Mechanisms of Human Disease I 2018-19

Orientation

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• Course Design
• Attendance
• Textbooks & Resources
• Exams
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• Competency Assessment
• LUMEN site
• Questions

• Course Director
  – Theresa Kristopaitis, MD
    • Professor, Departments of Medicine and Pathology
• Assistant Course Director
  – Kamran Mirza, MD
    • Assistant Professor, Department of Pathology
• Medical Education Coordinator
  – Caterina Gosławski
Mechanisms of Human Disease
Rationale

• Pathology
  — Study of Disease
  • Etiology
  • Pathogenesis
  • Structural and functional changes that occur as a result of disease

• Microbiology
  — Study of microbes
  • Role in human disease

• Clinical correlations
• Bridge to clinical patient care

Epidemiology; Populations at Risk

• Differences in risk among different populations (including smaller definable groups) can provide clues for investigation of what caused one group to have a higher risk

• If causes can be identified, then prevention and control measures can be identified

Course Goals

• Specific educational objectives will be found with each learning activity.

• As active participants in the Mechanisms of Human Disease Course students will be expected to:
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
- 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 and 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.

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 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.

Professional and Personal Development

- Engage with required and non-required course activities and resources to develop necessary knowledge and skills related to the course.

Course Design

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

• Lecture Hall 390
• Faculty
  – Pathology, Microbiology, Clinical Departments
• Concepts
  – Common, model, “testable”
• Integration

Lectures

• A few “lectures” are on-line only
  – Nutrition 1
  – Clinical Approach to Anemia

• Some “lectures/lecture hall sessions” will require preparation PRIOR to the session (“Flipped Classroom”)
  – Reading assignment, On-line assignment
  – APPLY knowledge during the session
    • Cases, smaller group discussions

Lecture Resources

• Objectives
• Reading Assignment
• Powerpoint
• Handout

*Materials posted to LUMEN within 2 days of lecture*
“Laboratory”

- Histology review
- Morphologic changes of disease
  - Gross
  - Histopathology
  - Genetics
  - Molecular
  - Radiographic
  - Point of Care Ultrasound

Laboratory

- Case Method Room Lab Presentations — Interactive
  - Rooms 360 or 460, and 390
  - Each lab session will consist of ~4-6 cases
  - 4 students from each room will be assigned to each case
  - Expected to review prior to lab
    - Present key gross, histologic findings and clinical correlates to their classmates
    - All prepared to answer questions from facilitator, classmates
  - Jeopardy Case
    - Each lab session, 4 students from each room will be selected without prior notice to present the case
    - Preparation by ALL students required
  - Active participation in the presentation of your assigned case/jeopardy case is REQUIRED
- Lab "orientation": Friday, August 3, 11:30-12:00pm
- First Lab: Thursday August 9

Laboratory

- “Gross Lab”
  - Opportunity for students to have “hands on” examination of surgical and autopsy patient specimens
  - Correlate gross morphology with clinical, histopathologic and radiographic findings
  - In anatomy lab
  - December 4
Small Groups

- Bacteriology x 2  (August 22, August 23)
- Interprofessional Public Health (September 11)
- Coagulation x 2  (September 21, October 8)
- Small Groups 1-17

Small Groups 1-17

- Faculty facilitators
- Case based
  - Clinico-pathologic correlations
- Preparation before session required
  - Critical thinking skills
- “Unknowns”
- Times – Facilitator determined
  - As scheduled in LUMEN
  - 7am, or 5pm
- “Orientation”
  - August 22, 8:30-8:55am
  * First small group session is August 31

Histology for Pathology

- Curriculum online via Sakai
- Histology
  - study of microscopic anatomy of tissues and cells
    * Students were introduced to Histology as it relates to function in FHB course
  - Integrated method to learn normal histology
    - Immediately integrate with findings of diseased organ
    - Learning normal structure and pathology will reinforce each other
    - Revisit during lectures and labs
Histology for Pathology Modules

1. Introduction - a brief orientation to the module topic
2. Learning Objectives - a list of the skills and knowledge that you will attain in the module
3. Learning Materials - a video highlighting key histology of the organ system(s)
4. Under the Microscope - a link to SSOM “Zoomify” Histology digitized image(s) which can be viewed via the virtual microscope. You can navigate the slide to identify key histology!
5. Test Your Knowledge - a self-assessment quiz on key module concepts

Supplementary learning resources
• Study Cards - an interactive “flashcard” style learning resource

Read introduction and watch video on or prior to the day it is scheduled

Begin tonight
Histology Primer

- Thursday, August 2, 2018
- Rooms 360/460 and 390
- Required

Self-Study
Independent-Study

- **Introduction to Laboratory Medicine**
  - On LUMEN
- **Why?**
  - The clinical laboratory plays a major role in diagnosis, treatment and prevention of disease

