School of Natural Sciences and Mathematics

Biomedical Sciences (BS)

A BS degree is offered in Biomedical Sciences. The BS degrees are intended as preparation for scientific careers in biology or careers in the health professions.

Bachelor of Science in Biomedical Sciences

Degree Requirements (120 semester credit hours)

View an Example of Degree Requirements by Semester

Faculty

FACG> nsm-molecular-biology-bs

Professors: Juan E. González, Kelli Palmer, Lawrence J. Reitzer, Stephen Spiro, Li Zhang, Michael Qiwei Zhang

Associate Professors: Joseph Boll, Mehmet Candas, Nikki Delk, Tae Hoon Kim, Faruck Morcos, Duane D. Winkler, Zhenyu Xuan

Assistant Professors: Nicole De Nisco, Nicholas Dillon, Xintong Dong, Lin Jia, Purna Joshi, Erica Sanchez, Darshan Sapkota

Professors Emeriti: Lee A. Bulla, Donald M. Gray

Associate Professors Emeriti: Gail A. M. Breen, Dennis L. Miller

Clinical Professor: David Murchison

Professors of Instruction: Scott A. Rippel, Uma Srikanth

Associate Professors of Instruction: Wen-Ju Lin, Elizabeth Pickett, Ilya Sapozhnikov

Assistant Professors of Instruction: Stephanie Boyd, Yi Huang, Meenakshi Maitra, Caitlin Maynard, Iti Mehta, Ramesh Padmanabhan, Jing Pan, Ruben D. Ramirez, Eva Sadat, Subha Sarcar, Michelle Wilson, Zhuoru Wu

Associate Professor of Practice: Uyen Henson

Research Assistant Professors: Li Liu, Ru-Hung Wang

Senior Lecturer: Wen-Ho Yu

UT Dallas Affiliated Faculty: Heng Du, Jung-whan (Jay) Kim

I. Core Curriculum Requirements: 42 semester credit hours[1]

Communication: 6 semester credit hours

Select any 6 semester credit hours from Communication Core courses (see advisor)

Mathematics: 3 semester credit hours

MATH 1325 Applied Calculus I[2, 3]

or MATH 2413 Differential Calculus[2, 3]

MATH 2417 Calculus I[2, 3]

Or select any 3 semester credit hours from Mathematics Core courses (see advisor)

Life and Physical Sciences: 6 semester credit hours

CHEM 1311 General Chemistry I[2]

or CHEM 1315 Honors Freshman Chemistry I[2]

CHEM 1312 General Chemistry II[2]

or CHEM 1316 Honors Freshman Chemistry II[2]

Or select any 6 semester credit hours from Life and Physical Sciences Core courses (see advisor)

Language, Philosophy and Culture: 3 semester credit hours

Select any 3 semester credit hours from Language, Philosophy and Culture Core courses (see advisor)

Creative Arts: 3 semester credit hours

Select any 3 semester credit hours from Creative Arts Core courses (see advisor)

American History: 6 semester credit hours

Select any 3 semester credit hours from American History Core courses (see advisor)

Government/Political Science: 6 semester credit hours

Select any 6 semester credit hours from Government/Political Science Core courses (see advisor)

Social and Behavioral Sciences: 3 semester credit hours

Select any 3 semester credit hours from Social and Behavioral Sciences Core courses (see advisor)

Component Area Option: 6 semester credit hours

BIOL 2311 Introduction to Modern Biology I[2]

PHYS 1301 College Physics I[2]

Or select any 6 semester credit hours from Component Area Option Core courses (see advisor)

II. Major Requirements: 54-64 semester credit hours

Major Preparatory Courses: 23-24 semester credit hours beyond Core Curriculum

BIMS 1101 Introduction to Biomedical Sciences

BIOL 2311 Introduction to Modern Biology I[2]

