Mechanisms of Human Disease II 2018-19

MHD II

• Course Director
  — Theresa Kristopaitis, MD
• Assistant Course Director
  — Kamran Mirza, MD, PhD
• Course Coordinator
  — Rina Goslawski

Course Goals - Medical Knowledge

• Demonstrate knowledge of the principal pathologic processes, including neoplasia, inflammatory mechanisms, immunological mechanisms, tissue renewal, regeneration and repair, and adaptation and cell death (you are experts on this now)

• Demonstrate knowledge of the epidemiology, etiology and pathogenesis of common and prototypic diseases including the genetic and molecular basis of disease

• Demonstrate basic knowledge of the morphology (gross and histopathologic) of normal organs

• Demonstrate knowledge of the morphology (gross and histopathologic) and abnormal function (pathophysiology) of diseased organs
Medical Knowledge

• Demonstrate ability to correlate the pathology of disease with its clinical manifestations.

• Demonstrate ability to develop basic diagnostic and treatment strategies for common diseases.

• Demonstrate knowledge of common and prototypic bacteria, viruses, fungi and parasites with respect to their classification, epidemiology, pathogenesis, diagnosis and clinical manifestations of infection and prevention.

• Identify factors which may lead to disparities in the diagnosis and management of common and prototypic diseases.

• Demonstrate an understanding of how findings of basic biomedical and translational research are applied to advance knowledge of the pathogenesis of disease.

Patient Care

• Develop a differential diagnosis and diagnosis and explain the pathogenesis of a disease and clinical course when provided with a patient clinical history, physical exam, pertinent diagnostic data, and/or morphologic (gross and histologic) findings.

Interpersonal and Communication Skills

• Communicate effectively and collaborate effectively about common and prototypic disease entities with student peers and faculty during laboratory case presentations and small group case discussions.

• Contribute to the education of peers by actively engaging in small group sessions.

• Contribute to the education of peers by diligently preparing for and clearly presenting assigned cases during laboratory sessions.
Practice Based Learning & Improvement

• Critically evaluate one's performance in the course to identify strengths and personal limitations in either knowledge of course content or study methods; develop learning goals to address any deficiencies and actively seek out assistance from appropriate and available resources to successfully remediate deficiencies.

• Identify a learning need by developing a clinical question based on a small group clinical scenario and locate, evaluate, and effectively use the information found from appropriate resources and relevant information technology to answer the question (no formal exercise this semester)

Professionalism

• Demonstrate professionalism by interacting with course staff, faculty and peers in a courteous and respectful manner at all times

• Demonstrate responsibility and accountability by punctually attending all required course activities, including small group sessions, laboratory sessions and exams

• Complete course evaluations in a timely manner and provide constructive feedback to course faculty and the course director in a professional manner

• Demonstrate professional behavior by reading course-related Outlook email communications on a regular (at least daily) basis and responding to direct communication from the Course Director and Course Coordinator in a timely fashion.

Professionalism

• Demonstrate professional and ethical behavior by honestly completing course examinations and assignments without attempting to seek advantage by unfair means and by reporting any unethical behavior of peers to the course administration.
Course Design

• Lectures
• Laboratory
• Small Group Case Discussions
• Independent and Self-Study
• Histology for Pathology

Attendance

• Attendance at EACH Small Group and Laboratory Session is a Course Requirement

• Each student is responsible for
  — attending the small group, lab to which they have been assigned
  — signing the designated attendance sheet for each session before the session ends

Required Texts

10th Edition

8th Edition
Additional Resources - Histology

Additional Resources – Pathophysiology, Clinical Correlates

Self Assessment
Block Exams

- 5 MHD II Block Exams
  - Computer
  - Multiple choice
    - BEST answer

- Lectures
  - Average 3 questions/lecture

- Lab sessions
  - 2-3 questions per lab

- Histology for Pathology
  - 2-3 questions from each module

- Year 1 Physiology Reviews
  - 2-3 questions/Review

End of Semester
Final Cumulative Exam

- Covers ALL LECTURE material from the beginning of MHD II to the end
- Covers ALL material from MHD II Laboratory Sessions
  - Multiple choice
  - Free Text

Absence from Required Course Activities

- Unexpected/Emergency Absences from Required Activities
  - "Examinations or other required academic activities [in MHD small group and laboratory sessions] missed due to illness or other legitimate, serious, extenuating reasons may be made up only if the Course Director and Associate Dean for Student Affairs or designate have received notice of the absence, in advance if non-emergent or as soon as possible if emergent, and granted permission for an excused absence. Absence due to illness requires written documentation from the Student Health Service and/or the physician caring for the student submitted to the Office of Student Affairs".
Absence from Required Course Activities

