School of Natural Sciences and Mathematics

The School of Natural Sciences and Mathematics (NS&M) houses six departments, each with graduate programs: Biological Sciences (MS, PhD); Chemistry and Biochemistry (MS, PhD); Geosciences (MS, PhD); Mathematical Sciences, emphasizing Applied Mathematics and Statistics and Actuarial Science (MS, PhD); Physics (MS, PhD); and Science and Mathematics Education (Master of Arts in Teaching). In addition, there are three interdisciplinary degrees offered: Bioinformatics and Computational Biology (MS) and Geospatial Information Sciences (MS, PhD). Each program is relatively small and thus able to provide excellent graduate student - faculty contact, while maintaining a strong research program. Increasingly, departments interact with each other in research, allowing interdisciplinary efforts to flourish. A number of well-funded Research Centers and Institutes are also housed in NS&M; these allow graduate students to approach real world, cutting edge research problems while working side by side with professional research staff and internationally recognized faculty. They are: the Center for Applied Biology; the Center for Lithospheric Studies; the UT Dallas NanoTech Institute; the Center for Quantum Electronics; and the Center for Space Sciences.

Degrees Offered

**Biological Sciences**

- **Master of Science in Bioinformatics and Computational Biology** (36 semester credit hours minimum)
- **Master of Science in Biotechnology** (36 semester credit hours minimum)
- **Master of Science in Molecular and Cell Biology** (36 semester credit hours minimum)
- **Doctor of Philosophy in Molecular and Cell Biology** (75 semester credit hours minimum beyond the baccalaureate degree)

**Chemistry and Biochemistry**

- **Master of Science in Chemistry** (30 semester credit hours minimum)
- **Doctor of Philosophy in Chemistry** (75 semester credit hours minimum beyond the baccalaureate degree)

**Geosciences**

- **Master of Science in Geosciences** (36 semester credit hours minimum)
- **Master of Science in Geospatial Information Sciences** (36 semester credit hours minimum)\(^1\)
- **Doctor of Philosophy in Geosciences** (75 semester credit hours minimum beyond the baccalaureate degree)
- **Doctor of Philosophy in Geospatial Information Sciences** (75 semester credit hours minimum beyond the baccalaureate degree)\(^2\)
Mathematical Sciences

**Master of Science in Actuarial Science** (36 semester credit hours minimum)

**Master of Science in Bioinformatics and Computational Biology** (36 semester credit hours minimum)

**Master of Science in Mathematics** (36 semester credit hours minimum)

  - MS in Mathematics - Specialization in Applied Mathematics
  - MS in Mathematics - Specialization in Engineering Mathematics
  - MS in Mathematics - Specialization in Mathematics
  - MS in Mathematics - Specialization in Data Science

**Master of Science in Statistics** (36 semester credit hours minimum)

  - MS in Statistics - Specialization in Statistics
  - MS in Statistics - Specialization in Applied Statistics
  - MS in Statistics - Specialization in Data Science

**Doctor of Philosophy in Mathematics** (75 semester credit hours minimum beyond the baccalaureate degree)

**Doctor of Philosophy in Statistics** (75 semester credit hours beyond the baccalaureate degree)

Physics

**Master of Science in Physics** (30 semester credit hours minimum)

**Doctor of Philosophy in Physics** (75 semester credit hours minimum beyond the baccalaureate degree)

Science and Mathematics Education

**Master of Arts in Teaching in Science Education** (36 semester credit hours minimum)

**Master of Arts in Teaching in Mathematics Education** (36 semester credit hours minimum)

Interdisciplinary Studies

**Master of Science in Bioinformatics and Computational Biology** (36 semester credit hours minimum)

**Master of Science in Geospatial Information Sciences** (30 semester credit hours minimum)

**Doctor of Philosophy in Geospatial Information Sciences** (75 semester credit hours minimum beyond the baccalaureate degree)

Certificates Offered

  - **Graduate Certificate in Data Science** (12 semester credit hours)
  - **Teacher Education Certification**

1. Program jointly offered by the School of Economic, Political and Policy Sciences and School of
Natural Sciences and Mathematics.

