

2025-26 Health Systems Science Course Description

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Health Systems Science Course

Course Description:

Undergraduate medical education has traditionally focused on learning basic sciences with subsequent focus on clinical sciences in an experiential setting. Through this model of education, students gain an understanding of how to identify and manage illness. While this remains the fundamental basis of healthcare delivery, it is also essential to understand the healthcare systems that patients and physicians must navigate in order to provide optimal care.

This course aims to provide a foundational understanding of the components health systems, including health care delivery structures, the U.S. insurance system, and health policy. The intersection of these components drive population health. The physician plays an important role in this system and has potential to drive quality improvement towards value-based care to create a more sustainable system for the future of health care. In order to accomplish this, students must also have a firm understanding of evidence-based medicine to allow for translation of basic and clinical research into health care delivery and policy.

This is a longitudinal course with the core syllabus presented in MS1. The course will extend through the four years with concepts to complement other experiences in medical school. This course aligns with content and competencies required in preparation for the Step 1 and Step 2 components of the United States Medical Licensing Examination (USMLE).

Course Leadership:

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Course Goals:

Course Goals are based in the Stritch School of Medicine Core Competencies

1. Medical Knowledge

(MK 1.6) Develop a foundation in evidence-based medicine with emphasis on:

- a) Measurement, Variability, Distributions, and Probability
- b) Screening and Diagnostic Testing
- c) Study Design and Sampling
- d) Study Outcomes
- e) Study Error
- f) Statistical Tests and Research Ethics

2. Interpersonal and Communication Skills

(IPS 3.3) Demonstrate the ability to work with peers in a small group setting to explore health systems case studies.

(IPS 3.6) Contribute to peer education through participation in small groups.

3. Practice-Based Learning and Improvement

(PBL 4.4) Develop a foundation for quality improvement, patient safety, and value-based care.

(PBL 4.4) Describe tools utilized for driving quality improvement and analyzing patient safety events.

(PBL 4.5 and SBP 6.1) Summarize the relationships between quality, cost, and value in an exploration of value-based care.

(PBL 4.4 and SBP 6.4) Explore social determinants of health and the role of physicians in health equity.

4. Professionalism

(PROF 5.1) Demonstrate responsible behavior in completing all course requirement, including participation in small group.

(PROF 5.2) Demonstrate professionalism in communication defined as effective, accurate, collaborative, and collegial.

5. Systems Based Practice

(SBP 6.1) Define health systems science and its relationship to basic and clinical sciences.

(SBP 6.2) Explain how components of health systems affect population health.

(SBP 6.1) Recognize the basics of the health care insurance industry: Medicare, Medicaid, and other models of insurance.

(SBP 6.1) Explain the relationships between health policies, healthcare, and population health

(SBP 6.1) Explain health care delivery models and their relationships to U.S. health economics and healthcare policy.

(SBP 6.3) Identify key medical-legal concepts pertaining to HIPAA, medical errors, and malpractice.

(SBP 6.3) Explain the role of healthcare informatics in health care delivery.

6. Interprofessional Collaboration
(IPC 7.1) Recognize team-based models of healthcare and the role of a physician leader.

Organization of the Course:

The course content is scheduled on the calendar such that recorded lectures and problem sets are allotted time on the schedule for completion. Recorded content can be viewed at an alternative time but students are strongly encouraged to complete course content in the suggested timeframes, as concepts will build upon each other.

- 1) Course lectures
 - Lectures will be in an asynchronous virtual format
 - Lectures will be pre-recorded and linked on the Health Systems Science course LUMEN site.
 - PowerPoint slides will be provided on the course site.
- 2) Biostatistics Problem Sets
 - Problem sets intended for learning how to apply concepts from lectures.
 - Problems may be completed individually or with classmates.
 - There will be a recorded video of how to solve the problem sets posted for your review.
 - These are not submitted for evaluation, they are for your study purposes only.
- 3) Case Based Studies & Exam Review
 - There is one large group Cased-Based Study and Exam Review in the first half of the course, and one in the second half of the course.
 - Attendance for these two LIVE in-person on campus sessions is REQUIRED**

Supplemental Resources (Optional):

There are **no required** textbooks for this course. The following are **optional** resources recommended for those interested in exploring concepts in more depth:

- 1) Health Systems Science, 2nd edition
Susan E. Skochelak, et al
- 2) Health Systems Science Review
Jesse M. Ehrenfeld and Jed D. Gonzalo
- 3) AMA Health Systems Science Modules- free access by creating a free login
<https://edhub.ama-assn.org/health-systems-science>

Exams and Grading:

Exam Format:

- 1) Exam 1
 - Material from the first half of the course
 - Approximately 40-50 multiple choice questions
 - Questions mapped to learning objectives from lectures
- 2) Exam 2
 - Material from the second half of the course
 - Approximately 40-50 multiple choice questions
 - Questions mapped to learning objectives from lectures

Course Grading:

Grading will be determined based on the average score over both exams. Students will need to achieve an average score of $\geq 70\%$ to pass. The course will be graded on a pass/fail basis.

Faculty and Course Evaluation:

Student feedback is essential to the improvement of this course each year. All students will be required to complete an evaluation of the course and faculty to provide input.