

# THE SCHOLARLY PROJECT OPTION

## Summary:

The major goals of the special study modules are to promote analytical thinking and critical evaluative skills and to bring together concepts in the fundamental and applied sciences from the early years of medical school and wed them to the practical skills acquired in the later years of medical school. The Scholarly Project Option (SPO) will lead to credit equivalent to completion of a Special Study Module. This option allows a student to engage in focused learning on a topic of *their* choosing that promotes a close relationship between a student and a research mentor over the course of the final 12 months of medical school. A student who selects this option is required to design a project, execute the project, write up a report or a paper suitable for publication, and prepare and present a poster to faculty and peers. The time requirement for this option is substantial and depends upon the student being self directed and highly motivated, as well as a commitment from faculty to provide the necessary mentorship.

## SCHOLARLY PROJECT

### OVERVIEW:

All Scholarly Projects will be supervised by the Scholarly Project Executive Committee (SPEC). Due to the rigor of this option, participation in this program will be mentioned in the Medical Student Performance Evaluation (MSPE).

### GOALS:

1. **Promote integration and application of fundamental / applied sciences to clinical medicine**
2. **Foster analytic thinking and inquiry**
3. **Collaborate in a mentor-mentee relationship**
4. **Promote self-directed learning**
5. **Enhance written and oral communication skills**

### SELECTION OF TOPIC:

Scholarly projects must promote analytic thinking and inquiry. Research projects may be from areas that touch upon health, disease, or the interface of social, biologic or other areas of biomedical science. Project activities may include clinical research, basic research, translational research, chart abstraction research, epidemiological research including international work, survey research, historical research, policy related research, health services research, meta-analyses, educational research (including curriculum development or educational web-tool development), or writing a research grant.

Students might collaborate on a “scholarly project” tied to faculty research that is already underway, but most would design their own project based on their own interest. Students will need to identify a research mentor from the UCD Campus or Health System, from our affiliates, from the California DOH or a similar agency, or from a accredited US or Canadian medical school. Examples of projects previously completed by students are given below:

- Incidence and characteristics of outpatient digoxin adverse drug events
- Understanding the Role of Radiofrequency Ablation in the Treatment of Common Cancers
- Autoimmune-Related Retinopathy and Optic Neuropathy (ARRON) Syndromes

- Provider Adherence to Medication Management Guidelines for Major Depressive Disorder in Asian Americans
- Evaluation of Long- and Short-Term Sequelae Related to Emergent Internal Iliac Artery Gelform Embolization in Patients with Pelvic Trauma
- Clozapine-Induced Paralytic Ileus
- Long-term survival of elderly patients with muscle invasive bladder cancer treated by radical cystectomy versus bladder-sparing radiation
- Fertility concerns post-hysterectomy/oophorectomy in transsexual men: a survey
- 360 Evaluation: Understanding differences in competency evaluation between medical schools across the nation
- Healthcare delivery in different resource settings: A comparison of emergency medicine in Vietnam and the United States
- Is admission and observation required after a negative abdominal CT scan in pediatric patients with blunt abdominal trauma?
- Gender effects on depression: An analysis of the relationship between acculturation and depression in older Mexican-Americans
- Gender bias in the workup of (+) exercise treadmill test (ETT) in Women
- Hyperglycemia-induced hyponatremia in diabetic ketoacidosis: Serum sodium concentration correction factor
- Physician-Assisted Suicide: Medicine and Society
- Validity of Concept Mapping Assessment in Medical Education
- Development of an acute pain treatment algorithm;
- Assessment of spinal block for pain reduction in outpatient surgery;
- Predictive factors for hip fractures in the elderly: a prospective study

#### **SELECTION OF MENTOR:**

Any faculty member can serve as a research mentor. Mentors should have the research methodology and mentoring skills necessary to guide the 4<sup>th</sup> year student in the project.

We advise honest discussions with your proposed mentor about the time required of them and the expected products.

The Chair and members of the SPEC will be available to help guide faculty mentors who are having a significant difficulty with a student or with the mentoring process.

