Thank you so much for your interest in or participation as a student's Advisor in the Capstone Scholarship and Discovery course (CSD)! Your role is imperative in guiding students through this Project. Please contact us at any time via CSD@umassmed.edu.

WHAT IS CAPSTONE?

The Capstone Scholarly Project (CSP) is a mentored, longitudinal project based on each student's personal passion. The project must be related to medicine, and meet at least one of the six UMMS core competencies. Projects may range from bench or clinical research, to advocacy, to the humanities, to medical education. Students are the primary drivers of projects, working with LC mentors (for the FOM1 year) and then **Project Advisors** (through completion) who provide knowledge, skills, and experience to support students in the design, execution, writing, and presentation of their work. Students submit reports on their projects each term to help guide and document their efforts. Credit for the CSP is granted based on the Project Final Write-up and the formal presentation with reflection in the spring of their AS year. The Capstone course is required for graduation; grading is Credit/No Credit.

OVERVIEW

- The Capstone Scholarship and Discovery Course (CSD) **Leadership**
    - **Co-Leaders:** Rachel Gerstein PhD; Christina Hermos MD MS; Carolina Ionete MD PhD; Sarah McAdoo MD; Lawrence Rhein MD; Joseph Sabato MD; Jill Zitzewitz PhD
    - **Program Manager**: Colleen Burnham, MBA
- **Students are the primary drivers** of their project, initially working with LC Mentor and then Project Advisor for assistance in finding resources, time management, right-sizing their projects, and reviewing and providing feedback on all written materials. Capstone course leaders serve throughout the process as Capstone House Affiliates.
- **Timeline plan**: Students develop a timeline with the Project Advisor for the Capstone Project no later than at the time of submitting the Capstone Proposal, when the Project and design is determined.
- **Project scope**: Capstone projects should be manageable over 3 years, with the bulk of the work (literature review,
  data collection, project implementation) often completed by the end of second year.
- **Various steps** in Project development and related reports begin in the first year and culminate in completion of Project Final Write-Up in December, and its presentation in March of the Advanced Studies (AS) year. The longitudinal design of the course requires some form of Capstone effort across all 4 medical school years. That effort ranges from literature review, to discussions with experts in their topic area, to major project work, to writing about the Project.
- **Update Submission**: Students are expected to have all updates reviewed for feedback by the Project Advisor prior to submission to CSD course leadership team for formative evaluation. FOM1 reports are reviewed by LC Mentors; subsequent reports are reviewed by Project Advisors. For each report, a WORKSHEET including explanations, rubric, and resource links, is provided to use as a draft for review by LC Mentors and Advisors; the SUBMISSION version is used to "turn in" the requested information – all forms are available via the Capstone Course website.
- **Change of Topic**: Students are encouraged to carefully consider before making significant changes. If the student
  determines to change topics altogether or is planning to *substantially* **change existing project design or methodology**, changes may be made until January of the CCE year using the Change of Project Request form available via the course website. A Change in Advisor constitutes a significant project change and requires a conversation with the Capstone House Affiliate.
- **Group Projects**: Students may work in groups to a maximum of 3 students. Each student is responsible for a particular piece of the Project. Groups may work with one or multiple Project Advisors.
- **MD PhD and MSci Students are not required to complete Capstone years 1-3**; although must complete the Advanced Studies year Capstone Month, including presentation and reflection components.

STEPS, UPDATES, AND REPORTS

All reporting is reviewed by the CSD Leadership Team to ensure students are successful in their work and meeting Capstone requirements. Capstone House Affiliates review all reports by house membership throughout medical school years.

FOM1 (1st year, MS1) | Required Reports
- Fall Progress Report | Topic consideration | November 30
- Spring Progress Report | Potential topics, Summer research planning | April 30

FOM2 (2nd year, MS2) | Required Reports
- Fall Advisor Selection | November 11
- Project Proposal | November 30
- Spring Project Update | April 15

CCE (3rd Year, MS3) | Required Reports
- CCE Fall | updated timeline, updated bibliography, draft Introduction & Reference Sections | November 1
- CCE Spring | updated timeline, updated bibliography, draft Methods Section | April 27

AS (4th Year, MS4) | Required Reports
- AS Capstone Month |May (EE1) – December (M6) | EVOS CCE Spring Term
- OPTIONAL | AS Fall Project Update, with Draft Results Section | due date determined with Affiliate
- AS Capstone Project Final Write-up | December 20
    – 5-10 page *scholarly* paper, including: Introduction, Methods, Results, Conclusions, Discussion, and References
    – Publication is *not* required, although students may do so
- Deliverables – due as appendices to Capstone Project Final Write-up
    – Any work integral to the actual project, such as research protocols, surveys, educational pamphlets, or any presentation(s) done in addition to the final Capstone presentation
- AS Capstone Presentation | March 18 (Wednesday of Match Week)
- Guided Reflection paper | April 1

