

# MTM Capstone Project Team Solicitation 2019-20

Please submit by **June 30, 2019**

## Overview

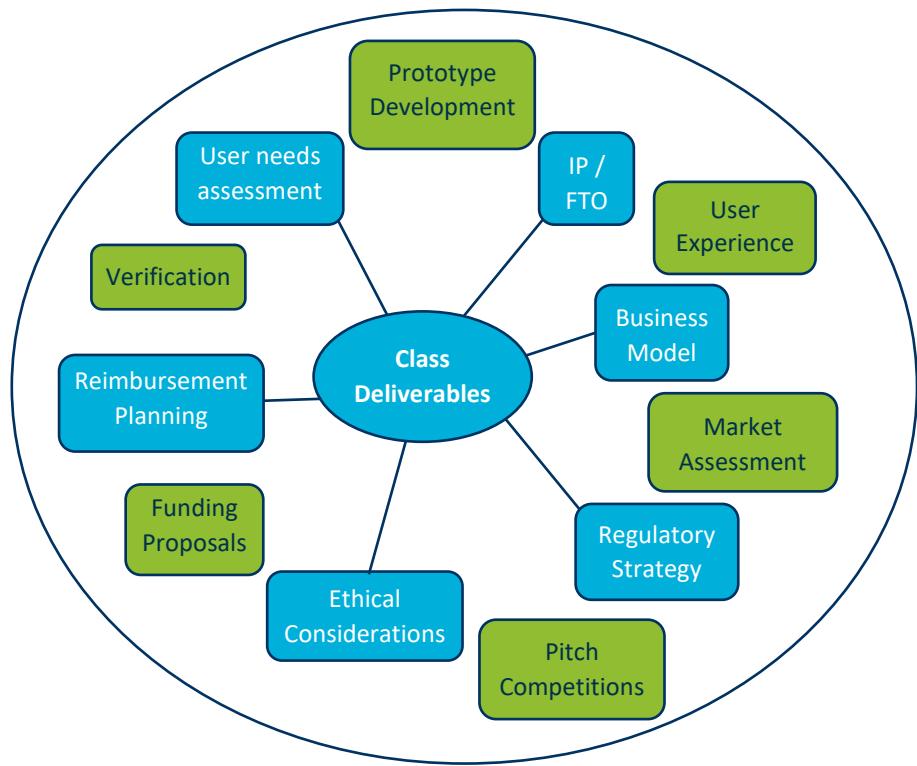
*"MTM students were instrumental in moving the development of my project forward"*

-- MTM Capstone sponsor

MTM teams are interdisciplinary, including engineers, life scientists, and occasionally members with clinical or business experience. Teams take on different tasks during the year depending on the needs of the sponsor and the requirements of their courses. Typical tasks suitable for capstone teams include prototype development, needs evaluation & market analysis, and early verification. Students work approximately 10-15 hours per week in the early part of the year and 15-20 hours per week toward the end of the program.

## Background of the Program

The MTM program prepares students for careers in health care technology innovation through a combination of hands-on experiential learning and classroom work. Students learn the principles of bringing new innovations toward clinical application. The Capstone Project serves as the focal point for class exercises and presentations; students will learn about IP, for instance, by conducting an analysis of the technology essential to their project. The culmination of the program is a final, public presentation of the project idea and their efforts, similar to a business pitch event.



