

M.S. IN CLINICAL AND TRANSLATIONAL INVESTIGATION (HYBRID)

<https://med.miami.edu/graduate-studies/master-programs/ms-in-clinical-and-translational-investigation> (<https://med.miami.edu/graduate-studies/master-programs/ms-in-clinical-and-translational-investigation/>)

Overview

The Master of Science in Clinical and Translational Investigation (MSCTI) at the University of Miami offers a structured educational program that trains students in the principles and practice of translational science and clinical research. Our multidisciplinary program has been designed to prepare practitioners and researchers to adapt to translational science and to overcome the perceived bottlenecks that inhibit translational research. We equip our students with the tools to navigate the complexities of translational research design, methodology, regulatory and ethical challenges.

Drawing upon the University of Miami Miller School of Medicine's mission to educate the next generation of medical leaders and to lead life-changing discoveries that transform patient care through innovative research, the Master of Science in Clinical and Translational Investigation (MSCTI) degree program's mission is to educate the next generation of investigators who demonstrate the ability to review, design, and conduct high-quality, multidisciplinary clinical and translational research independently.

Our educational objective is to provide an instructor-led educational curriculum that introduces students to key areas of clinical and translational research, and to produce graduates who demonstrate core competencies in clinical and translational research. Students will learn how to design independent and collaborative research projects and become well-versed in key aspects of clinical and translational investigation.

Course of Study

The Masters in Clinical and Translational Investigation can typically be completed in 4-6 consecutive terms (Fall, Spring, Summer) depending on the goals and professional responsibilities of the student. The 30 credit-hour program includes completion of structured taught courses and completion of a master's thesis which may take the form of a completed research grant proposal or publishable manuscript. Successful completion of the MSCTI requires students to maintain a GPA of 3.0 or greater with no grade below C in any courses and successful completion of the master's thesis.

Students who intend to complete the MSCTI program part-time must discuss their plan with their employer and make adjustments as needed to attend course lectures. Students who are studying with an F1 visa must enroll in a minimum of nine credits per semester.

Contact Information

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MS Clinical and Translational Investigation Website (<https://med.miami.edu/graduate-studies/master-programs/ms-in-clinical-and-translational-investigation/>)

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Admissions Requirements

Admission Requirements

Competitive candidates will have the following:

- A bachelor's degree from an accredited institution
- Excellent academic record
- Strong letters of recommendation
- Motivation to pursue a state-of-the-art research education or a career in medicine and/or clinical and translational science
- Prior clinical and/or translational research experience is preferred, but is not required

Detailed information about the application package requirements can be found here (<https://med.miami.edu/graduate-studies/master-programs/ms-in-clinical-and-translational-investigation/application-process/>).

We accept applications from individuals who meet any of the following criteria:

- Clinician Scientists: Individuals who have completed terminal degrees (e.g., MD, PhD, DSci, DO, RN) who are interested in becoming independent investigators in clinical and/or translational science;

- Post-Baccalaureate: Students who have completed a Bachelor's degree who have outstanding academic credentials and an interest in obtaining a MS prior to a career in clinical translational research or a graduate program
- Clinical Research Professionals: Professionals currently working in a clinical and/or translational research position who are looking for more formal training to carry out their research and/or professional growth in this field.
- Foreign Medical Graduates/Trainees: Professionals in clinical and/or translational research roles who are also looking for additional training to carry out their research and/or professional growth in this field.

Curriculum Requirements

Code	Title	Credit Hours
Core Courses		
CTI 605	Introduction to Team Science and Entrepreneurship	2
CTI 602	Writing for Translational and Clinical Science	2
CTI 603	Research Ethics	3
CTI 805	Capstone Project / Master's Thesis	6
EPH 604	Clinical Trials	3
EPH 621	Fundamentals of Epidemiology	3
HGG 630	Variation and Disease	2
ELECTIVES		9
Bioinformatics (One of the Following)		
BST 623	Software Tools for Manuscript Development and Reproducible Research	
BST 625	Survey of Statistical Computing	
BTE 650	Introduction to Health Informatics	
EPH 651	Research Methods	
EPH 664	Fundamentals of Healthcare Analytics	
HGG 660	Bioinformatics Theory and Practice	
Biostatistics (One of the Following)		
CTI 615	Statistical Methods for Clinical and Translational Research	
EPH 601	Medical Biostatistics I	
EPH 602	Biostatistics II	
EPH 703	Advanced Statistical Methods I	
EPH 751	Survival Analysis in Clinical Trials	
BST 605	Statistical Principles of Clinical Trials	
CTI 604	Advanced Independent Study	
Cultural Diversity and Community Engagement (One of the Following)		
EPH 612	Global Health	
EPH 617	Disease Prevention and Health Promotion	
EPH 632	U.S. Health Systems	
EPH 640	Urban Environment and Public Health	
EPH 647	Community Based Participatory Research and Social Network Analysis	
EPH 656	Qualitative Research Methods	
EPH 728	Social Epidemiology	
Total Credit Hours		30

Program Plan for Part-time Professional Students

Year One		Credit Hours
Fall		
CTI 605	Introduction to Team Science and Entrepreneurship	2
EPH 621	Fundamentals of Epidemiology	3
Credit Hours		5
Spring		
CTI 602	Writing for Translational and Clinical Science	2

CTI 615	Statistical Methods for Clinical and Translational Research	3
HGG 630	Variation and Disease	2
Credit Hours		7
Summer I		
EPH 604	Clinical Trials	3
Credit Hours		3
Year Two		
Fall		
CTI 603	Research Ethics	3
EPH 651	Research Methods	3
Credit Hours		6
Spring		
CTI 805	Capstone Project / Master's Thesis	1-6
EPH 647	Community Based Participatory Research and Social Network Analysis	3
Credit Hours		4-9
Total Credit Hours		25-30

Program Plan for Full-time Students

This plan is ideal for students who want to complete the program full-time as well as students on F-1 visas.

Year One		
Fall		Credit Hours
CTI 603	Research Ethics	3
CTI 605	Introduction to Team Science and Entrepreneurship	2
EPH 621	Fundamentals of Epidemiology	3
EPH 617	Disease Prevention and Health Promotion	3
EPH 651	Research Methods	3
Credit Hours		14
Spring		
CTI 602	Writing for Translational and Clinical Science	2
CTI 615	Statistical Methods for Clinical and Translational Research	3
CTI 805	Capstone Project / Master's Thesis	6
HGG 630	Variation and Disease	2
Credit Hours		13
Summer		
EPH 604	Clinical Trials	3
Credit Hours		3
Total Credit Hours		30

Mission

Drawing upon the University of Miami Miller School of Medicine's mission to educate the next generation of medical leaders and to lead life-changing discoveries that transform patient care through innovative research, the Master of Science in Clinical and Translational Investigation (MSCTI) degree program's mission is to educate the next generation of investigators who demonstrate the core competencies necessary to review, design, and conduct high-quality, multidisciplinary clinical and translational research independently.

Student Learning Outcomes

- Ability to conduct high-quality, multidisciplinary clinical and translational research
- Ability to collaborate effectively within interdisciplinary teams
- Ability to navigate grant and manuscript writing processes
- Ability to communicate complex scientific concepts clearly
- Ability to translate scientific discoveries into practice and innovation
- Ability to identify and overcome critical research challenges