Master of Science in Clinical Investigation

Student Handbook

2026-2027

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I. MS in Clinical Investigation Overview

The MS in Clinical Investigation (MSCI) is a post-graduate program that provides classroom and mentored experience in clinical research and innovation, preparing its trainees for careers in academic medicine, the allied health sciences, and global health related fields. The Program welcomes trainees who have or are pursuing graduate degrees in clinical and translational science (e.g. medicine, dentistry, nursing, physical therapy, pharmacy, and the biosciences) and trainees with engineering or business degrees who are involved in health care systems. The MSCI Program prepares trainees to be competitive investigators and team members working broadly within the clinical and translational science realm.

Candidates for the MSCI degree elect to complete one of two tracks of study: The **Discovery Track** emphasizes the inherited basis of human disease, mechanism-oriented clinical research, and bench-to-bedside research. The **Health Outcomes & Innovation** track emphasizes training in health services research, clinical trials, global health innovation, and bedside-to-community research.

The **Med into Grad (U2M2G)** cohort within the MSCI program is designed to prepare PhD scientists to bridge basic science discovery and improvements in human health. The program provides interdisciplinary training in human biology, pathophysiology, molecular medicine, and translational research, equipping students with the knowledge and skills needed to understand human disease and contribute to research with clinical relevance. Through integrated coursework and collaboration across the University of Utah's research, clinical, and innovation communities, students gain experience working within multidisciplinary teams and advancing discoveries toward meaningful health outcomes.

A total of 30 credit hours (20 didactic and 10 masters-level mentored research) is needed to meet graduation requirements for the MSCI degree. The average time to degree completion is two years. The curriculum for the MSCI program begins in fall semester (August) for Discovery Track. Health Outcomes & Innovation students begin with an intensive introductory 4-week session in summer semester (July). Students are expected to tailor their

program of study to fit their interests and goals. In addition to MSCI class offerings, students may wish to include in their programs of study courses offered by other graduate programs with relevant curricula. A student's program of study may include out-of-program graduate-level classes with prior approval from the Directors.

In addition to coursework, the MSCI program supports mentored research and innovation-applied research experiences at campus sites at the University of Utah School of Medicine and its global partners. Before enrolling in mentored research credits, students must identify a Supervisory Committee that will meet with them regularly (at least quarterly while pursuing the MSCI degree and more frequently with their Supervisory committee chair) to provide ongoing mentorship to complete their MSCI Capstone project. The Capstone project should demonstrate the successful application of skills and competencies acquired through core and elective coursework.

II. MSCI Capstone Project

The MSCI Program emphasizes the development of strong clinical investigation skills based on a solid foundation in research methods. The MSCI Capstone Project should therefore demonstrate application of skills and competencies acquired through the core and elective coursework that the student completed in the Program. The Capstone should reflect 10 credit hours (roughly 450 hours) of research work based on University of Utah credit hour guidelines. For students in the Med2Grad cohort in conjunction with their PhD, the Capstone project should be based on their clinical rotation experience. For all other students, the Capstone should be based on a mentored research or innovation project completed while enrolled in the Program. Capstone research projects should be in the form of a manuscript ready for submission to a peer-reviewed journal. The Capstone project (manuscript) must be submitted for approval to the MSCI Program Directors and all Supervisory Committee members six weeks prior to the MSCI candidate's tentatively scheduled Capstone presentation date.

III. Supervisory Committee

The Graduate School requires each graduate student to identify a Supervisory Committee composed of at least three faculty members. The committee chair and a majority of its members must be tenured or tenure-line faculty. The student may seek MSCI Program approval to petition for an exception by contacting the MSCI Academic Advisor. The student is responsible for identifying Supervisory Committee members who have subject matter and methodological expertise that suits the research project. The Supervisory

Committee provides guidance and approval of the proposed research design, reviews and provides feedback on the draft of the final project and attends and evaluates the final presentation.

