2022-23

BASIC & TRANSLATIONAL SCIENCE

Degree Offered: Concentration

MCW GRADUATE SCHOOL

Program Description

The program builds on a strong foundation of core basic science knowledge and develops competencies associated with successful scientific innovation and research in a multidisciplinary collaborative learning environment. In this program, students are trained to think broadly about the clinical applications of the basic sciences and to carry out research bridging the gap between basic science and clinical practice. Students will come into graduate school through the Interdisciplinary Program in Biomedical Sciences (IDP), Neurosciences Doctoral Program, Physiology Graduate Program, Biomedical Engineering Program or Biophysics Graduate Program in Imaging.

Admission Requirements

In addition to the general Graduate School admission requirements, this program has additional specific requirements.

Basic Science PhD seekers who are in good academic standing may express interest in the program near the end of the first year when a basic science advisor is chosen. If the advisor chosen is willing to help a student pursue the translation component, students can apply to the BTS Program.

Credits Required to Graduate

12 credits

Program Credit Requirements

Students will satisfy the PhD requirements of their Basic Science Department and those of the Translational Science portion of the program. Twelve advanced credits are required for the program. Four credits can overlap with existing program if they satisfy Clinical Research Professional Core Competencies. An Independent Study course has been created to allow for diverse experiences in Clinical & Translational work to count for credit.

Required Courses

21150 Boundaries of Science and Medical Practice. *1 credit.*
Translational Science will be explored through term-based learning with class discussion of assigned cases. At the end of the course, the students will describe and analyze the use of appropriate clinical and translational research techniques, evidence-based medicine and outcomes research methods; identify gaps between basic science knowledge and clinical practice for specific clinical questions pertinent to their area of research; propose the steps needed to apply basic science knowledge to outline possible experiments that are feasible and compliant with regulatory and ethical issues; and identify significant clinical questions/hypotheses that would benefit from translational research programs.

21285 Independent Study. *0.5-1 credit.*
Self-directed study course for students enrolled in the Basic & Translational Science (BTS) PhD Concentration. Involves completion of advisor-guided project. Advisors must be identified by student and approved by the Basic & Translational Science director. Course may be completed for .5-1 credits each semester. Course serves to complement and expand the current curriculum offered through the BTS PhD graduate concentration.

21301 Basic and Translational Science Seminar. *0.5 credit.*
The Basic and Translational Science Seminar is designed to help students develop skills to communicate translational scientific research across disciplines. It provides opportunities for students to network with experienced investigators and a forum to share and discuss research ideas. While attending this course, students will present their own research and provide feedback on the presentations of their peers. Clinicians and researchers from broad disciplines are encouraged to attend and provide feedback as well. Students present a small subset of their research that they are an expert in, such as the unique design of a study, an experimental approach, a solution to a barrier in research, or a novel finding. Presentations are designed to be interactive, with minimal slides and engagement from the audience. All students are required to present at least one seminar related to their own research.

Notes

Program Components

- Apply after completion of first year PhD graduate courses
- Once accepted into the program, students are part of the PhD program in their selected Basic Science Department and part of the concentration in Basic and Translational Science Program.
- Complete Individual Development Plan based on Translational Research Competencies that you would like to develop
- Based on Individual Development Plan, identify a clinical/translational research mentor
- Work alongside BTS leadership, mentors, and fellow classmates to identify 12 credits of relevant work to develop Translational Research Competencies. These can include:
    - Relevant Coursework
    - Clinical Shadowing Experiences
    - Participation in National or Local Committees
    - Advocacy for Scientific Policy
    - Projects that Complement and Enhance the Translational Relevance of Dissertation Work
- Include one translationally relevant research aim in your dissertation proposal
- Develop mentor/mentee relationships with both basic and clinical healthcare professionals