

WAYNE STATE UNIVERSITY

SCHOOL OF MEDICINE

YEAR 2 CURRICULUM GUIDE

WAYNE STATE
UNIVERSITY SCHOOL
OF MEDICINE

2017-2018

**PLEASE READ THE INTRODUCTORY PAGES
VERY CAREFULLY. THEY CONTAIN IMPORTANT
POLICY STATEMENTS.**

Curriculum guides are subject to revision. Updated versions of the Curriculum Guide will be posted on the School of Medicine website: <http://asp.med.wayne.edu/curriculumguides.php>

Revised August 7, 2017



Wayne State University School of Medicine Domains and Competencies for the Medical Education Program Leading to the MD Degree

Background information

In 2013, the Association of American Medical Colleges (AAMC) synthesized over 150 competency lists from across medical education continuum, physician specialties and subspecialties, countries and healthcare professions to develop a list of common learner expectations utilized in the training of physicians and other health professionals: Physician Competency Reference Set (PCRS). These competencies define the desired outcomes across the continuum of education, training, and practice.¹

The AAMC also developed the 13 Core Entrustable Professional Activities for Entering Residency (EPAs) that all entering residents should be expected to perform on day 1 of residency without direct supervision regardless of specialty choice (see Appendix 1). The EPAs provide the clinical context for the PCRS competencies. Each EPA can be mapped to the competencies that are critical to making an entrustment decision.² More information about the EPAs and development of curriculum for the measurement of entrustment is available in the AAMC's Publication: *Core Entrustable Professional Activities for Entering Residency Curriculum Developers Guide*: <https://members.aamc.org/eweb/upload/Core%20EPA%20Curriculum%20Dev%20Guide.pdf>

New Institutional Domains of Competency and Competencies

In 2016, Wayne State University School of Medicine (WSUSOM) analyzed the current institutional learning objectives and decided to revise its competency domains and related competencies for the program leading to the MD degree. As a result, the new AAMC domains of competency were assumed and many institutional competencies changed; in some areas, the previous WSUSOM competencies were maintained but mapped to a PCRS competency and in other areas the new PCRS competencies were adopted. The new domains and competencies are intended to be in line with the AAMC's PCRS and to map the competencies to the EPAs. WSUSOM Undergraduate Medical Education Curriculum Committee approved the competency domains and competencies on June 8, 2016; they will be instituted in the 2016-2017 academic year. Please note that the competencies that represent the WSUSOM mission toward urban clinical excellence are highlighted throughout the document.

¹ Eglander, R, Cameron, T, Ballard, A, Dodge, J, Bull, J, Aschenbrener, C. Toward a Common Taxonomy of Competency Domains for the Health Professions and Competencies for Physicians: Acad. Med. 2013; 88: 1088-1094

² Association of American Medical Colleges (AAMC). Core Entrustable Professional Activities for Entering Residency Curriculum Developers' Guide. 2014; <https://members.aamc.org/eweb/upload/Core%20EPA%20Curriculum%20Dev%20Guide.pdf>

DOMAIN 1: KNOWLEDGE FOR PRACTICE (KP): Demonstrate knowledge of established and evolving biomedical, clinical, epidemiological, and social-behavioral sciences, as well as the application of this knowledge to patient care		
Relevant Entrustable Professional Activities	Reference to the PCRS	WSUSOM Competency
EPA 1, 3, 13	KP 1	KP 1: Demonstrate an investigatory and analytic approach to clinical situations
EPA 2	KP 2	KP 2: Apply established and emerging biophysical scientific principles fundamental to health care for patients and populations
EPA 2, 7	KP 3	KP 3: Apply established and emerging principles of clinical sciences to diagnostic and therapeutic decision making, clinical problem solving, and other aspects of evidence-based health care
EPA 2, 3, 7	KP 4	KP 4: Apply principles of epidemiological sciences to the identification of health problems, risk factors, treatment strategies, resources, and disease prevention/health promotion efforts for patients and populations*
	KP 5	KP 5: Apply psychosocial principles and concepts in the delivery of health care, including assessment of the impact of psychosocial-cultural influences on health, disease, care-seeking, care-compliance, and barriers to and attitudes toward care*
	KP 6	KP 6: Contribute to the creation, dissemination, application, and translation of new health care knowledge and practices

