

New Scholarly Project Description To start with Class of 2029

1. **Description.** Each student will be required to complete a scholarly project for FRCT. The following project types will be considered, provided they relate to medical or public health:

Option A. **FRCT Report or Published First-Author Article** (see “5. Final Report Format”)

- i. **Hypothesis-Driven Research:** Present the results of experiments or investigations in detail.
- ii. **Exploratory Research (Hypothesis-Generating):** Investigates a new area to better understand a phenomenon or develop a research question.

Option B. **Conference Presentation with FRCT Report, or Published First-Author Article** (see “5. Final Report Format”)

- i. **Case Series:** Delve deeper into individual cases or groups, providing a more in-depth analysis of a particular phenomenon.
- ii. **Case Report:** Document specific instances of interesting phenomena, often focusing on individual patients or cases.
- iii. **Technical Notes:** Describe new methodologies, instruments, or procedures
- iv. **Meta-Analysis/Systematic Review:** Rigorous reviews that use specific methods to identify, select, and analyze research on a topic

- **Note:** To utilize Option B, students must submit their proposal no later than January 31 of third year. After this date, **only Option A projects will be accepted**.

2. **Mentor selection.** Each student must select a faculty mentor who will guide them during their project. Several resources are provided to help students with mentor selection. These include an extensive list of possible mentors with their research descriptions and a Mentor Workshop. In addition, a faculty member of the Office of Student Research will meet with each student one-on-one and provide additional advice on mentor selection.

3. Project Approval

- a. **Project proposal.** Together with their mentor, students will develop a plan for their scholarly project. A 3-page (maximum) description of the proposed project must be submitted to the course for approval. If students complete a PRISM application (or similar application requiring a research plan) and perform that project, the PRISM application can satisfy this course requirement. This proposal is due in May of first year. If for any reason students cannot meet this deadline, they must email the Course Director and request an extension. In all cases, the proposal should be submitted before beginning work on a project that will be used to fulfill the FRCT requirement.

Note: Students intending to complete Option B project types (Case Reports, Case Series, Technical Notes, Meta-Analyses/Systematic Reviews) must submit their proposal **by January 31 of third year**. After this date, **only Option A projects will be accepted**.

Students must use one of the provided proposal templates, which include the following elements.

- i. **Clear goals.** The project should have clear goals, a hypothesis, and specific aims. The proposal should explicitly state the basic purposes of the work and define specific, measurable, and achievable objectives. Important questions in the field should be identified, and the goals should be feasible, novel, and relevant.
- ii. **Background and significance.** Briefly summarize the scientific background of the proposal. Critically evaluate existing knowledge, and specifically identify gaps that the project is intended to fill. Discuss any necessary skills you bring to the project. Be sure to indicate how the specific aims, and goals, were derived from the background. State concisely the importance of the project and its broad, practical implications.
- iii. **Methods.** Discuss the experimental design and procedures to be used to accomplish the goals and specific aims. Describe the tentative sequence and timetable of the investigation. Include the means by which data will be analyzed and interpreted. Emphasize your role in this phase of the project.
- iv. **Literature cited.** References should appear as consecutively numbered citations in the text rather than alphabetically. Each citation should include the names of all authors, title of the article, name of the journal or book, year of publication, volume number, and page numbers for articles, chapters, or sections of books.

b. **Mentor Declaration Form.** The student's mentor must submit a Mentor Declaration Form, which can be found on MedScope. This form is also required prior to starting the research project.

4. **Research Timeline.** Most students will conduct their research during the summer between years one and two. However, other time frames are possible. If the mentor agrees, the research can be spread longitudinally over several years. In some circumstances, the research can be performed during a third- or fourth-year research elective. Note that there is no specified amount of time that must be spent on this component of the project. We recommend the equivalent of approximately 8 weeks of full-time work.

5. **Final Report Format.** A manuscript resulting from the scholarly activity that is accepted for publication and lists the student as the first author will be accepted as the final report for all project types. If a manuscript is not accepted for publication, requirements will vary by project type.

Option A. **Hypothesis-Driven Research and Exploratory Research:** Students may submit an FRCT Report. The FRCT Report should follow the structure of a scientific manuscript and include Abstract, Introduction, Methods, Results, Discussion, and References (5–6 pages, excluding figures and references).

Option B. **Case Reports, Case Series, Technical Notes, and Meta-Analyses/Systematic Reviews:** An FRCT Report alone will not suffice. To fulfill requirements, students must present their work at an external conference or at UMSOM's Medical Student Research Day (MSRD) **AND** submit an FRCT Report, **OR** they must publish a manuscript as first author. This ensures the work has been peer-reviewed or vetted within the relevant field. The FRCT report should follow the manuscript format typical of that field.

6. **Final Report Review.** All final reports will be reviewed based on the following criteria:

- a. **Significant results or outcomes.** Describe the outcomes achieved and demonstrate how the outcomes (significant or not) add to what is already known about the topic. In the discussion, try to answer these questions:
 - i. Were the goals achieved?
 - ii. Does the work add consequentially to the field?
 - iii. Are additional areas opened for further exploration?
- b. **Effective presentation.**
 - i. Does the scholar use a suitable style and effective organization to present the work?
 - ii. Is the message presented with clarity and integrity?
 - iii. Is evidence communicated systematically?
 - iv. Are outcomes or other aspects of measurement discussed?
- c. **Reflective critique.** Try to address the following questions:
 - i. Does the report include a thoughtful assessment of the work's limitations?
 - ii. Are the next steps/future directions of the work outlined?
 - iii. Does the scholar critically evaluate their work?
 - iv. Does the scholar bring an appropriate breadth of evidence to their critique?
 - v. Does the scholar describe what was learned and what difference it makes?