2. Program jointly offered by the School of Economic, Political and Policy Sciences, Erik Jonsson School of Engineering and Computer Science, and School of Natural Sciences and Mathematics.

Faculty

**Distinguished Chair in Natural Sciences and Mathematics; Dean of the School of Natural Sciences and Mathematics:** Bruce M. Novak

**Cecil and Ida Green Distinguished Chair in Systems Biology; Professor of Chemistry:** A. Dean Sherry

**Distinguished Chair in Natural Sciences and Mathematics:** Roderick A. Heelis

**Green Distinguished Chair in Academic Leadership:** B. Hobson Wildenthal


**Associate Professors:** Jung-Mo Ahn, Titu Andreescu, Michael C. Biewer, Gail A. M. Breen, Thomas H. Brikowski, John G. Burr, Yan Cao, Lunjin Chen, Min Chen, Jeff L. DeJong, Gregg R. Dieckmann, Heng Du, Yuri Gartstein, Jeremiah J. Gassensmith, Warren J. Goux, Ernest M. Hannig, Tae Hoon Kim, Lindsay J. King, David J. Lary, Anton V. Malko, Dennis L. Miller, Steven O. Nielsen, Paul Pantano, Fabiano Rodrigues, John W. Sibert IV, Jason D. Slinker, Ronald A. Smaldone, Mary L. Urquhart, Duane D. Winkler, Zhenyu Xuan

**Assistant Professors:** Maxim Arnold, Carlos Arreche, Zachary Campbell, Bhargab Chattopadhyay, Sy Han (Steven) Chiou, Sheena D'Arcy, Nikki Delk, Sheel Dodani, Qingwen Hu, Michael Kesden, Jung-whan (Jay) Kim, Michael Kolodrubetz, Frank Konietschke, Jiyoung Lee, Yifei Lou, Lloyd Lumata, Bing Lv, Oleg Makarenkov, Gabriele Meloni, Faruck Morcos, Tomoki Ohsawa, Kaloyan Penev, Xiaoyan Shi, Sunyoung Shin, Russell Stoneback, Anh Tran, Nathan Williams, Hyuntae Yoo, Fan Zhang, Hejun Zhu

**Clinical Professors:** Natalia Humphreys, Wenyi (Roy) Lu, David Murchison

**Clinical Associate Professor:** Mohammad Akbar

**Research Professor:** Duck Joo (D. J.) Yang

**Research Assistant Professors:** Lan Guo, Li Liu

**Senior Lecturers:** Mohammad Ahsan, Iris Alvarado, Kelly Aman, Irina Borovkov, Mehmet Candas, Sergio Cortes, Malgorzata Dabkowska, Rabin Dahal, Anatoly Eydeltzon, Manjula Foley, Bentley T. Garrett, Sandhya R. Gavva, William R. Griffin, Vinita Hajeri, Emily Hennessy, Brenna Hill, Yuly Koshevnik, David L. Lewis, Chansong Li, Wen-Ju Lin, Paul Mac Alevey, Meenakshi Maitra, Robert C. Marsh, Irina Martynova, Brady McCary, Derege Mussa, Jing Pan, Namika Panapitiya, Ajaya Paudel, Elizabeth Pickett, Ignacio...
Pujana, Yanping Qin, Ruben D. Ramirez, Scott A. Rippel, Ilya Sapozhnikov, Prabin Shilpakar, Amandeep Sra, Uma Srikanth, Paul Stanford, Kuei Sun, Julie Sutton, Claudia Taenzler, Stephanie Taylor, Tristan Whalen, Michelle Wilson, Wen-Ho Yu


**Associate Professor Emeritus:** James L. Carter


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