TRANSLATIONAL MEDICINE (MTM)

Visit program website. (https://uctranslationalmedicine.org/)

Degree Offered: Master of Translational Medicine (MTM)
Program Leadership:
Shuvo Roy, PhD, Faculty Director
Verna Manty Rodriguez, Executive Director
Admissions Inquiries:
mtm@berkeley.edu

Program Description

The Master of Translational Medicine program (MTM) trains students to solve fundamental problems in healthcare technology innovation. Within the MTM, trainees gain experience solving real world problems in a creative, multi-disciplinary team setting.

A joint program between UC San Francisco and UC Berkeley, the MTM provides a unique combination of engineering, business, and clinical expertise. The program revolves around a professionally oriented, team-based capstone project experience with mentorship from academic leaders, clinical specialists, and industry professionals. Students join the learning communities on both campuses, taking elective classes in engineering, business, public health, and more.

MTM offers two tracks: medical devices and therapeutics. Both tracks will explore how medical products move from concept, to clinical trials, into commercialization. The medical device track will cover ideation and prototyping while the therapeutics track will explore the pathways of biopharma innovations from hits to leads.

Faculty

The faculty director of the MTM program is Dr. Shuvo Roy. Numerous other faculty participate for specific courses or modules.

Career Outcomes

MTM graduates pursue several career paths after graduation, including as medical device engineers, biotech scientists, regulatory consultants, clinical trialists, entrepreneurs in start-ups, and other areas involved in bringing new health innovations to patients.

While the MTM is intended as a terminal degree, some graduates continue their education, typically pursuing MD or PhD degrees.

A number of MTM students are taking time out of their medical education, residency, or clinical practice to develop the skills for translating new ideas into products and processes for improved clinical outcomes.

The MTM program office at UCSF is located in Byers Hall on the Mission Bay campus. (At UC Berkeley, the office is in Stanley Hall.)

The MTM program is offered by the UCSF Division of Graduate Education and Postdoctoral Affairs, administered jointly by the UCSF Department of Bioengineering and Therapeutic Sciences and the UC Berkeley Bioengineering Department, and delivered by faculty members in the UCSF schools of medicine and pharmacy and in UCB's College of Engineering.

Learning Outcomes

This program is designed to train students in applying translational research and engineering approaches to solve fundamental problems in healthcare delivery. The program is focused on addressing real-world problems in a creative, interdisciplinary team setting.

The MTM program is an intense year of coursework designed around the main content themes of engineering, clinical needs and strategies, and business, entrepreneurship and technology. The centerpiece of the curriculum is the capstone project (https://uctranslationalmedicine.org/projects/) course. Complementing 10 months of work with external mentors, this class meets regularly to provide peer support, introduce concepts in translational medicine, and develop presentation skills.

Additional Information

Career Outcomes

- *Find* career outcomes and other data on master's programs *(*https://graduate.ucsf.edu/mtm-statistics*) on the Graduate Education and Postdoctoral Affairs website.*

Degree Requirements

Completion of core and elective classes in appropriate topical areas:

- 15 units of technical courses
- Nine units of courses on clinical needs and strategies
- 12 units of business and entrepreneurship courses

The units from BIOENG 296 and BIOENG 290 (UCB) can be assigned to different topical areas depending on the individual student's educational plan.

Completion of an integrative capstone project.

Presentation at MTM final symposium.

Core Courses

Code	Title	Units
BIOENGR 270	Translational Challenges: Diagnostics, Devices &Therapeutics	2
BIOENGR 260	Translational Challenges in Medicine	1
BIOENGR 283	Designing Clinical Research for Industry	2
BIOENGR 285	Health Care Finance & Economics	2
BIOENGR 296	MTM Capstone Project (UCSF) (Enroll FA,WI,SP)	9
Total Units		**16**

Core Courses from UCB

http://guide.berkeley.edu/courses/bio_eng/
http://guide.berkeley.edu/courses/engin/

Course	Title	Units
Fall		
ENGIN 270A	Organizational Beha	1.5
ENGIN 270B	Tech Management	1.5
BIOENG 291	Project Management for Translational Medicine	3
	Units	**6**
Spring		
BIOENG 280	Ethical and Social Issues	1
BIOENG 290	Adv Topics in BioE	3

Select one of the following: (all courses are 1.5 units)		1.5
ENGIN 270D	Entrepreneurship	
ENGIN 270E	Technology Strategy	
ENGIN 270F	Data Analytics	
ENGIN 270G	Marketing Prod Mgmt	
ENGIN 270H	Acctng & Finance	
ENGIN 270I	Tech Strategy	
ENGIN 270J	Industry Analysis	
ENGIN 270K	Coaching for High Performance Teams	
ENGIN 270L	Global Leadership Expertise	
ENGIN 270M	Professional Ethics in Technology, Law and Business	
ENGIN 270N	Innovation Management	
ENGIN 270P	Power and Persuasion for Engineering Leadership	
ENGIN 270Q	The Power of Diversity and Inclusion for Engineering Leaders	
	Units	**5.5**
	Total Units	**11.5**

Non-course Core Requirements

- Capstone project
- Participation in final symposium