MSCI candidates must identify a Supervisory Committee by the end of fall semester of their first year in the program to enroll in courses and mentored research credits. Supervisory Committees should meet quarterly and submit research progress reports twice yearly to the MSCI Program Academic Advisor. Students in the Med2Grad cohort must also identify a Supervisory Committee in timely fashion, but their research is mentored by their already-formed PhD committee and are exempt from the annual progress reports.

For more information on University of Utah Supervisory Committee requirements, see *Supervisory Committees*.

IV. MSCI Program Expectations

All MSCI degree candidates are responsible for complying with MSCI Program and University of Utah Graduate School policies and communicating with Program faculty and with their Supervisory Committee. For more on University of Utah Graduate School policies, see *Navigating Grad School*.

Enrollment

To comply with the Graduate School continuous enrollment policy, MSCI students must enroll in at least 1 credit hour every fall and spring semester from the time of admittance until graduation; summer enrollment is optional. To complete the MSCI program in two years, students will need to complete 15 credit hours per year. If circumstances require a leave of absence, students must notify the MSCI Academic Advisor and file a leave of absence form with The Office of the Registrar on or before the last day to add/drop second-half classes for the relevant semester.

Course Attendance

The MSCI Program has been structured to accommodate students with busy clinical and research schedules. Many program courses are offered in the evening or online and course assignments are posted on Canvas. Graduate students are expected to ensure that clinical and research responsibilities do not conflict with course attendance and participation.

Attendance policies are outlined in course syllabi. Course attendance and participation are a criterion for earning course credit.

Clinician trainees are guaranteed protected time by their departments to fully participate in the MSCI Program.

GPA Requirements for Graduation
MSCI students are required to have a GPA of 3.0 or higher to be considered in satisfactory academic standing and to graduate. Courses with a grade below a C- will not be counted toward the MSCI degree.

Ethics Requirement
Demonstrated competency of research integrity and other ethical issues involved in scientific research is required to complete the MSCI Program. Competency may be demonstrated through the completion of credit or non-credit options: MBIOL 7570 or eight REd Research Education (REd) online modules.

Academic Conduct
To ensure the highest standards of academic conduct are promoted and supported at the University, students must adhere to generally accepted standards of academic honesty as described in Policy 6-410: Student Academic Performance, Academic Conduct, and Professional and Ethical Conduct. All MSCI Program students must sign a statement at the start of their first semester confirming they have read and understand all University of Utah academic policies. For more on academic conduct expectations, see *University of Utah Code of Student Rights and Responsibilities*.

Required Program Meetings
Interaction with peers in the MSCI Program and with other researchers on campus is an essential component of training in clinical investigation. MSCI degree candidates are required to regularly participate in Translational Lunch meetings (Discovery Track) and Translational Research in Progress (TRIP) meetings (Health Outcomes & Innovation Track). All MSCI degree candidates are welcome to participate in both series.

Discovery students are required to attend monthly Translational Lunch meetings and may claim credit (.5CH) by registering for MDCRC 6822.

Health Outcomes & Innovation students are required to attend twelve TRIP meetings each academic year, six of which must be Capstone presentations and may claim credit (.5CH) for TRIP attendance once per year by registering for the MDCRC 6410 Seminar Series during the Spring semester and submitting online evaluation forms. Health Outcomes & Innovation students are also required to present their research in progress at TRIP once per academic year.

The MSCI Program hosts the annual Translational Research Trainee Symposium each November. **MSCI trainee participation in this event is mandatory.** Selected trainees share their research in a platform format. Trainees who are not presenting orally are required to present a poster or participate in the 3-Minute Research competition.

Student Progress Reviews
While enrolled in the Program, each student must meet with their Track Lead annually. The progress review includes a discussion of courses completed, progress toward the MSCI Capstone project, and if applicable, any changes to the program of study.

Course and Program Evaluations
The MSCI Program conducts regular evaluations of its courses and curriculum to support continuous improvement and fulfill University and Utah Board of Regents requirements. Students are expected to complete course evaluations, which are anonymous and used to assess course effectiveness, guide curriculum enhancements, and inform faculty review, promotion, and tenure processes. To evaluate long-term program outcomes, the Program may contact alumni for feedback and updated CVs/biosketches and may track research productivity, including publications and funding, using institutional and publicly available sources.