- ∗ Remediation must occur by April 30 of the AS year

PROJECT WORK TIME (Examples of when project work may be done)

- **FOM1 (1st year, MS1)** unscheduled time, the summer between FOM1 and FOM2 year, interest group participation, Optional Enrichment Elective (OEE) or Learning Community activities, new or ongoing research, international experiences or volunteer time
- **FOM2 (1st year, MS2)** Population Health Clerkship, and other opportunities as above
- **CCE (3rd Year, MS3)** self-designed Flexible Clinical Experience (FCE), existing FCE or opportunities as above
- **AS (4th Year, MS4)** related electives, Capstone month (scheduled May – December) is dedicated time intended for report writing and compiling the final presentation

All reports throughout the 4 years are submitted to CSD and reviewed by CSD leadership. Reports are reviewed to ensure students are successful in their work and meeting Capstone requirements.

CAPSTONE PROJECT ADVISORS | ROLE AND RESPONSIBILITY

Students engage a **Capstone Project Advisor** in November of their FOM2 year.

- The Advisor provides **project management**, a role previously filled by LC Mentors.

- Advisors may be **from any professional discipline** and do not need to be faculty or located at UMMS.
- **Residents or Fellows** may serve as advisors with the consent of their supervising program director, if they are expected to remain in that residency program through the duration of the student's Capstone work.
- It is recommended that Advisors **accept no more than one student, or one student group**, from each class year cohort.
- **Students are the primary drivers** of their project and work, utilizing Project Advisor assistance in finding resources, time management, right-sizing their projects, and reviewing and providing feedback on all written materials.
- The Advisor may need to help the student narrow a project to the appropriate scope of work by helping them right-size expectations. For comparison, a Capstone project should be less work across four years than a Senior Scholars Project, which is allotted 2-3 months.
- Project Advisors are encouraged to **schedule regular meeting** or check-in times, and may be otherwise engaged
  by students as needed
- Capstone Projects requiring **IRB approval require appropriate oversight by Advisors** and may require an additional time commitment

Students submit the **Capstone Project Proposal** in December of their FOM2 year.

- The Proposal is a major outline of the Project including Goals, Objectives, Methods, anticipated Results and expected Deliverables, as well as providing information regarding the need for IRB, IACUC, or SAS review
- Along with the CSD leadership team reviews each Capstone Project Proposals to determine that it meets course requirements.
- Beginning with the Capstone Project Proposal and through to the Capstone Scholarly Project (CSP) Presentations, **all written work is sent to Project Advisors for review and feedback and designated by Project Advisors as "meets expectations" *prior to* submission.** If Project Advisors are not able to review before the due date, students are required to contact their Capstone House Affiliate to request an extension.
- Recommended timelines for allowing ample time for your review will be suggested to students; however, Project Advisors should plan to discuss a timeline around this and all other reports so that there is time for review and feedback while accounting for time either you or the student will not be available (conference travel, holidays, etc)

Multiple resources are available such as the Capstone Course website, Mentors and Advisors, House Librarians and the Library website, and CSD House Affiliates to assist students (and all associated) with information about the Capstone course and its requirements, selecting topics, finding advisors, and writing and presentation skills.

Capstone Team

Colleen Burnham, MBA | Kelley & all group projects
Rachel Gerstein, PhD | Blackstone & Tatnuck
Christina Hermos, MD, MS | Burncoat
Carolina Ionete, MD, PhD | Quinsigamond
Sarah McAdoo, MD, MPH | Brightwood
Lawrence Rhein, MD, MPH | Tatnuck
Joseph Sabato, Jr, MD | Kelley
Jill Zitzewitz, PhD

Acronyms

CSD - Capstone Scholarship and Discovery course
CSP – Capstone Scholarly Project

Student years:

Foundations of Medicine (FOM) I & II | MS1 & MS2 | Years 1 & 2
Core Clinical Experiences (CCE) | MS3 | Year 3
Advanced Studies (AS) | MS4 | Year 4

If interested in advising multiple students from one class cohort, please complete the Advisor Exception Request Form

UMMS Institutional Review Board (IRB)
UMMS Institutional Animal Care and Use Committee (IACUC)
UMMS Students as Study Subjects (SAS)