### 2019-20 MTM Cohort

57% Undergraduate engineering

10% Clinical experience

50% have at least 2 years work experience

Additional backgrounds in neuroscience,  
molecular biology, and chemistry

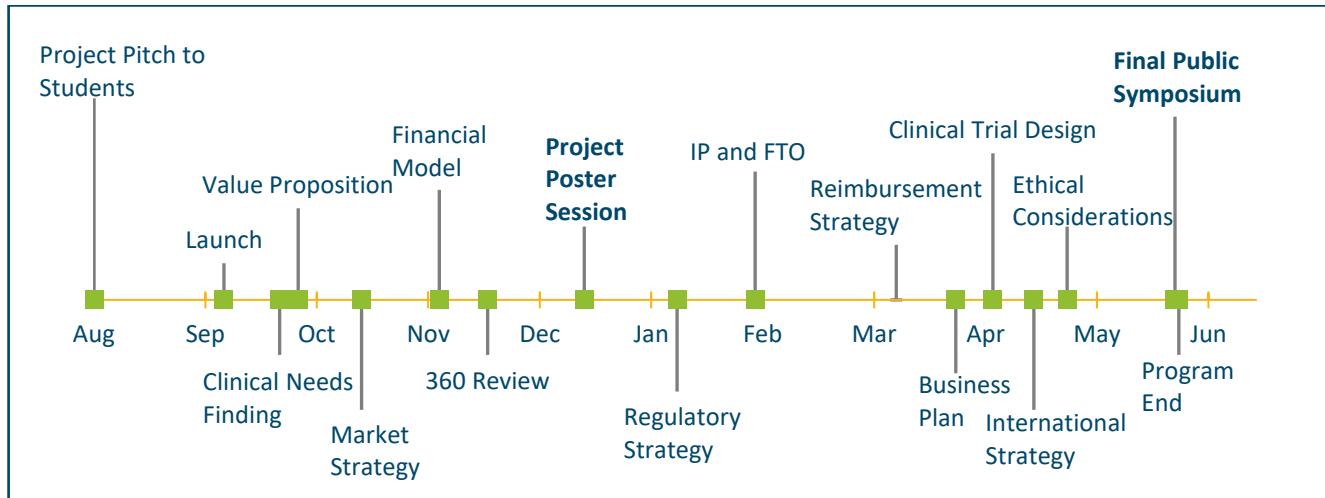
### Student Profiles

Students come to the program with a wide range of backgrounds and levels of work experience. Teams will be an interdisciplinary mix of different student skills. Some are primarily interested in technical development, others are most enthusiastic about business and entrepreneurship. Still others hope to gain clinical exposure in preparation for medical school. Most students value opportunities to learn about different health care examples and career paths.

## The MTM Year

*"Due to the MTM team's efforts ... we are in a fundamentally stronger position as a company than we were just 9 months ago" -- MTM Capstone sponsor*

The MTM year is fast paced and intense with frequent class assignments related to the capstone project. Though the exact dates of these deliverables are subject to change, the chart gives an example of the pacing of the year. Project sponsors, especially at early stages, find these course reports valuable for a variety of uses including funding proposals and development planning. For some aspects of the project, students may be paired with relevant external mentors.



### Expectations of the Sponsor

MTM students are looking for an educational experience and sponsor must commit to this goal. Students should work together as a team, rather than in individual silos. Sponsors need to have adequate resources available for students to dive in, and should commit time to help students advance their goals. Teams generally have weekly contact with sponsors, and sponsors are asked to complete monthly surveys on team progress. Sponsors must review student documents in a timely manner.

### Timeline for Project Selection and Launch

Project proposals are vetted by the MTM leadership to ensure they contain the elements needed for successful student learning. During this process, the MTM program may reach out to proposing teams for clarification of their plan or to request improvements.

- *Mid-August:* Selected project descriptions shared with incoming students
- *Late-August:* sponsor teams present their projects to the students, with opportunity for discussion
- *Early-to-mid-September:* MTM program builds capstone teams, balancing each student's background and level of interest with sponsor's needed skills. Students are considering multiple projects, so no particular student is guaranteed a place on a particular project
- *Late-September:* Final teams of 2-4 students established, ready to begin work immediately
- *Late-September:* Sponsors should plan a kick-off meeting to bring students on board

### Anatomy of Successful Capstone

1. Variety of project deliverables of interest to sponsor
2. Regular contact with sponsor team
3. Opportunities to engage a range of student skills
4. Sufficient resources (time, equipment, funding) available
5. Able to be discussed in non-confidential settings

# Project Proposal

## Components

- A cover sheet (use template on following page)
  - For sponsor team members, include keywords of primary areas of expertise (e.g., clinical background, engineering design, or business development)
  - Approximate time each team member may be able to give to the project (e.g., frequent availability, weekly meetings, no more than quarterly, etc.)
- Project Narrative (1-2 pages)
  - Description of clinical issue and high level goals
  - High level of current project status (e.g., early stage, under development, well advanced)
  - Resources available for the project (such as workspace, funding, partnerships)
- Project Milestones and main deliverables

*For the following essential components of translational medicine, describe current project status and what you hope the MTM team will accomplish in the coming year. As appropriate, describe skills you hope the MTM team will bring to, and the mentorship available for, each milestone. Note that many of these components are required of the team as part of their class deliverables.*

- User needs assessment
- Market and competitive analysis
- Concept generation and testing
- Prototype refinement
- Intellectual property and freedom to operate
- Regulatory strategy
- Reimbursement planning
- Business model development
- Mentorship Plan
  - Describe how sponsors intend to interact with the students,
    - Type of work environment (laboratory, company, or team working on their own)
    - Frequency of general lab meetings (including day and time if known)
    - Frequency of dedicated meetings with MTM team
    - Who will be available for routine contact to answer students' day-to-day questions
  - Outline the first tasks students will pursue following the initial team meeting
- Desired skill sets in capstone team

*Please note the interdisciplinary nature of teams described above. MTM teams will include 3-4 students with a range of skills and backgrounds.*

## Repeat Teams

For sponsors who have hosted an MTM team in the previous two years, please provide additional information to help students understand how the coming year will offer an independent capstone experience. Students will be encouraged to reach out to previous team members to gain their insight into project selection.

- Describe the milestones achieved by previous MTM capstone team
- Identify new milestones for this year's team that were not approached in previous year
- Outline specific differences between this year's project and the previous team
- For the class deliverables, explain how additional student work will add value to project

<Project Title>

<Team Leader (Name, title, email)>

<Sponsoring organization or entity>

<Additional Key Personnel>

<Project Summary (max 250 words)>

Ideal Team Size (Generally 3-4 students):

Project location:

- We understand that MTM student teams will need to present information about their project in classes throughout the year at a final symposium that will be public. We will work to resolve any sensitive IP strategy issues to make this possible.*

Please submit completed proposal to [mooseo@berkeley.edu](mailto:mooseo@berkeley.edu)