DOMAIN 2: PATIENT CARE (PC): Provide patient-centered care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health		
Relevant Entrustable Professional Activities	Reference to PCRS	WSUSOM Competency
EPA 10, 12	PC 1	PC 1: Perform routine technical procedures specified by the medical school and clerkship
EPA 1, 2, 4, 6, 10	PC 2	PC 2A: Take a satisfactory medical history including psychosocial, nutritional, occupational and sexual dimensions
EPA 1, 2, 4, 6, 10	PC 2	PC 2B: Perform a satisfactory physical exam
EPA 1, 2, 4, 6, 10	PC 2	PC 2C: Accurately document the clinical encounter
EPA 10, 11	PC 3	PC 3: Apply the concepts and principles of patient safety science in the delivery of clinical care
EPA 2, 3, 5, 10	PC 4	PC 4A: Apply laboratory and imaging methods in identifying diseases or health problems
EPA 2, 3, 5, 10	PC 4	PC 4B: Interpret laboratory data, imaging studies, and other tests required for the area of practice
EPA 3, 4, 10	PC 5	PC 5A: Utilize data from the history, physical exam and laboratory evaluations, with up-to-date scientific evidence to identify health problems
EPA 3, 4, 10	PC 5	PC 5B: Formulate an appropriate differential diagnosis
EPA 4, 5, 10, 11	PC 6	PC 6A: Formulate effective management plans (diagnostic, treatment, prevention strategies, including relieving pain and ameliorating the suffering of patients) for diseases and other health problems

DOMAIN 2: PATIENT CARE (PC): Provide patient-centered care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health		
Relevant Entrustable Professional Activities	Reference to PCRS	WSUSOM Competency
EPA 4, 5, 10, 11	PC 6	PC 6B: Monitor the course of illnesses and to appropriately revise the management plan
EPA 3, 11, 12	PC 7	PC 7: Counsel and educate patients and their families to empower them to participate in their care and enable shared decision making*
EPA 8	PC 8	PC 8: Understand the need and value of consultations and referrals in the delivery of health care
EPA 3	PC 9	PC 9: Apply preventive and health maintenance principles and techniques in the delivery of health care*
	PC 10	PC 10: Provide appropriate role modeling
	PC 11	PC 11: Perform supervisory responsibilities commensurate with one's roles, abilities, and qualifications
	PC 12	PC 12: Diagnose and manage patients with common diseases and health-related conditions prevalent in urban settings*

DOMAIN 3: PRACTICE-BASED LEARNING AND IMPROVEMENT (PBLI): Demonstrate the ability to investigate and evaluate one's care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on constant self-evaluation and life-long learning		
Relevant Entrustable Professional Activities	Reference to PCRS	WSUSOM Competency
EPA 2, 4, 6, 7	PBLI 1	PBLI 1: Recognize personal educational needs and to select and utilize appropriate resources to optimize learning
	PBLI 2	PBLI 2: Set learning and improvement goals
EPA 7	PBLI 3	PBLI 3: Identify and perform learning activities that address one's gaps in knowledge, skills, or attitudes
EPA 13	PBLI 4	PBLI 4: Systematically analyze practice using quality-improvement methods and implement changes with the goal of practice improvement
EPA 8	PBLI 5	PBLI 5: Incorporate feedback into daily practice
EPA 7	PBLI 6	PBLI 6: Locate, appraise, and assimilate evidence from scientific studies related to patients' health problems
EPA 4, 7, 8	PBLI 7	PBLI 7: Use information technology to optimize learning
	PBLI 8	PBLI 8: Participate in the education of patients, families, students, trainees, peers, and other health professionals
EPA 3, 7	PBLI 9	PBLI 9: Obtain and utilize information about individual patients, populations of patients, or communities from which patients are drawn to improve care*
EPA 13	PBLI 10	PBLI 10: Recognize the need to engage in lifelong learning to stay abreast of relevant scientific advances