For more details on graduate school deadlines and how to apply for graduation, see *Master's Candidate Graduation Overview* and *Apply for Graduate Degree.*

V. MSCI Faculty

Kristina Allen-Brady
Research Associate Professor
Division of Genetic Epidemiology
PhD in Genetic Epidemiology, University of Utah

kristina.allen@utah.edu

Research interests:
Underlying genetic causes of chronic diseases

Teaches: Introduction to Genetic Epidemiology

Amanda Bakian *Research Associate Professor* Department of Psychiatry Divisions of Child Psychiatry and Public Health PhD in Biology/Ecology amanda.bakian@hsc.utah.edu	**Research interests:** Experimental design, geographical and environmental epidemiology, and gene-environment Interaction **Teaches:** Translational Research in Progress
Julie Barkmeier-Kraemer *Professor* Division of Otolaryngology-Head and Neck Surgery PhD, Speech-Language pathology, The University of Iowa julieb.kraemer@hsc.utah.edu	**Research interests:** voice disorders, swallowing disorders **Teaches:** Intro to Translational Science
Charlie Casper *Professor* Department of Pediatric Administration Divisions of Pediatric Critical Care and Public Health PhD in Statistics, University of Wisconsin-Madison charlie.casper@hsc.utah.edu	**Research interests:** Gene expression, clinical trial design, survival analysis, and longitudinal data. **Teaches:** Design and Implementation of Clinical Trials
Nathorn Chaiyakunapruk *Professor* Department of Pharmacotherapy PharmD in Pharmacy, University of Wisconsin-Madison PhD in Pharmaceutical Outcomes Research and Policy, University of Washington nathorn.chaiyakunapruk@utah.edu	**Research interests:** infectious and non-communicable diseases, and community pharmacy. **Teaches:** Systematic Reviews and Meta Analysis, Methods in Comparative Effectiveness Research
Ramkiran Gouripeddi	**Research interests:** Clinical research informatics,

Research Assistant Professor Department of Biomedical Informatics MS in Biomedical Informatics, Arizona State University MBBS, Stanley Medical College ram.gouripeddi@utah.edu	data mining, machine learning, metadata discovery, and computational modeling **Teaches:** Data Management
Richard Holubkov *Professor* Department of Pediatrics Divisions of Biostatistics, Pediatric Critical Care, and Public Health PhD in Biostatistics, University of Washington richard.holubkov@hsc.utah.edu	**Research interests:** Prospective intervention, pediatrics, and cardiology **Teaches:** Design and Implementation of Clinical Trials
Lynn Jorde *Professor* Department of Human Genetics PhD in Biological Anthropology, University of New Mexico lbj@genetics.utah.edu	**Research interests:** Medical genetics, human population genetics, gene mapping and cloning **Teaches:** Genetics of Complex Diseases and Medical Genetics for Clinical Investigation
Jordan King, PharmD, MS *Associate Professor* Department of Population Health Science PharmD, Roseman University of Health Sciences, College of Pharmacy MS in Clinical Investigation, University of Utah jordan.king@hsc.utah.edu	**Research interests:** Improving medication use through pharmacist-led health services, antihypertensive medication use and outcomes, anticoagulant management strategies, and helping patients make unbiased decisions **Teaches:** MDCRC 6120 Cost-Effectiveness Analysis

Sara J. Knight
Professor
Department of Internal Medicine, Division of Epidemiology
Ph.D. in Clinical Psychology, Southern Illinois University Carbondale

sara.knight@hsc.utah.edu

Research interests: Cancer, genomics & personalized medicine, medical decision making, and quality of life and patient-reported outcomes

Teachers: Engaging with patients, communities, and other partners in health research

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Anthea Letsou
Professor
Department of Human Genetics
Ph.D. in Human Genetics, Yale University
Postdoctoral Fellow in Molecular Biology, Princeton University

aletsou@genetics.utah.edu

Research interests: Developmental genetics, Neurobiology, and Signal transduction.

