

# CLINICAL AND TRANSLATIONAL RESEARCH SCHOLARS PROGRAM

## Directors:

Catarina Kiefe, PhD MD, Professor, Department of Quantitative Health Sciences and Director, MD/PhD Program;  
Jonathan Watts, PhD, Associate Professor, RNAi Institute

**Program Administrator:** Judi Saber, Dept of Population and Quantitative Health Sciences

## Key program components

- Year 1 : MDP 740A course
- Summer after MDP 740A: 6-week research rotation
- Years 2 and 3 : continued progress on project developed and started through MDP 740
- Year 4: 2-3 months research rotation to complete project
- CAPSTONE presentation and manuscript preparation

**Optional 5<sup>th</sup> year to complete MSCI**

# MDP 740: 2022-23 course outline for all 1<sup>st</sup> year CTRS ( and MD-PhD) students: 2023-24 content under revision

Block	Session #		Taught by	
1	1	Intro to course. Critical appraisal of scientific literature	Watts/Kiefe	Introduction to course, expectations, teams. Critical appraisal
	2	Critical appraisal of scientific literature	Watts/Kiefe	Critical appraisal
	3	Rigor & Reproducibility(R&R) 1	Kiefe/Watts	History or R&R. Provide basic skills to define scientific premise and evaluate it in a NIH proposal
	4	Rigor & Reproducibility 2	Kiefe/Watts	Review basic elements of scientific project design and skills to detect sources of bias
	5	Rigor & Reproducibility 3	Kiefe/Watts	Scientific transparency and reporting
	6	Basic Statistics	Kiefe/Watts	Basic Statistics 1
	7		Kiefe/Watts	Basic Statistics 2
	8	Prospective research presentations	Kiefe-Watts	Presentation of potential projects by teams
2	9	Intro to PRISM	Watts	
	10	Intro to PRISM	Watts	
	11	Coding in R	Moore	
	12	Data Cleaning	Moore-Watts	
	13	Data visualization	Moore-Watts	
	14	Applications	Moore-Watts	
	15	Project presentation	Kiefe-Watts	Presentation of projects by teams
	16-20	Summer rotation reports	Kiefe-Watts	

## **CTRP CURRICULUM COMPONENTS:**

The CTR Scholars Program (CTRS) is comprised of the core foundations of medicine and core clinical experiences curriculum of the school of medicine, plus four **required** courses **as follows:**

**MDP 740A.** This required series of **~20 two-hour sessions held during fall, spring and summer of SoM1.**

**Summer Research Lab Rotation:** **6-week, full-time lab rotation** under the guidance of a MD/PhD program-affiliated faculty mentor (<https://www.umassmed.edu/mdphd/about/faculty/>), or a mentor approved by program directors. Stipend support is provided by the program. Stipend provided

**Final Product:** The project identified during MDP 740 and Summer Research Lab rotation, will be continued through medical school. The expectation is to achieve substantial depth in a clinical/translational research project, leading to **a scientific presentation to peers and submission of a publication for peer review.**

**SENIOR SCHOLARS ELECTIVE:** Two-months (three are allowed) to complete research project, analyze data, submit project summary, prepare presentation for the UMMS Senior Scholars Day, and preparation of publications derived from accomplished work. **Participation in Senior Scholars Day** is required for completion of CTRS.

## 5 Year Combined Clinical/Translational Research & Master's Degree in Clinical Investigation Program (CTRP/MSCI)

### OVERVIEW:

The CTRS/MSCI includes an additional gap year during which students are enrolled in the Master's Degree in Clinical Investigation program in the Morningside Graduate School of Biomedical Sciences. **All students who are accepted and enrolled in the CTRS will have the opportunity to apply for the 5-year program option.** This opportunity is available only to enrolled CTRS students. Candidates for this option must be UMass Medical students officially enrolled in the CTRS program, who are in their 2nd year of medical school.

### MSCI CURRICULUM COMPONENTS:

- **ALL curriculum components of CTRS.**
- **MSCI Program (full-time, gap year on LOA from medical school):** Complete the core curriculum that includes, but is not limited to, a writing course, ethics, biostatistics and epidemiology plus research work with the mentor. The curriculum is designed around the skills and experience of each student. Each student must pass a qualifying examination to continue in research. After completing the thesis and passing the thesis examination the student will return to the School of Medicine for the completion of the third-year clerkships.

Successful participation in the 4-year Clinical and Translational Research Scholars Program (CTRS) will culminate in:

- Receipt of a “Certificate of Training in Clinical and Translational Research”
- Notation of completion of this elective pathway on your official transcript,
- Formal letter from CTRS Program leadership to the Dean about the student’s participation.

The completion of the 5-year CTRS-MSCI will culminate in receipt of a Masters in Clinical Investigation from the Graduate School of Biomedical Sciences.