CLINICAL AND TRANSLATIONAL SCIENCE, M.S. OR CERTIFICATE

About the Program

The goal of the Master of Science in Clinical and Translational Science program is to prepare health professionals to become competent in the methodological foundations and conduct of clinical and translational research. Participants will develop competencies related to principles of qualitative research methods, quantitative research methods, clinical and translational research process and design, informatics, effective oral and written communication, human research ethics and responsible conduct of research, cultural competency, research management, and professionalism and career development.

Cost

It is the student's responsibility to ensure they are enrolled in the prescribed courses and to pay tuition and fees at the time designated by the Bursar's Office. Details regarding tuition/fee charges and collection are available from the Bursar's Office.

Prerequisites

Certificate

- Graduate degree from an accredited institution or Bachelor's degree from an accredited institution plus one year of health sciences research experience.
- Grade point average of 3.0 or above calculated using the upper-division coursework, last 60 hours of the bachelor's degree or using graduate coursework.
- Must have earned a passing grade in College Algebra or a higher college-level math course (pre-requisite requirements for BSE 5163 Biostatistics Methods I).
- International applicants are required to meet the published minimum English Proficiency Requirements or have an approved waiver by the program.

Master of SCience

- Successful completion of a professional doctoral degree including, but not limited to, an M.D., O.D., D.O., D.D.S., Pharm.D., Doctorate of Nursing, Doctorate of Physical Therapy, or Doctorate of Rehabilitation.
- International applicants are required to meet the published minimum English Proficiency Requirements or have an approved waiver by the program.

Certificate Requirements

Core courses (12 credit hours)

Code	Title	Hours
CTS 5143	Foundations of Clinical Research	3
CTS 5133	Foundations of Translational Research	3
BSE 5113	Principles of Epidemiology	3
BSE 5163	Biostatistical Methods I	3

Research practicum (3 credit hours)

The Research Practicum is a mentored research practicum that will require the students to write a seed grant application or submit a manuscript for a translational research project. The projects will be grounded in a broad range of disciplines and settings; however, each project must include some aspect of translational research.

Code	Title	Hours
CTS 5221	Practicum Preparation Course	1
CTS 5950	Clinical Translational Sciences Practicum	2

The practicum requires the completion of:

- Practicum Prep Course (1 hour): Completion of background information online modules (e.g., components of a grant, grant writing tips, sources of funding, budget development, manuscript writing, principles of community engagement, principles of cross-cultural research, etc.) and developing a plan for the research practicum.
- Practicum Course (2 hours): Generation of a written, research product, including either a manuscript or seed grant application.

Note: the program curriculum can be completed in two semesters and all of the coursework can be taken in an online format with interactive video for discussions.

Master of Science Degree Requirements

This degree program requires total of 33 credit hours consisting of didactic study and experiential practicum, and a mentored research project including a thesis. Students are required to take 7 core courses (18 credit hours), 2 elective courses (6 credit hours), and research hours (9 credit hours).

Code	Title	Hours
Core Courses (18 credit hours)		
CTS 5143	Foundations of Clinical Research	3
CTS 5133	Foundations of Translational Research	3
BSE 5013	Application of Microcomputers to Data Analysis	3
BSE 5113	Principles of Epidemiology	3
BSE 5163	Biostatistical Methods I	3
CTS 5231	Practicum in Cross-Cultural Research	1
CTS 5112	Grants Management	2
Elective Courses (6 credit hours)		
BSE 5643	Regression Analysis	3
BSE 5653	Nonparametric Methods	3
BSE 5663	Analysis of Frequency Data	3
BSE 6643	Survival Data Analysis	3
BSE 6663	Analysis of Multivariate Data	3
BSE 5173	Biostatistics Methods II	3
PATH 6053	Mechanisms of Disease	3
PATH 6024	Principles of Pathobiology	4
BSE 5153	Clinical Trials	3
BSE 5193	Intermediate Epidemiologic Methods	3
HPS 6933	Qualitative Research Methods in Public Health	3
NURS 6213	Qualitative Methods in Research	3
PHSC 6002	Pharmacogenomics: The Foundation of Personalized Medicine	2

PATH 6043	Care and Use of Research Animals	3
HAP 5873	Health Information Systems	3
MI 6401	Bioinformatics Introduction	1
RADI 5403	Introduction to Clinical Biomedical Informatics for Quantitative Scientists	3
RADI 5413	Introduction to Clinical Biomedical Informatics for Biological Scientists	3
Research Hours (9 credit hours)		
CTS 5980	Research in Clinical Translational Sciences	1-6

Eligible Program Participants

- Graduate students, Post-doctoral fellows, clinicians, and research staff in Basic, Life, or Social Sciences; Allied Health Sciences; Pharmacy; Dentistry; Public Health; Nursing; or Bioengineering.
- Tribal or other non-University affiliated health professionals interested in developing or enhancing their ability to conduct Clinical and Translational research.

Admission Requirements

Individuals applying for acceptance may come from a wide variety of educational and work-related backgrounds, but must possess a professional doctoral degree. Applicants who do not possess a professional doctoral degree may apply only after receiving written permission from Julie Stoner, PhD, Graduate College Liaison for the MS in CTS Degree Program.

Program Objectives

The goal of the MS in CTS program is to prepare health professionals to become competent in the methodological foundations and conduct of clinical and translational research.

Participants will develop competencies related to principles of qualitative research methods, quantitative research methods, clinical and translational research process and design, informatics, effective oral and written communication, human research ethics and responsible conduct of research, cultural competency, research management, and professionalism and career development.