School of Natural Sciences and Mathematics

Molecular Biology and Business Administration (BS)

The Biology Program at UT Dallas emphasizes the unifying molecular and cellular nature of organisms. At the center of the Biology undergraduate curriculum are the biochemical, genetic, and cell biology concepts and tools used to study the genes of prokaryotes and eukaryotes, to study the proteins and ribonucleic acids (RNA) encoded by these genes, and to study how the expression of these genes is regulated during the development and lifetimes of organisms. Molecular Biology represents a fusion of the four disciplines of biochemistry, biophysics, genetics, and cell biology. Modern biology requires a background in other disciplines such as chemistry, mathematics, physics, and computer sciences. Principles from these disciplines have to be merged to understand and apply new biotechnology and genetic engineering techniques. It is desirable for entering students to have a broad interest and background in the sciences.

Both BS and BA degrees are offered in Biology at UT Dallas; a BS degree is offered in Molecular Biology. The BS degrees are intended as preparation for scientific careers in biology or careers in the health professions. The BA degree is intended as liberal arts biology major with less emphasis on calculus and more free hours for coursework in other disciplines. Each degree in Biology offers a streamlined double major with Business Administration or Crime and Justice Studies. Five-year Fast Track BS/ MS Biology and Molecular Biology degree programs are available.

Minors are offered in Biology, Biomolecular Structure, Microbiology, Molecular and Cell Biology, and Neurobiology.

Bachelor of Science in Molecular Biology and Business Administration (Double Major)

Degree Requirements (144 hours)

I. Core Curriculum Requirements: 42 hours

Communication (6 hours)

3 hours Communication (RHET 1302)

3 hours Communication Elective (BCOM 3311)
6 semester credit hours Government (GOVT 2301 and GOVT 2302)
6 hours American History
3 hours Social and Behavioral Sciences Elective (ECON 2301)³

Humanities and Fine Arts (6 hours)
3 hours Fine Arts (ARTS 1301)
3 hours Humanities (HUMA 1301)

Mathematics and Quantitative Reasoning (6 hours)
6 hours Calculus (MATH 2417 and MATH 2419)³, ⁴

Science (9 hours)
9 hours Chemistry (CHEM 1311 and CHEM 1111, CHEM 1312 and CHEM 1112, and CHEM 212 ³)

II. Major Requirements: 93 hours

Biology Major Preparatory Courses (17 hours beyond Core Curriculum)

CHEM 1111 General Chemistry Laboratory I³
CHEM 1112 General Chemistry Laboratory II³
CHEM 1311 General Chemistry I³
CHEM 1312 General Chemistry II³
CHEM 2123 Introductory Organic Chemistry Laboratory I³, ⁵
CHEM 2125 Introductory Organic Chemistry Laboratory II⁵
CHEM 2323 Introductory Organic Chemistry I⁵
CHEM 2325 Introductory Organic Chemistry II⁵
MATH 2417 Calculus I⁴
MATH 2419 Calculus II⁴
PHYS 2325 Mechanics and PHYS 2125 Physics Laboratory I
PHYS 2326 Electromagnetism and Waves and PHYS 2126 Physics Laboratory II

Biology Major Core Courses (33 hours)

BIOL 2111 Introduction to Modern Biology Workshop I⁵
BIOL 2112 Introduction to Modern Biology Workshop II⁵
BIOL 2281  Introductory Biology Laboratory
BIOL 2311  Introduction to Modern Biology I
BIOL 2312  Introduction to Modern Biology 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 3361  Biochemistry I
BIOL 3362  Biochemistry II
   or BIOL 3335  Microbial Physiology
BIOL 3380  Biochemistry Laboratory
BIOL 4461  Biophysical Chemistry

Business Administration Major Preparatory Courses (16 hours beyond Core Curriculum)

ACCT 2301  Introductory Financial Accounting
ACCT 2302  Introductory Management Accounting
BA 3100  Professional Development
BLAW 2301  Business and Public Law
ECON 2301  Principles of Macroeconomics
ECON 2302  Principles of Microeconomics
OPRE 3333  Quantitative Business Analysis
   or MATH 2333  Matrices, Vectors and Their Application

Business Core Courses (27 hours)

BCOM 3311  Business Communication
BCOM 4350  Advanced Business Communication
FIN 3320  Business Finance
MIS 3300  Introduction to Management Information Systems
OPRE 3310  Operations Management
OBHR 3310 Organizational Behavior
MKT 3300 Principles of Marketing
BPS 4305 Strategic Management
IMS 3310 International Business
STAT 3360 Probability and Statistics for Management and Economics
  or STAT 3332 Statistics for Life Sciences
  or OPRE 3360 Managerial Methods in Decision Making Under Uncertainty

III. Elective Requirements: 9 hours

Guided Electives (9 hours)

Business (6 hours): To be selected from upper-division JSOM courses. If qualified, the student may select from JSOM graduate courses.

Biology (3 hours): To be selected from BIOL 4380, BIOL 3V96, BIOL 4391, or BIOL 4399. 6

All students must complete at least 51 hours of upper-division courses to graduate.

1. Degree is 145 hours if students are required to take NATS 1101.
2. Curriculum Requirements can be fulfilled by other approved courses from accredited institutions of higher education. The courses listed in parentheses are recommended as the most efficient way to satisfy both Core Curriculum and Major requirements at UT Dallas.
3. A required Major course that also fulfills a Core Curriculum requirement. Hours are counted in Core Curriculum.
4. Six hours of Calculus are counted under Mathematics Core, and 2 hours of Calculus are counted as Biology Major Preparatory Courses.
5. Indicates a prerequisite class to be completed before enrolling for upper-division classes.
6. Requires permission of the Biology Undergraduate Advisor to ensure training in recombinant DNA analysis.

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