School of Natural Sciences and Mathematics

Molecular Biology and Healthcare Management (Double Major) (BS)

Bachelor of Science in Molecular Biology and Healthcare Management (Double Major)

Degree Requirements [154 semester credit hours]¹ ²

NSM Faculty

Professors: Lee A. Bulla, Rockford K. Draper, Juan E. González, Lawrence J. Reitzer, Stephen Spiro, Li Zhang, Michael Qiwei Zhang

Professor Emeritus: Hans Bremer, Donald M. Gray

Clinical Professor: David Murchison

Associate Professors: Gail A. M. Breen, John G. Burr, Jeff L. DeJong, Ernest M. Hannig, Tae Hoon Kim, Dennis L. Miller, Zhenyu Xuan

Assistant Professors: Zachary Campbell, Nikki Delk, Heng Du, Jung-whan (Jay) Kim, Faruck Morcos, Kelli Palmer, Duane D. Winkler, Hyuntae Yoo

Research Assistant Professors: Monique Duncan, Lan Guo, Li Liu

Senior Lecturers: Irina Borovkov, Mehmet Candas, Brenna Hill, Wen-Ju Lin, Robert C. Marsh, Jing Pan, Elizabeth Pickett, Ruben D. Ramirez, Scott A. Rippel, Ilya Sapožnikov, Uma Srikanth, Michelle Wilson, Wen-Ho Yu

JSOM Faculty


Professor Emeritus: Dale Osborne

Clinical Professors: John Barden, Britt Berrett, Abhijit Biswas, Pamela Foster Brady, Shawn Carraher, Paul Convery, David Cordell, Tevfik Dalgic, Michael Deegan, Kutsal Dogan, Howard Dover, Greg Durham, Forney Fleming III, Randall S. Guttery, Charles Hazzard, William Hefley, Robert Hicks, Gerald (Jerry)
I. Core Curriculum Requirements: 42 semester credit hours

Communication: 6 semester credit hours

COMM 1311 Survey of Oral and Technology-based Communication

RHET 1302 Rhetoric

Mathematics: 3 semester credit hours

MATH 2417 Calculus

Life and Physical Sciences: 6 semester credit hours

CHEM 1311 General Chemistry
CHEM 1312 General Chemistry II

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 6 semester credit hours from American History core courses (see advisor)

Government / Political Science: 6 semester credit hours
  GOVT 2305 American National Government
  GOVT 2306 State and Local Government

Social and Behavioral Sciences: 3 semester credit hours
  ECON 2301 Principles of Macroeconomics

Component Area Option: 6 semester credit hours
  MATH 2419 Calculus II
  ECON 2302 Principles of Microeconomics

II. Major Requirements: 97 semester credit hours

Biology Major Preparatory Courses: 20 semester credit 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 II
  MATH 2417 Calculus I
  MATH 2419 Calculus II
PHYS 2325  Mechanics
PHYS 2125  Physics Laboratory I
PHYS 2326  Electromagnetism and Waves
PHYS 2126  Physics Laboratory II

Biology Core Courses: 33 semester credit hours

BIOL 2111  Introduction to Modern Biology Workshop I
BIOL 2112  Introduction to Modern Biology Workshop II
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 Major Preparatory Courses: 15 semester credit hours beyond Core Curriculum

ACCT 2301  Introductory Financial Accounting
ACCT 2302  Introductory Management Accounting
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
OPRE 3360  Managerial Methods in Decision Making Under Uncertainty
or \textbf{STAT 2332} Introductory Statistics for Life Sciences

or \textbf{STAT 3360} Probability and Statistics for Management and Economics

**Business Core Courses: 29 semester credit hours**

- \textbf{BA 1100} Business Basics and \textbf{HMGT 3100} Professional Development
- or \textbf{HMGT 3200} Introduction to Business Professional Development and Business Communication
- \textbf{BCOM 3310} Business Communication
- \textbf{BCOM 4350} Advanced Business Communication
- \textbf{BPS 4305} Strategic Management
- \textbf{FIN 3320} Business Finance
- \textbf{IMS 3310} International Business
- \textbf{ITSS 3300} Information Technology for Business
- \textbf{OPRE 3310} Operations Management
- \textbf{OBHR 3310} Organizational Behavior
- \textbf{MKT 3300} Principles of Marketing

**III. Elective Requirements: 15 semester credit hours**

A zero semester credit hour practicum experience is required.

- \textbf{HMGT 4090} Healthcare Management Internship

The following courses fulfill the remaining Guided Elective semester credit hours:

**Healthcare Management Core Courses: 12 semester credit hours**

- \textbf{HMGT 3301} Introduction to Healthcare Management
- \textbf{HMGT 3311} Healthcare Accounting
- \textbf{HMGT 4321} Introduction to Healthcare Information Systems
- \textbf{HMGT 3310} Healthcare Regulatory Environment

**Biology (3 semester credit hours):**

- \textbf{BIOL 4380} Cell and Molecular Biology Laboratory
- or \textbf{BIOL 3V96} Undergraduate Research in Molecular and Cell Biology
- or \textbf{BIOL 4391} Senior Research in Molecular and Cell Biology
- or \textbf{BIOL 4399} Senior Honors Research in Molecular and Cell Biology

All students must complete at least 51 semester credit hours of upper-division courses to graduate.
1. Incoming freshmen must enroll and complete requirements of UNIV 1010 and the corresponding school-related freshman seminar course. Students, including transfer students, who complete their core curriculum at UT Dallas must take UNIV 2020.

2. Degree is 155 semester credit hours if students are required to take NATS 1101.

3. 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.

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

5. Six semester credit hours of Calculus are counted under Mathematics Core and Component Area Option Core, and 2 semester credit hours of Calculus are counted as Biology Major Preparatory Courses.

6. Indicates a prerequisite class to be completed before enrolling for upper-division classes.

7. Students may substitute MATH 2418 or CS 2305.

8. JSOM freshmen are required to take BA 1100 and HMGT 3100. Transfer students and students new to JSOM are required to take HMGT 3200.

9. Requires permission of the Biology Undergraduate Advisor to ensure training in recombinant DNA analysis.

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