

## Basic Science Courses and Special Topic Seminars

**Select Topics in Human Anatomy:** This course offers a discourse on the structural, functional, and clinical anatomy of the head, thorax, abdomen, pelvis and lower extremities. Two examinations supplemented by several quizzes will be administered to measure student knowledge. (Course Director: Alisa Winkler, PhD, Course Co-Director: Barry Botterman, PhD)

**Select Topics in Medical Biochemistry:** This summer course will feature study of the following topics related to molecular biology: cell cycle, apoptosis, replication, recombination and repair, cell signaling, transcription, translation, and protein degradation. In addition, it will include: a review of organic chemistry emphasizing functional groups and reactions important to life, amino acids and proteins, myoglobin and hemoglobin, enzymes, an overview of metabolism, glycolysis, gluconeogenesis, the citric acid cycle, oxidative phosphorylation, nitrogen metabolism and the urea cycle. Three examinations will be administered to measure student knowledge. (Course Director: Julian "Bill" Peterson, PhD; Course Co-Director: Raymond MacDonald, PhD; Course Coordinator: Richard "Max" Wynn, PhD)

**Embryology:** This course, which consists of the first part of the embryology course given in the fall of medical school, covers basic embryologic development (developmental anatomy). There is a single introductory lecture, followed by self-study sessions that are coordinated with a Web-based program (Simbryo) illustrating the course of human embryologic development. If studied in association with the SEP anatomy course, the student is provided the opportunity to study the development of an organ system at the same time as that organ system's anatomy is studied. Student self-study progress will be assessed on a routine basis with occasional quizzes. At the end of this summer course, a comprehensive, final test will be given consisting of multiple choice items. The fall course is graded on a pass-fail basis. **If a student passes the final test in the summer course, s/he will get credit for passing the examination in the regular medical school course.** The medical school embryology course also includes an advanced seminar series in the spring semester which the summer SEP participants will still be required to complete along with the rest of the medical school class. (Course Director: Lewis Waber, MD).

**Select Topics in Membrane and Cardiovascular Physiology:** This course will address the following topics: 1) Introduction to Electrophysiology, 2) Cardiovascular Physiology--featuring a basic overview of the heart and vascular system, 3) Electrical Activity of the Heart and the EKG, 4) Mechanics, Excitation-Contraction Coupling and Heart Sounds, 5) Autonomic Regulation of the Heart and Hemodynamics, and 6) Clinical Applications and Scenarios. To assess performance, students will take one or more quizzes and a final exam. (Course Director: George DeMartino, Ph.D.).

**Learning Assessment Seminar:** Students participating in this program component will be administered a battery of assessment tests designed to assess: learning and study skills, learning styles, reading ability, critical thinking skills, and stress-level (associated with transitional factors). This seminar will give students the opportunity to review and discuss their assessment results. (Presenter: Al Hesser, EdD; Director: Student Academic Assistance Services)

**Financial Management Seminar:** Now that I have started medical school, how should I manage my limited financial resources? When will my funds be available to me? How much debt will I accumulate before residency and how long will I have to pay it off? This seminar will address all these concerns ... and many more. (Presenter: Chuck Kettlewell, Director: Financial Aid)

**Learning and Study Skills Seminar:** This seminar will feature presentations and discussions designed to develop/reinforce effective strategies and techniques for managing time, listening and note-taking, condensing information, memorizing information, and test-taking. (Presenter: Al Hesser, EdD; Director: Student Academic Assistance Services)

**Library Orientation:** Through this interactive session, students will identify and use electronic library resources relevant to the program. Resources will include electronic books, journals and databases. (Library Presenters: Claudia DeShay, PhD, Emily Patridge, MLS and Mary Ann Huslig, MLS)

**Stress Management Seminar:** In this seminar, stress will be defined, a distinction will be made between two types of stress, a 4-step stress model will be presented, and strategies that can be taken at each step, to better manage stress, will be discussed. (Presenter: Al Hesser, EdD, Director: Student Academic Assistance Services)