School of Natural Sciences and Mathematics

Biology and Healthcare Management (Double Major) (BS)

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

Degree Requirements (150 semester credit hours)\textsuperscript{1, 2}

NSM Faculty

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

Professors 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 Associate Professors: Shawn Alborz, Larry Chasteen, Sonia Leach, Kannan Ramanathan, Carolyn Reichert, Avanti P. Sethi, Kelly Slaughter, James Szot, Mark Thouin, McClain Watson

Assistant Professors: Mehmet Ayvaci, Emily Choi, Bernhard Ganglmair, Dorothee Honhon, Kyle Hyndman, Atanu Lahiri, Sheen Levine, Bin Li, Jun Li, Meng Li, Xiaolin Li, Naim Bugra Ozel, Arzu Ozoguz, Anyan Qi, Alejandro Rivera Mesias, Alessio Saretto, Serdar Simsek, Gonca P. Soysal, Shaojie Tang, Christian Von-Drathen, Malcolm Wardlaw, Steven Xiao, Shengqi Ye, Nir Yehuda, Zhe (James) Zhang, Xiaofei Zhao

Clinical Assistant Professors: Athena Alimirzaei, Moran Blueshtein, Ayfer Gurun, Maria Hasenhuttl, Julie Haworth, Jeffery (Jeff) Hicks, Kristen Lawson, Vance Lewis, Liping Ma, Ravi Narayan, Dawn Owens, Parneet Pahwa, Anastasia V. Shcherbakova, Jeannie Sluder, Nassim Sohae, jdb101000.jpg140630

Visiting Assistant Professor: Lale Guler


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 2413 Differential Calculus

Life and Physical Sciences: 6 semester credit hours

CHEM 1311 General Chemistry I
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 2414 Integral Calculus
ECON 2302 Principles of Microeconomics

II. Major Requirements: 93 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\(^4\)
CHEM 2123  Introductory Organic Chemistry Laboratory I\(^7\)
CHEM 2125  Introductory Organic Chemistry Laboratory II\(^7\)
CHEM 2323  Introductory Organic Chemistry I\(^7\)
CHEM 2325  Introductory Organic Chemistry II\(^7\)
MATH 2413  Differential Calculus\(^4, \ 5, \ 6\)
MATH 2414  Integral Calculus\(^4, \ 5, \ 6\)
PHYS 2325  Mechanics and PHYS 2125  Physics Laboratory I
or PHYS 1301  College Physics I and PHYS 2125  Physics Laboratory I
PHYS 2326  Electromagnetism and Waves and PHYS 2126  Physics Laboratory II
or PHYS 1302  College Physics II and PHYS 2126  Physics Laboratory II

Biology Core Courses: 29 semester credit hours

BIOL 2111  Introduction to Modern Biology Workshop I\(^7\)
BIOL 2112  Introduction to Modern Biology Workshop II\(^7\)
BIOL 2281  Introductory Biology Laboratory\(^7\)
BIOL 2311  Introduction to Modern Biology I\(^7\)
BIOL 2312  Introduction to Modern Biology II\(^7\)
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

Business Major Preparatory Courses: 15 semester credit hours beyond Core Curriculum

ACCT 2301  Introductory Financial Accounting\(^7\)
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 STAT 2332 Introductory Statistics for Life Sciences
  or STAT 3360 Probability and Statistics for Management and Economics

Business Core Courses: 29 semester credit hours

BA 1100 Business Basics and HMGT 3100 Professional Development
  or HMGT 3200 Introduction to Business Professional Development and Business Communication

BCOM 3310 Business Communication
BCOM 4350 Advanced Business Communication
BPS 4305 Strategic Management
FIN 3320 Business Finance
IMS 3310 International Business
ITSS 3300 Information Technology for Business
OPRE 3310 Operations Management
OBHR 3310 Organizational Behavior
MKT 3300 Principles of Marketing

III. Elective Requirements: 15 semester credit hours

Guided Electives: 15 semester credit hours

A zero semester credit hour practicum experience is required.

HMGT 4090 Healthcare Management Internship

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

Healthcare Management Core Courses: 12 semester credit hours
**HMGT 3301** Introduction to Healthcare Management

**HMGT 3311** Healthcare Accounting

**HMGT 4321** Introduction to Healthcare Information Systems

**HMGT 3310** Healthcare Regulatory Environment

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

**BIOL 4380** Cell and Molecular Biology Laboratory\(^{10}\)

or **BIOL 3V96** Undergraduate Research in Molecular and Cell Biology

or **BIOL 4391** Senior Research in Molecular and Cell Biology

or **BIOL 4399** Senior Honors Research for Thesis 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 151 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. Students may substitute MATH 2413 and MATH 2414 by taking MATH 2417 and MATH 2419.

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

8. Students may substitute MATH 2418 or CS 2305.

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

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

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