

# PATIENTS AND SCIENCES (PS)

## PS 711: PATIENTS AND SCIENCES - COURSE 1

21 Credits/Maximum of 21

PS1 initially immerses students as contributing participants in primary care practices as patient navigators. Authentic patient -based experiences provide the springboard context for learning through small group (Inquiry or "IQ") discussions, expert tutorials, and independent study, guided by experienced educational mentors. PS1 encompasses these core components: - Patient Navigators: Students will immerse in specific community practice sites 3-4 half-days/week under the supervision of both a physician and a care manager. This on-site mentor team will help students to identify and navigate for patients in need of extra attention/communication or with barriers to care. - Inquiry Groups (IQ Groups): Students will meet in small (5-7 students) IQ groups at least 10-12 hours/week to share patient stories, focus questions for exploration, and develop learning objectives encompassing the four pillars of the PSU-COM curriculum - Basic Science, Clinical Science, Health Systems Science, and Humanistic Care. The initial weekly session will focus on patient stories and development of case-based learning goals and objectives. Students will research these objectives for subsequent discussions in Wednesday and Friday IQ sessions. Patient cases will be chosen based on student interest and the degree to which they complement and extend prior learning (see mapping and tracking below). The students will also be assigned a formative weekend assignment based weeks' experiences to synthesize learning from the previous week. These assignments are reviewed on Monday and the IQ cycle begins again. - Integrated clinical skills and anatomy (emphasizing Hypothesis-Driven Diagnostic Learning–HDDL): Time will be devoted each week to clinical skills and related anatomy from patient cases the students have encountered.. - Collaborative Science Tutorials (CST): Based on the model used at Oxford University (see Glossary), the CST will leverage the subject matter expertise available at University Park and Hershey to explore learning objectives identified (by students and faculty) in the IQ Groups as areas of weakness or insufficient coverage. - Assessment: Formative and summative assessment activities have been specifically designed to support active learning, self-assessment, and skills in critical and systems thinking. - Mapping and Tracking: Learning objectives derived from IQ Groups and Collaborative Science Tutorials, self-study, and assessment feedback will be mapped to PSU-COM competencies and sub-competencies scaffolded by the Calgary model of patient presentations (see Glossary). These markers of professional development will be addressed in Portfolio reflections and reviewed with faculty mentors to identify gaps and focus areas for future learning.

**Prerequisite:** Successful admission to the COM & University Park Program

## PS 712: PATIENTS AND SCIENCES - COURSE 2

21 Credits/Maximum of 21

PS-2 builds on navigational immersion from PS-1 to allow students increasing responsibilities as longitudinally contributing participants in primary care health teams. Authentic patient -based experiences provide the context for learning through small group inquiry (IQ) discussions, Collaborative Science Tutorials, and independent study, guided by experienced educational mentors. PS-2 core components: - Practice Immersion: Students will participate in specific community practice sites 3 half-days/week under supervision. - Inquiry Groups (IQ Groups): Students will meet in small (5-7 students) IQ groups at least 10-12 hours/

week to share patient narratives, develop questions for exploration and develop learning objectives encompassing the four pillars of the PSU-COM curriculum - Basic Science, Clinical Science, Health Systems Science, and Humanities. The process will continue in a fashion similar to PS-1. Initial weekly sessions focus on patient summaries in order to develop shared case-based goals and learning objectives. Students research the shared objectives for discussion in Wednesday and Friday IQ sessions. Patient cases will be chosen to complement and extend the depth and breadth of learning initiated in PS-1. The students will also engage in formative, integrative critical thinking activities on Tuesday afternoons to enhance learning. - Integrated clinical skills (emphasizing Hypothesis-Driven Diagnostic Learning–HDDL): Time will be devoted to clinical skill development, building on the scaffold from PS-1. - Collaborative Science Tutorials (CST): The CST will take on an expanding role in PS-2. Based on mapping of objectives from PS-1, identified gaps and areas requiring deeper coverage form the substrate for small group sessions facilitated by subject matter experts from University Park and Hershey. Collaborations with Eberly College of Science, the College of Health and Human Development, the College of Liberal Arts and the College of Arts and Architecture have been established. PSU will build on PS1 learning objectives and continue the mapping process to align with PSU COM core content. - Assessment: Formative and summative assessment activities will be similar to PS-1 and are designed to support active learning, self-assessment, and skills in critical and systems thinking. - Mapping and Tracking: Learning objectives derived from IQ Groups and Collaborative Science Tutorials, self-study, and assessment feedback will continue to be mapped to PSU-COM competencies and sub-competencies and PSU core content. These markers of professional development will be addressed in Portfolio reflections and reviewed with faculty mentors to identify gaps and focus areas for future learning.

