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 (149 semester credit hours)

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, Claud S. Rupert

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

Assistant Professors: Nikki Delk, Heng Du, Jung-Whan (Jay) Kim, Kelli Palmer, Duane D. Winkler, Zhenyu Xuan, Hyuntae Yoo

Research Assistant Professors: Monique Duncan, Lan Guo

Senior Lecturers: Irina Borovkov, Mehmet Candás, Vincent P. Cirillo, Brenna Hill, Wen-Ju Lin, Robert C. Marsh, David Murchison, Jing Pan, Elizabeth Pickett, Ruben D. Ramirez, Scott A. Rippel, Elizabeth L. Rugg, Ilya Sapozhnikov, Uma Srikanth, Michelle Wilson, Wen-Ho Yu

JSOM Faculty


Professor Emeritus: Dale Osborne

Clinical Professors: John Barden, Britt Berrett, Abhijit Biswas, Shawn Carraher, Larry Chasteen,

**Associate Professors:** Nina Baranchuk, Norris Bruce, Huseyin Cavusoglu, Jianqing Chen, Zhonglan Dai, Xianjun Geng, Umit G. Gurun, J. Richard Harrison, Surya N. Janakiraman, Robert L. Kieschnick Jr., Nanda Kumar, Seung-Hyun Lee, Lívia Markóczy, Syam Menon, Toyah Miller, Alp Muharremoglu, Ramachandran (Ram) Natarajan, Valery Polkova, Ashutosh Prasad, Orlando C. Richard, Young U. Ryu, Gil Sadka, Jane Salk, David J. Springate, Kelsey D. Wei, Jun Xia, Ying Xie, Yexiao Xu, Alejandro Zentner, Yuan Zhang, Feng Zhao, Zhiqiang (Eric) Zheng, Yibin Zhou

**Clinical Associate Professors:** Sonia Leach, Carolyn Reichert, Kelly Slaughter, Mark Thouin, John McClain Watson

**Assistant Professors:** Mehmet Ayvaci, Emily Choi, Rebecca Files, Bernhard Ganglmair, Dorothée Honhon, Elisabeth Honka, Kyle Hyndman, Atanu Lahiri, Sheen Levine, Bin Li, Jun Li, Meng Li, Ningzhong Li, Virginie Lopez-Kidwell, Arzu Ozoguz, Anyan Qi, Alessio Saretto, Harpreet Singh, Gonca P. Soysal, Upender Subramanian, Shaojie Tang, Christian Von-Drathen, Malcolm Wardlaw, Han (Victor) Xia, Shengqi Ye, Nir Yehuda, Jieying Zhang, Xiaofei Zhao

**Clinical Assistant Professors:** Hans-Joachim Adler, Shawn Alborz, Athena Alimirzaei, Moran Bluestein, John Gamino, Ayfer Gurun, Vance Lewis, Liping Ma, Dawn Owens, Anastasia V. Shcherbakova

**Senior Lecturers:** Arthur M. Agulnek, Semiramis Amirpour, Frank Anderson, Anindita Bardhan, Ronald Blair, Daniel Bochsler, Tiffany A. Bortz, Richard Bowen, Judd Bradbury, Monica E. Brussolo, George DeCourcy, Eugene (Gene) Deluke, Alexander Edsel, Amal El-Ashmawi, Carol Flannery, Mary Beth Goodrich, Maria Hasenhuettel, Julie Haworth, Thomas (Tom) Henderson, Jennifer G. Johnson, Lynn Carl Jones, Jackie Kimzey, Kristen Lawson, Chris Linsteadt, Diane S. McNulty, Madison Pedigo, Jared Pickens, Matt Polze, James Richards, Mark Salamasick, Avanti P. Sethi, Jeanne Sluder, Steven Solcher, Luell (Lou) Thompson, Amy L. Troutman, Robert Wright, Kathy Zolton

**Visiting Faculty:** Kyle Edgington

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: 92 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 I
CHEM 2325 Introductory Organic Chemistry II
MATH 2413 Differential Calculus\textsuperscript{4, 5, 6}

MATH 2414 Integral Calculus\textsuperscript{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

NATS 1101 Natural Sciences and Mathematics Freshman Seminar or BA 1100 Business Basics

UNIV 1010 Freshman Seminar

Biology Core Courses: 29 semester credit hours

BIOL 2111 Introduction to Modern Biology Workshop I\textsuperscript{7}

BIOL 2112 Introduction to Modern Biology Workshop II\textsuperscript{7}

BIOL 2281 Introductory Biology Laboratory\textsuperscript{7}

BIOL 2311 Introduction to Modern Biology I\textsuperscript{7}

BIOL 2312 Introduction to Modern Biology II\textsuperscript{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: 16 semester credit hours beyond Core Curriculum

ACCT 2301 Introductory Financial Accounting\textsuperscript{7}

ACCT 2302 Introductory Management Accounting\textsuperscript{7}

HMGT 3100 Professional Development

BLAW 2301 Business and Public Law\textsuperscript{7}
ECON 2301  Principles of Macroeconomics\(^4\)\(^7\)
ECON 2302  Principles of Microeconomics\(^4\)\(^7\)
OPRE 3333  Quantitative Business Analysis\(^7\)
  or MATH 2333  Matrices, Vectors, and Their Application\(^7\)\(^8\)
STAT 3360  Probability and Statistics for Management and Economics
  or STAT 2332  Introductory Statistics for Life Sciences
  or OPRE 3360  Managerial Methods in Decision Making Under Uncertainty

Business Core Courses: 27 semester credit hours

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

III. Elective Requirements: 15 semester credit hours

Guided Electives: 15 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 or approved upper-division biology course.

Each student is expected to complete a minimum of 160 hours of business-related work to fulfill the JSOM professional practicum requirement.
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 150 semester credit hours if students are required to take BA 1100 or 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.