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)\(^1\), \(^2\)

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, Claud S. Rupert

**Associate Professors:** Gail A. M. Breen, John G. Burr, Jeff L. Dejong, 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 Candas, 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 Sapochnikov, Uma Srikanth, Michelle Wilson, Wen-Ho Yu

JSOM Faculty


**Professor Emeritus:** Dale Osborne


**Associate Professors:** Nina Baranchuk, Norris Bruce, Huseyin Cavusoglu, Jianqing Chen, Zhonglan Dai, Xiaojun 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 Muhtarremoglu, Ramachandran (Ram) Natarajan, Valery Polkovnichenko, 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 Hasenhuttl, 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
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\textsuperscript{4, 7}

Component Area Option: 6 semester credit hours

MATH 2414  Integral Calculus\textsuperscript{4, 5, 6}
ECON 2302  Principles of Microeconomics\textsuperscript{4, 7}

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 \textsuperscript{4}
CHEM 1312  General Chemistry II\textsuperscript{4}
CHEM 2123  Introductory Organic Chemistry Laboratory I\textsuperscript{7}
CHEM 2125  Introductory Organic Chemistry Laboratory II\textsuperscript{7}
CHEM 2323  Introductory Organic Chemistry I\textsuperscript{7}
CHEM 2325  Introductory Organic Chemistry II\textsuperscript{7}
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

**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

**ACCT 2302** Introductory Management Accounting

**HMGT 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

**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

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.