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: Rachel Gerstein PhD, Course Co-Leader; Lela Giannaris PhD, Course Co-Leader; Christina Hermos MD MS, Course Co-Leader; Carolina Ionete MD PhD, Course Co-Leader; Yungsheng Ma MD PhD MPH, Course Co-Leader; Sarah McAdoo MD, Course Co-Leader; and Program Manager, Colleen Burnham, MBA
- The Capstone Faculty Committee (CFC): professionals from various departments, and student representatives
- Students are the primary drivers of their project, initially working with LC Mentors and then Project Advisors 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 an additional resource for their respective houses.[i]
- 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) 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 and presentation in March of the 4th year. The longitudinal design of the course requires some form of Capstone effort across all 4 years. That effort ranges from literature review, to discussions with experts in their topic area, to major project work, to writing about the Project.
- Report Submission: Students are expected to have all reports reviewed for feedback 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 they determine to change topics altogether, or are 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 4th year Capstone Month, presentation and reflection components.

STEPS AND REPORTS

Reports are reviewed to ensure students are successful in their work and meeting Capstone requirements
- CSD leadership house affiliates review all reports throughout medical school years
- CFC reviews Project Proposal and Final Project Write-up

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

2nd year (FOM2) | Required Reports
- Fall Advisor Selection and Project Proposal | December 15
- Spring Progress Report | May 31

3rd Year (CCE) | Required Reports
- Fall Progress Report, with Draft Introduction Section | October 31
- Spring Progress Report, with Draft Methods Section | April 30

4th Year (AS) | Required Reports
- AS Capstone Month |May (EE1) – January (M7) | EVOS CCE Spring Term
- AS Fall Progress Report, with Draft Results Section (unless CSD month is EE1-M2) | August 31
   - Exception: CSD month EE1 – M2 no Fall Progress Report due. Final write-up due October 31
- AS Final Project Write-up - due based on scheduled AS Capstone month[ii]
   - 5-10 page scholarly paper, including: Introduction, Methods, Results, Conclusions, Discussion, and References
- Deliverables – due as appendices to Final Project 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 (Wednesday of Match Week)
- Guided Reflection paper – due at the time of Capstone Presentation
- Remediation must occur by April 30 of the AS year

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

- **FOM1** (1st year): unscheduled time, the summer between FOM1 and FOM2 year, interest group participation, optional enrichment elective or learning communities activities, new or ongoing research, international experiences or volunteer time
- **FOM2** (2nd year): Population Health Clerkship, and other opportunities as above
- **CCE** (3rd year): self-designed Flexible Clinical Experience (FCE), existing FCE or opportunities as above
- **AS** (4th year): related electives, Capstone month (scheduled May – January) 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; the Capstone Faculty Committee reviews Project Proposals and Project Reports as well as any particularly concerning reports. Reports are reviewed to ensure students are successful in their work and meeting Capstone requirements.

CAPSTONE PROJECT ADVISORS – ROLE AND RESPONSIBILITIES

- Students engage a Capstone Project Advisor for their Project in the late fall of the 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 only 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 the FOM2 (2nd) 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[iii]
- Along with the CSD team, the Capstone Faculty Committee reviews all Capstone Project Proposals to determine that they meet the Capstone 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)
- CCE (3rd) Year Progress Reports require general information and updates on how students' Projects are progressing. In addition, students will utilize these submissions to include polished drafts of various sections of their final scholarly Project Reports. The CCE Fall Progress Report includes a _draft_ Introduction section; the Spring Progress Report includes a _draft_ Methods section, the AS Fall Progress Report (when required) includes a _draft_ Results section.
- In the AS (4th) year, students complete the AS Capstone month according to the AS Elective schedule (EE1-M7). Students are allowed to schedule interviews during the Capstone month as it is possible to work on Project write-up and submission while off-campus.
    - Students submit the final Capstone Project Report and associated deliverables (products) no later than January of the AS year (due dates align to AS elective months)[ii]
        - The Capstone Project Final Write-Up is the complete and detailed description of their project, written in the format of a **scholarly paper**. Publication is not required, although students may do so.
    - In March of the AS year, students present their Capstone Scholarly Projects at the Capstone Presentation Forum; the Guided Reflection is due at this time.
- Remediation (if required) must occur no later than April of the AS year.

Multiple resources are available such as the Capstone Course website, Mentors and Advisors, House Librarians and the Library website, CFC members, 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.

The Capstone Team
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Rachel Gerstein PhD **|** CSD Course Co-Leader | Blackstone
Eustathia Lela Giannaris PhD | CSD Course Co-Leader | Tatnuck
Christina Hermos MD MS | CSD Course Co-Leader | Burncoat
Carolina Ionete MD PhD | CSD Course Co-Leader | Quinsigamond
Yunsheng Ma MD PhD MPH | CSD Course Co-Leader | Kelley (MS1 MS2)
Sarah McAdoo MD MPH | CSD Course Co-Leader | Brightwood
Colleen Burnham MBA | Program Manager | Kelley (MS3 MS4) & Group Projects

Acronyms

CSD - Capstone Scholarship and Discovery course
CSP – Capstone Scholarly Project
CFC – Capstone Faculty Committee

Student years:
FOM 1 & 2 (1st and 2nd year) – Foundations of Medicine
CCE (3rd year) – Core Clinical Experiences
AS (4th year) – Advanced Studies

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

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Rachel Gerstein PhD | Blackstone
Eustathia Lela Giannaris PhD | Tatnuck
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Carolina Ionete MD PhD | Quinsigamond
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ii

EE1 EE2 M1 | Final Write-up DUE October 31
M2 M3 M4 | Final Write-Up DUE December 31
M5 M6 M7 | Final Write-Up DUE January 31

iii

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