#### **INITIATION OF SCHOLARLY PROJECT RESEARCH PROPOSAL:**

Students can submit the proposal for a Scholarly Project during the dates indicated each academic year (e.g. April 1-May 15, 2011). Proposals will be reviewed as soon as possible after they are received. If you wish to provide the Committee with a draft we will do our best to give you formative feedback so that you can submit a proposal that has a higher probability of acceptance.

All proposals should be submitted by email on the approved form, and all proposals must include a signed contract between the faculty-mentor and the student whereby both agree to participate in the project and commit to the full scope of the required activities (see below). Please note, if research work has started in years one, two or three and the student wishes to continue to use the data set or apply a new analysis this is all absolutely appropriate. However, each student will still need to submit a full proposal as outlined below.

The SPEC may reject a proposal, ask for modifications to the proposal, or accept the proposal as is agreed. If the Scholarly Project fails to be accepted (even after one chance for re-submittal) the student will be required to take a Special Study Module. Once a proposal is accepted the student is committed to completing the project no later than **March 1, 2012** or three months prior to their expected graduation (if they will not graduate in May). This date allows for modifications to the final report should the report not fulfill all criteria and still allow time for graduation. Additionally, all students enrolled in the scholarly project option must schedule four weeks in their fourth year "flight plan" dedicated exclusively to scholarly project activity. Of course all scholarly projects will require longitudinal time spent outside of the designated four weeks, but the 4 week requirement ensures some protected time for scholarly project activity.

**Research projects** must be rigorous and be collaborative with a mentor. All Scholarly Project proposals will be carefully and completed evaluated by SPEC using the following criteria:

- Significance and rationale for the project and a clearly stated hypothesis and research objective;
- Demonstration of an understanding of the problem in its current context (state of the art prior to the project);
- Outline for a relevant literature review relating to the research hypothesis
- Design of a research project with appropriate qualitative or quantitative objectives;
- Expected ability to work independently but under the guidance of a mentor.
- The above material (abstract and background) should be written primarily by the student.
- Originality
- Mentor-Student contract (form provided) that outlines the agreement whereby both parties are willing to participate in an active and ongoing manner in the development of the project and to assure that the all needed IRB forms will be approved;

#### **COMPONENTS OF THE SCHOLARLY PROJECT:**

Once a project proposal is accepted by SPEC, the student will be required to:

- Obtain all necessary IRB approvals if applicable and as deemed appropriate by the research mentor;
- Submit 2 progress reports to the SPEC reviewed and signed by their mentor and detailing progress to date, barriers to project completion, and anticipated findings.
- Meet monthly with their mentor (more often if possible) and detail progress on the submitted reports.
- Successfully perform these 3 components:
  - Conduct a project, under the guidance of a faculty mentor, that is of sufficient quality and depth to meet the approval of the SPEC;
  - Write a research paper or journal article that describes the project and findings. The research paper or journal article should be in a form that is acceptable for submission for publication to a journal in that field. That is, it should have an Introduction, Hypothesis, Methods, Results and Discussion. It should demonstrate an understanding of the topic, the place of the research within the context of published literature, and a clear description of the methodology and results. The paper should demonstrate that the student has the ability to read and critically evaluate medical literature. The paper must be submitted to SPEC by March 1;

- Prepare and poster and discuss the project with faculty and peers the Medical Student Research Forum – Poser Day in the March 2011. The poster can (and often is) and abbreviated form of the paper.

### **EVALUATION:**

Evaluation will be conducted by the Scholarly Project Executive Committee and criteria will be distributed and posted on the web for faculty and students. Criteria for evaluation include demonstration of critical thinking, thoroughness, acquisition of knowledge, professional relationships, initiative, and presentation.

Criteria for acceptance of the Scholarly Project:

- Significance
- Approach
- Feasibility
- Independence
- Originality
- Creativity
- Synthesis of data and analysis

### **RESOURCES**

#### **MD Scholars Program**

<http://mdscholars.ucdavis.edu/>

#### **School of Medicine- Office of Research**

##### **Quick Guide to Medical Student Research Opportunities**

<http://www.ucdmc.ucdavis.edu/medresearch/awards.html>

##### **Research Opportunities Grants List (December 2007)**

<http://www.ucdmc.ucdavis.edu/medresearch/medsp/includes/SOMGrants2007.pdf>