**Prerequisites:** Successful completion of Patients and Sciences -1 (PS1 711)

## PS 723: PATIENTS AND SCIENCES - COURSE 3

16 Credits

PS3 is an integrative course designed to complement the experience of the Longitudinal Integrated Clerkship(s) and continue the collaborative learning experience of PS1 and PS2. PS3 encompasses elements for transition and preparation for clinical clerkships as well as material to complement LIC: - Inquiry Groups (IQ Groups): Students will continue to meet in IQ groups at regular intervals to share patient stories, focus questions for exploration, and develop learning objectives encompassing the four pillars of the PSU-COM curriculum - Integrated Science Sessions: Regular seminars to specifically integrate basic and clinical sciences in consultation with the COM and Penn State basic science faculty. - Kienle Groups: Regular sessions to explore medical humanities, ethics and professional identity formation - Clerkship-specific elements: PS3 also includes curricular time and space to address clerkship specific elements such as motivational interviewing, specialty-specific physical examination skills, clinical reasoning, clinical documentation and critical thinking skills.

**Prerequisite:** Successful completion of PS1 and PS2 & University Park Program PS 711, PS 712

## PS 733: Patients and Sciences - Course 4

16 Credits/Maximum of 16

PS-4 is a 20 week course offered in the Summer/Fall semester of the third year in the University Park Curriculum (UPC). Successful completion of

this course is required for progression through the UPC. The focus of the course is to elaborate and extend medical student learning, following their clinical clerkship year, in foundational science as it relates and applies to the practice of evidence-based medicine. Consistent with the educational philosophy and mission of the University Park Curriculum, the course centers on clinical cases and problems that provide the basis for discussing core concepts. Students will actively participate in the discussions and use their skills at information gathering and peer teaching to engage the material and topics. Faculty facilitation ensures that key areas and ideas are organized, discussed and elaborated to maximize student learning and concept integration. While PS-4 provides content included in the board exam, it is not intended to be a board preparatory course. The focus of PS-4 is on foundational science concepts and knowledge to inform medical practice and support lifelong learning. The course builds on authentic clinical patient cases published in the medical literature. Two to three cases provide the context for learning each week. Cases are selected based on core concepts in foundational sciences (Aquifer Science Initiative) and the College of Medicine Core Curriculum. Learning objectives are developed in foundational sciences, with an emphasis on Biochemistry, Neuroscience, Genetics, Molecular Biology, Pathology, Immunology, Pharmacology, and Anatomy. This framework ensures coverage of a broad set of conceptual topics grounded in the selected case studies. Eberly College of Science and Hershey-based College of Medicine faculty serve as content expert discussants. Where possible, cases draw from student experience. Relevant background readings, video, or other web-based instructional material are provided in key topic areas to supplement student-driven research. Laboratory sessions in anatomy are also provided. In addition to the classroom work, all students will continue clinical responsibilities in a continuity practice of their choosing. On average, this experience will occur 1/2 day week. This course is Pass/Fail. Students will be provided with ongoing formative feedback including facilitator and peer feedback and customized NBME MCQ testing (Step 1 Bank) provided in a progress test format. Summative essay examinations will be administered at the mid-point and at the end of the course.