Teachers: Grant Writing, MSCI Bootcamps. Animal Models

Joey Mattingly
Associate Professor
Department of Pharmacotherapy
College of Pharmacy Vice Chair of Research
PhD, University of Maryland
PharmD, University of Kentucky
MBA, University of Kentucky

joey.mattingly@utah.edu

Research interests: Drug pricing policy, improving patient outcomes through a health equities research lens, and improving diversity in patient engagement activities

Teaches: Pharmaceutical Economics and Policy

Bryan McRae
Associate Professor
Department of Surgery
Division of Otolaryngology – Head and Neck Surgery
MD, University of Michigan Medical School

bryan.mcrae@hsc.utah.edu

Research interests: Ear, nose, and throat disorders, medical and surgical device innovation

Teaches: Introduction to Clinical Problem Solving

Morgan Millar Research Associate Professor Department of Internal Medicine, Division of Epidemiology PhD in Sociology, Washington State University morgan.millar@hsc.utah.edu	**Research interests:** Melanoma, Sociology, Social disparities in Cancer, Health disparities, Survey Methodology Research **Teaches:** Survey Methods
Richard Nelson *Professor* Department of Internal Medicine, Division of Epidemiology M.A. in Economics, University of Virginia M.S. in Clinical Investigation, University of Utah richard.nelson@utah.edu	**Research interests:** Health economics, infection diseases, rural health **Teaches**: Cost-Effectiveness Analysis
Ron Reeder, PhD, MS *Professor* Department of Pediatrics PhD Statistics, University of Utah MS Applied Math, University of Utah ron.reeder@hsc.utah.edu	**Research interests:** Cardiopulmonary resuscitation, sepsis, extracorporeal life support, hydrocephalus, and colorectal surgery. **Teaches**: MDCRC 6040 Design & Implementation of Clinical Trials
Julie Shakib *Professor* Department of Pediatrics, Division of General Pediatrics MPH in Public Health, University of Utah DO, Des Moines University College of Osteopathic Medicine MS in Clinical Investigation, University of Utah julie.shakib@hsc.utah.edu	**Research interests:** Maternal immunization to provide passive immunity to infants, neonatal outcomes related to in utero opioid exposure **Teaches**: Grant Writing

Justin D. Smith *Professor* Department of Population Health Sciences PhD in Clinical Psychology, University of Tennessee, Knoxville jd.smith@hsc.utah.edu	**Research interests:** Implementation science, prevention science, obesity, and Therapeutic Assessment **Teaches**: Advanced Methods in Dissemination and Implementation Science, Seminar in Dissemination and Implementation Science
Greg Stoddard *Adjunct Assistant Professor* Department of Internal Medicine, Division of Epidemiology Department of Orthopedics M.B.A. in Business Administration, University of Phoenix MPH in Public Health/Epidemiology, University of Utah greg.stoddard@hsc.utah.edu	**Research Interests**: Statistical methods in epidemiology **Teaches**: Introduction to Biostatistics, Computer Practicum, Regression Models, and Biostatistics for Basic Science
Craig Teerlink *Research Associate Professor* Department of Internal Medicine Division of Genetic Epidemiology Division of Public Health PhD in Biomedical Informatics, University of Utah craig.teerlink@hsc.utah.edu	**Research interests:** Gene discovery in complex diseases **Teaches:** Genetic Epidemiology

Robert B. Weiss *Professor* Department of Human Genetics PhD in Genetics, University of Washington bob@genetics.utah.edu	**Research Interest:** Muscular dystrophies, trinucleotide repeat expansion, comparative genomics, addiction **Teaches**: Introduction to omics: Applications for Research
Kevin Whitehead *Associate Professor* Department of Internal Medicine Division of Cardiology MD, University of Alberta kevin.whitehead@hsc.utah.edu	**Research Interest:** Developmental biology, vascular development, and adult congenital heart disease **Teaches**: Physiology and Medicine for Molecular Biologists

VI. Safety and Wellness

Your safety is our highest priority. In an emergency, dial 911 or seek a nearby emergency phone (throughout campus). Report any crimes or suspicious people to 801-585-COPS; this number will get you to a dispatch officer at the University of Utah Department of Public Safety (DPS; dps.utah.edu). If at any time, you would like to be escorted by a security officer to or from areas on campus, DPS will help — just give a call.