- Non-Emergent Absences from Required Activities
  - "Petitions for approved absences for serious but non-emergent reasons from activities in which attendance is mandatory (i.e., examinations, and in MHD small group and lab sessions) must be submitted in writing to the Course Director, Course Coordinator, and Associate Dean or Assistant Dean for Student Affairs at least thirty days prior to the start of the course in which the absence will occur. A student must have a serious reason for an excused absence or request for a change in an exam date. The petition should detail the nature of the conflict and available supporting documentation should be attached (e.g., copy of a jury summons or invitation to present a poster). A petition for permission to be absent is a request, requires review, and is not automatically approved simply by submission. In granting permission, the logistics and feasibility of rescheduling the missed academic activity are weighed and the student is notified of the decision.
  - Approval to reschedule an examination specifies a date later than the original test date on which the test must be taken. An examination cannot be rescheduled to a date earlier than the original exam date.
  - Non-emergency absences not requested at thirty days in advance of the start of the course may not be able to be accommodated and may be denied."

- For any MHD small group or laboratory session that is not attended
  - in addition to following the SSOM policy outlined
  - Students must submit their answers to the small group cases and/or laboratory jeopardy case questions to the course coordinator by 9:00am on the day of the scheduled session.
    - Failure to submit the materials by the designated deadline will result in a "Concern" for the Professionalism Competency.

Competency Assessment

- Medical Knowledge
- Interpersonal and Communication Skills
- Professionalism
- Patient Care
- Practice Based Learning and Improvement
Medical Knowledge

Assessment of the Medical Knowledge Competency and the final course grade will come from the sum of the exam scores.

<table>
<thead>
<tr>
<th>GRADES</th>
<th>% of Final Grade</th>
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<tbody>
<tr>
<td>Multiple Choice Exams</td>
<td>90%</td>
</tr>
<tr>
<td>End of Semester Exam</td>
<td>10%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
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</tbody>
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The final course grade will be calculated based on the following formula:

\[
\text{Final Grade} = \left( \frac{\text{Sum of Multiple Choice Block Exams Points}}{\text{Total Number Points}} \times 0.9 \right) + \left( \frac{\text{Final End of Semester Cumulative Exam Points}}{\text{Total Number Points}} \times 0.1 \right)
\]

Grades are assigned according to the following ranges:

- **HONORS:** \[ \geq 91.5 \]
- **HIGH PASS:** \[ 84.5 - 91.5 \]
- **PASS:** \[ 70 - 84.5 \]
- **FAIL:** Less than 70

Note: Scores within 0.5 percentage points of a grade cut off will be rounded up to the higher grade.

MHD II Content

- Gastrointestinal
- Nutrition (vitamins and minerals)
- Parasitology
- Neuropathology/Clinical neuroscience
- Psychopathology
- Dermatopathology, Soft Tissue, Joint
- Female Genital Tract
- Male Genital Tract
- Endocrine
- Metabolic and other bone disease
- Virology
- Genetics, Inborn errors metabolism, lysosomal storage disease
Block 1

- Gastrointestinal/Hepatobiliary
  - Schedule/sequence “irregularities”
    - Physiology review in week 2
    - Several afternoon lectures
- Parasitology
  - 4 lectures
  - Parasitology Seminar Review Session

Independent Study - Self Study Block I

- On-line modules:
  - Gallbladder Pathology
  - Nutrition
    - Vitamins
      - Fat Soluble
      - Water Soluble Vitamins
    - Minerals
      - 6 questions on vitamins, 3 questions on minerals on exam 1
- Found on LUMEN – Educational Resources, Pathophysiology correlates, Linked to day of session on LUMEN

“Flipped Classroom”

- Abdominal Pain
  - In Case Method Rooms
  - Interactive
    - Prepare for session with assigned reading
      - Objectives
      - Self-Assessment Question
Block 1

- Histology for Pathology
  - Gastrointestinal
  - Hepatobiliary
- 4 labs
- 4 small group sessions

Block 2

- Neuropathology, Clinical Neuroscience
  - Integrated review of year 1 material
- Lectures
- On-line modules
- Labs (2)
- Small groups (3)
  - Facilitated by neurology faculty/residents
- Weekly practice quizzes

Block 3

- Psychopathology
- Dermatopathology
- Joint, Soft Tissue Disease
Texts

- Psychopathology
  - Handouts
  - Diagnostic and Statistical Manual of Mental Disorders – 5th Ed. (DSM-5, 2013)
    * Available through Healthscience Library

Block 4

- Female Genital Tract
- Male Genital Tract
- Endocrine
- Metabolic and other Bone disease
- Nutrition Review

Block 5

- Virology
- "Integrated topics"
  - Genetics/dysmorphology, inborn errors of metabolism, lysosomal storage diseases
  - Bioterrorism
  - Radiation Oncology