BIOL 2111 Introduction to Modern Biology Workshop I

BIOL 2312 Introduction to Modern Biology II

BIOL 2112 Introduction to Modern Biology Workshop II

BIOL 2281 Introductory Biology Laboratory

CHEM 1311 General Chemistry I[2]

or CHEM 1315 Honors Freshman Chemistry I[2]

CHEM 1111 General Chemistry Laboratory I

or CHEM 1115 Honors Freshman Chemistry Laboratory I

CHEM 1312 General Chemistry II[2]

or CHEM 1316 Honors Freshman Chemistry II[2]

CHEM 1112 General Chemistry Laboratory II

or CHEM 1116 Honors Freshman Chemistry Laboratory II

CHEM 2323 Introductory Organic Chemistry I

CHEM 2325 Introductory Organic Chemistry II

CHEM 2233 Introductory Organic Chemistry Laboratory

MATH 1325 Applied Calculus I[2, 3]

or MATH 2413 Differential Calculus[2, 3]

or MATH 2417 Calculus I[2, 3]

PHYS 1301 College Physics I[2]

PHYS 1101 College Physics Laboratory I

PHYS 1302 College Physics II

PHYS 1102 College Physics Laboratory II

Major Core Courses: 20 semester credit hours

BIOL 3303 Introduction to Microbiology

BIOL 3203 Introduction to Microbiology Lab

BIOL 3461 Biochemistry I

BIOL 3401 Genetics

BIOL 3455 Human Anatomy and Physiology with Lab I

STAT 3332 Statistics for Life Sciences

Major Related Courses: 11-20 semester credit hours

Professional Track (11 semester credit hours)

BIOL 3402 Molecular and Cell Biology

BIOL 3456 Human Anatomy and Physiology with Lab II

BIMS 4380 Advanced Research in Biomedical Sciences

or BIMS 3V96 Undergraduate Research in Biomedical Sciences

or BIOL 4391 Senior Research in Molecular and Cell Biology

or CHEM 4V91 Research in Chemistry

or PHYS 4390 Senior Research

or BIMS 4V81 Clinical Research Lab

or BIOL 4V81 Clinical Research Lab

or BIMS 4V96 Epidemiological Research Lab

or STAT 4V96 Epidemiological Research Lab

or BIMS 4338 Biostatistics and Machine Learning Lab

or STAT 4338 Biostatistics and Machine Learning Lab

Data Analytics Track (20 semester credit hours)

MATH 2414 Integral Calculus

or MATH 2419 Calculus II

MATH 2418 Linear Algebra

BIMS 3335 Informatics and Programming

or MATH 3335 Informatics and Programming

or STAT 3335 Informatics and Programming

or MATH 4332 Scientific Computing using Python

BIMS 3336 Bioinformatics

or MATH 3336 Bioinformatics

or STAT 3336 Bioinformatics

or BIOL 3337 Bioinformatics

BIMS 3337 Elements of Biostatistics and Epidemiology

or STAT 3337 Elements of Biostatistics and Epidemiology

BIMS 4338 Biostatistics and Machine Learning Lab

or STAT 4338 Biostatistics and Machine Learning Lab

III. Elective Requirements: 14-24 semester credit hours[4]

NATS 1101 Natural Sciences and Mathematics Freshman Seminar

or NATS 1142 UTeach STEP 1

9 semester credit hours of upper-level electives from a specified list

4-14 semester credit hours of free electives

The plan must include sufficient upper-division courses to total 45 upper-division semester credit hours.

1. Curriculum Requirements can be fulfilled by other approved courses from institutions of higher education. The courses listed are recommended as the most efficient way to satisfy both Core Curriculum and Major Requirements at UT Dallas.

2. A required Major course that also fulfills a Core Curriculum requirement. Semester credit hours are counted in Core Curriculum.

3. Students may choose one of the following calculus sequences: (a) MATH 2413, MATH 2414, and MATH 2415; or (b) MATH 2417 and MATH 2419.

4. Some electives have prerequisites that are not part of the general program plan.

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