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)\(^1\)

I. Core Curriculum Requirements: 42 hours\(^2\)

  Communication (6 hours)
  
  3 hours Communication (RHET 1302)
  
  3 hours Communication Elective (BCOM 3311)\(^3\)

Social and Behavioral Sciences (15 hours)
6 semester credit hours Government (GOVT 2301 and GOVT 2302)

6 hours American History

3 hours Social and Behavioral Sciences Elective (ECON 2301)

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)

Science (9 hours)

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

II. Major Requirements: 93 hours

Biology Major Preparatory Courses (17 hours beyond Core Curriculum)

CHEM 1111 General Chemistry Laboratory I
CHEM 1112 General Chemistry Laboratory II
CHEM 1311 General Chemistry I
CHEM 1312 General Chemistry 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
MATH 2417 Calculus I
MATH 2419 Calculus II
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 I
BIOL 2112 Introduction to Modern Biology Workshop II
BIOL 2281  Introductory Biology Laboratory\(^5\)  
BIOL 2311  Introduction to Modern Biology I\(^5\)  
BIOL 2312  Introduction to Modern Biology II\(^5\)  
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\(^5\)  
ACCT 2302  Introductory Management Accounting\(^5\)  
BA 3100  Professional Development  
BLAW 2301  Business and Public Law\(^5\)  
ECON 2301  Principles of Macroeconomics\(^3\), \(^5\)  
ECON 2302  Principles of Microeconomics\(^5\)  
OPRE 3333  Quantitative Business Analysis\(^5\)  
  or MATH 2333  Matrices, Vectors and Their Application\(^5\)  

Business Core Courses (27 hours)  
BCOM 3311  Business Communication\(^3\)  
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.  

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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