The PhD program in Molecular and Cell Biology begins with core courses in biochemistry, molecular biology, cell biology and quantitative biology. PhD candidates conduct experimental or computational research in a laboratory of their choosing. Research in the department of Biological Sciences is organized into five areas of strength, which are:

- Biochemistry and Biophysics
- Genomics, Systems and Computational Biology
- Microbiology
- Molecular and Cell Biology
- Pathobiology (cancer, neurobiology, infectious disease)

Our faculty members are dedicated to teaching and research, and classroom experiences are balanced with a substantial research program that serves as the platform for our mentor-based teaching methods. Lab work will expose candidates to state-of-the-art research techniques used to understand the molecular mechanisms of biological processes such as gene expression, protein structure and function, carcinogenesis, neurodegeneration, bacterial pathogenicity and symbiosis, metabolism and signaling networks.

**Program Description**

The PhD in Molecular and Cell Biology requires 75 semester credit hours minimum beyond the baccalaureate degree. For complete admission and degree requirements, view the Graduate Catalog at catalog.utdallas.edu.

**Marketable Skills**

Upon successful completion of the PhD in Molecular and Cell Biology degree program, UT Dallas graduates will have obtained a very rigorous training to perform research and scientific activities at the highest level of proficiency. The graduates will be able to independently design and execute research programs to answer most difficult and complex problems in biological and biomedical fields. The graduates will be able to critically evaluate current knowledge and identify relevant scientific issues and problems and propose relevant solution or experiments to address the problem. The graduates will be ready to pursue careers in advanced research, educational or other biomedical fields. Graduates' skills include:

- Advanced interdisciplinary knowledge and proficient practical skills in a combination of fields and approaches including biochemistry, genetics, molecular biology, cell biology, neurobiology, genomics, microbiology and/or computational biology
- Highly proficient methodological skills in state-of-the-art experimental and computational techniques applied to advanced research questions in molecular and cell biology
- Ability to harness their knowledge and skills to develop and execute a novel research project aimed at the generation of new scientific knowledge independently as well as in highly collaborative team settings
- Demonstrated ability to teach and train other in knowledge and skills to develop and execute a novel research project aimed at the generation of new scientific knowledge
- Advanced skills in scientific communication, with demonstrated ability to write high quality reports for publication in the scientific literature and highly proficient ability to deliver oral presentations