 3V20</td>
<td>General Microbiology with Lab</td>
</tr>
<tr>
<td>BIOL 4315</td>
<td>Genes, Disease and Therapeutics</td>
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<tr>
<td>BIOL 4340</td>
<td>Proteomics</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 4352</td>
<td>Medical Molecular and Cell Biology</td>
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<tr>
<td>BIOL 4353</td>
<td>Molecular Biology of HIV/AIDS</td>
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<tr>
<td>BIOL 4355</td>
<td>Molecular Biology of Neurological and Hematological Diseases</td>
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<tr>
<td>BIOL 4366</td>
<td>Molecular Biology of Cancer</td>
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<tr>
<td>BIOL 4370</td>
<td>Developmental Neurobiology</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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<thead>
<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>CHEM 2123</td>
<td>Introductory Organic Chemistry Laboratory I</td>
</tr>
<tr>
<td>CHEM 2125</td>
<td>Introductory Organic Chemistry Laboratory II</td>
</tr>
<tr>
<td>CHEM 2323</td>
<td>Introductory Organic Chemistry I</td>
</tr>
<tr>
<td>CHEM 2325</td>
<td>Introductory Organic Chemistry II</td>
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<tr>
<td>CHEM 2401</td>
<td>Introductory Quantitative Methods in Chemistry</td>
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<tr>
<td>CHEM 3321</td>
<td>Physical Chemistry I</td>
</tr>
<tr>
<td>CHEM 3322</td>
<td>Physical Chemistry II</td>
</tr>
<tr>
<td>CHEM 4381</td>
<td>Green Chemistry and Green Fuels</td>
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**Neuroscience**

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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>NSC 3361</td>
<td>Behavioral Neuroscience</td>
</tr>
<tr>
<td>NSC 4351</td>
<td>Medical Neuroscience</td>
</tr>
<tr>
<td>NSC 4352</td>
<td>Cellular Neuroscience</td>
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</table>
**NSC 4354** Integrative Neuroscience  
**NSC 4356** Neurophysiology  
**NSC 4363** Neuropharmacology  
**NSC 4366** Neuroanatomy  
**NSC 4367** Developmental Neurobiology

**Physics**

**PHYS 3317** Physics of the Human Body  
**PHYS 3330** Numerical Methods in Physics and Computational Techniques  
**PHYS 4381** Space Science

**Statistics**

**STAT 2332** Statistics for Life Sciences

**Other Disciplines**

**ISIS 2308** Bones, Bodies, and Disease  
**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 Exploration 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 4301 Introduction to Healthcare Management
ISIS 2308 Bones, Bodies, and Disease
PHIL 4320 Medical Ethics
PHIL 4321 Philosophy of Medicine
PSCI 4365 Law and 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 3341 Medical Spanish

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