  - 3 Questions on MHD I End of Semester Exam

Blocks

- General Concepts – Pathology
- General Concepts – Microbiology/Bacteriology
- Bacteriology
- Hemostasis/Thrombosis/Cardiovascular
- Renal
- Hematopathology/Pulmonary/Mycology
Integration with Year 1

- Review of normal
  - 60-90 minute sessions
  - Predominantly Physiology
    - Cardiovascular, Pulmonary, Renal
  - 3 questions on MHD I Exams 4, 5, 6 based on year 1 material

ATTENDANCE

- Lectures
  - Attendance and active engagement is encouraged
    - Some lectures are not recorded per faculty request
      - students will be informed ahead of time

Attendance

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

- 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

Robbins Basic Pathology

8th Edition

Medical Microbiology

Additional Resources - Histology

Atlas of Histology with Functional and Clinical Correlations

Cul, C., et al.
Lippincott Williams & Wilkins
ISBN: 97807817772172
Additional Resources - Pathophysiology

To Review Pathology and Histology Images, Self Assessments
“Utah Web Path” – online, free
Self-Assessment

Block Exams

- 6 MHD I 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
- Small groups – usually do not have designated questions unless specified
  - Goal: Sessions help students synthesize material from block material

End of Semester
Final Cumulative Exam

- Covers ALL LECTURE material from the beginning of MHD I to the end
- Covers ALL material from MHD I Laboratory Sessions
- Introduction to the Principles of Laboratory Medicine (3 questions)
  - 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."

Absence from Required Course Activities

- 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>
</tr>
</thead>
<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>
</tr>
</tbody>
</table>

The final course grade will be calculated based on the following formula:
\[
\text{Final Grade} = \left( \frac{\text{Sum of Multiple Choice Block Exam Points}}{\text{Total Number of Points}} \times 0.9 \right) + \left( \frac{\text{Final End of Semester Cumulative Exam Points}}{\text{Total Number of Points}} \times 0.1 \right)
\]

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.

Interpersonal and Communication Skills; Professionalism; Patient Care; and Practice Based Learning and Improvement

• Assessed in small group sessions
• Facilitators will note attendance; punctuality; satisfactory preparation; active participation; respectful and courteous interaction with peers and faculty; ability to synthesize pertinent facts from small group case histories, physical exam findings and diagnostic data; and an investigatory and analytic thinking approach to course work during small group discussions.
• Faculty will complete the Small Group Sessions Competency Assessment and note whether a student “Meets Expectations”, “Meets Expectations with Concerns”, or “Does Not Meet Expectations” for the relevant competencies and will provide narrative comments.
Asking a Clinical Question Assignment

We will discuss during our small group orientation session!

Professionalism

- Assessed in MHD Laboratory Sessions.
- Failure to come prepared and participate in the assigned presentations will result in a “Concern” being noted within the “Professionalism” Competency Assessment.
- Repeated poor preparation for assigned cases will result in a “Does Not Meet Expectations” for the “Professionalism” Competency.
- Similarly, failure to demonstrate preparation for the “Jeopardy Case” will result in a “Concern” being noted within the “Professionalism” Competency Assessment.
Small Group and Lab Sessions

- Attendance sheets for each session will be reviewed.
- Repeated absences will result in a “Concern” being noted within the “Professionalism” Competency Assessment.
- A pattern of excessive absences will result in a “Does Not Meet Expectations” for the “Professionalism” Competency.

- Signing in for a session and leaving before its completion OR having a student sign an attendance sheet for another student are considered forms of academic dishonesty and will result in a “Does Not Meet Expectations” for the “Professionalism” Competency.

LUMEN

- Students are responsible for familiarizing themselves with and utilizing content and resources on the MHD LUMEN site
Additional Opportunities

• Autopsy viewing
  – Will be discussed
• Dept of Medicine CPC
  – Thursday 12-1pm
• Medicine Grand Rounds
  – Tuesdays at noon, SSOM Tobin Hall
• Pathology Grand Rounds
  – 4th Thursday of the month at noon, SSOM

Course Evaluations

• Opportunity to provide constructive comments for faculty and course directors in a professional manner

IMPORTANT!

• There will be changes to the schedule
• Check Outlook email
• Check Outlook email
• Note exam times
Emailing Faculty

- LUMC/LUHS vs LUC Outlook
- We plan to include email addresses on the Objectives page of lectures

Recommendation from MHD I 2016-17 Student Review Panel
Brief introduction at the start of each block by course director
- Plan
  - Live before 1st lecture of block at 8:15am
  - Via email
- Pending my schedule
I was ill and you cared for me
Matthew 25:36

Have a wonderful M2 year!

Questions