The University of Utah seeks to provide a safe and healthy experience for students, employees, and others who make use of campus facilities. In support of this goal, the University has established confidential resources and support services to assist students who may have been affected by harassment, abusive relationships, or sexual misconduct. A detailed listing of University Resources for campus safety can be found at https://registrar.utah.edu/handbook/campussafety.php.

Your well-being is key to your personal safety. If you are in crisis, call 801-587-3000; help is close. The University has additional excellent resources to promote emotional and physical wellness, including the Counseling Center (https://counselingcenter.utah.edu/), (the Wellness Center (https://wellness.utah.edu), and the Women's Resource Center (https://womenscenter.utah.edu). Counselors and advocates in these centers can help guide you to other resources to address a range of issues, including substance abuse and addiction.

VII. Useful Links

University of Utah Academic Catalog
All graduate-level University courses are searchable by keyword in the University of Utah General Catalog (https://catalog.utah.edu/#/search?q=mdcrc&&limit=20&skip=0).

MSCI Website
The MSCI Website is a great resource for MSCI information including semester class schedules, upcoming events and more. Click here to visit our website (https://ctsi.utah.edu/education/msci).

Student Forms

You can find important forms on the Student Info section of the MSCI website. (https://ctsi.utah.edu/education/msci/current-student-forms)

MSCI Class Schedules
The schedule for all MSCI courses is available by semester *under Main Campus Class Schedules* by searching "MDCRC" course listings (https://registrar.utah.edu/Catalog-schedules.php).

Tuition and Student Accounts
To view your tuition bill please log into Campus Information Systems (https://go.utah.edu/cas/login) then click on the Student tab and see Finance.
Click here to contact Income Accounting & Student Loan Services (https://fbs.admin.utah.edu/income/)

Employee Tuition Benefit
University employees who are eligible for the 50% tuition benefit must fill out a Tuition Reduction form every enrolled semester to request the benefit (https://www.hr.utah.edu/ebenefits/certify/tuition-reduction/how-to-apply.html)

MSCI Partial Tuition Scholarship
Students in good standing in the MS in Clinical Investigation may apply for a partial tuition scholarship for fall and spring semesters. See the policy regarding eligibility and application on the MSCI Current Student Info page under Tuition & Scholarships.

Registrar
To register for classes please log into Campus Information Systems (https://go.utah.edu/cas/login).
Then click on the "student" tab and see registration.
Click here to contact the registrar office (https://registrar.utah.edu/)

U of U Student Handbook
The University of Utah Student Handbook is the reference for university-wide policies pertaining to students (https://registrar.utah.edu/handbook/index.php).

Graduate Academic Standing, Performance, and Probation Guidelines
These guidelines identify criteria for satisfactory academic standing, inclusive of any program-specific criteria that may exist; and a baseline protocol to address unsatisfactory

academic performance and academic probation, respectively. (https://gradschool.utah.edu/navigating-grad-school/graduate-policies/academic-standing.php)

Graduate School Catalog

Policies that apply to all University of Utah graduate degrees are presented in the University of Utah Graduate School Catalog (https://gradschool.utah.edu/navigating-grad-school/). All students are expected to reference the catalog for deadlines and answers to questions regarding policy.

Masters Graduate Overview

Deadlines to apply for and complete the requirements for graduation are established by the graduate school each semester and posted on the Master's Candidate Graduation Overview page. (https://gradschool.utah.edu/navigating-grad-school/graduation-overview/masters-candidates.php)

MSCI Translational Research in Progress

For a list of Translational Research in Progress (TRIP) events, check our website (https://ctsi.utah.edu/education/seminars-events/translational-research-progress).

MSCI Course Descriptions

For course descriptions, visit the Courses page of the General Catalog and type "MDCRC" into the search field. (https://catalog.utah.edu/#/courses)

Contact information

For academic advising and other general questions contact msci_admin@lists.utah.edu