DOMAIN 4: INTERPERSONAL AND COMMUNICATION SKILLS (ICS): Demonstrate interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families, and health professionals

Relevant Entrustable Professional Activities	Reference to PCRS	WSUSOM Competency
EPA 1, 4, 5, 6, 11	ICS 1	ICS 1: Effectively interact with patients, peers, families and other healthcare workers from diverse cultural backgrounds*
EPA 2, 5, 6, 7, 8, 9, 10, 13	ICS 2	ICS 2: The ability to effectively communicate with peers and members of the healthcare team in the care of patients and their families
EPA 8, 9	ICS 3	ICS 3: The ability to work cooperatively with other health care workers in the delivery of health care
	ICS 4	ICS 4: Act in a consultative role to other health professionals
EPA 5, 11, 12	ICS 5	ICS 5: Maintain comprehensive, timely, and legible medical records
EPA 10, 12	ICS 6	ICS 6: Demonstrate sensitivity, honesty, and compassion in difficult conversations (e.g.. about issues such as death, end-of-life issues, adverse events, bad news, disclosure of errors, and other sensitive topics)
EPA 1, 9, 11	ICS 7	ICS 7: Demonstrate insight and understanding about emotions and human responses to emotions that allow one to develop and manage interpersonal interactions

DOMAIN 5: PROFESSIONALISM (P): Demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles		
Relevant Entrustable Professional Activities	Reference to PCRS	WSUSOM Competency
EPA 1, 6, 9	P 1	P 1: Demonstrate compassion, integrity, and respect for others, in particular people from vulnerable population*
	P 2	P 2: Demonstrate responsiveness to patient needs that supersedes self-interest
EPA 1, 6, 8	P 3	P 3 Respect the patients' dignity, privacy, and confidentiality in the delivery of health care
EPA 5, 13	P 4	P 4: Demonstrate accountability to peers, patients, society, and the profession
EPA 1	P 5	P 5: Demonstrate sensitivity and responsiveness to diverse populations, including but not limited to diversity in gender, age, culture, race, religion, disabilities, and sexual orientation*
EPA 12	P 6	P 6: Demonstrate a commitment to ethical principles pertaining to provision or withholding of care, confidentiality, informed consent, and business practices, including compliance with relevant laws, policies, and regulations
	P 7	P 7: Demonstrate credibility, initiative, integrity and professional competence needed to gain the confidence and respect of others while providing clinical care or other services to diverse populations in an urban setting*

DOMAIN 6: SYSTEMS-BASED PRACTICE (SBP): Demonstrate an awareness of and responsiveness to the larger context and system of health care, as well as the ability to call effectively on other resources in the system to provide optimal health care		
Relevant Entrustable Professional Activities	Reference to PCRS	WSUSOM Competency
EPA 5	SBP 1	SBP 1: Describe the health care delivery systems including social, economic and political dimensions
EPA 9	SBP 2	SBP 2: Coordinate patient care within the health care system relevant to one's clinical specialty
EPA 3, 4, 11, 12	SBP 3	SBP 3: Incorporate considerations of cost awareness and risk-benefit analysis in patient and/or population based care*
EPA 13	SBP 4	SBP 4: Advocate for quality patient care and optimal patient care systems to support and contribute to a culture of safety
EPA 13	SBP 5	SBP 5: Participate in identifying system errors and implementing potential systems solution
	SBP 6	SBP 6: Perform administrative and practice management responsibilities commensurate with one's role, abilities, and qualifications

DOMAIN 7: INTERPROFESSIONAL COLLABORATION (IPC): Demonstrate the ability to engage in an inter-professional team in a manner that optimizes safe, effective patient and population-centered care

Relevant Entrustable Professional Activities	Reference to PCRS	WSUSOM Competency
EPA 9	IPC 1	IPC 1: Work with other health professionals to establish and maintain a climate of mutual respect, dignity, diversity, ethical integrity, and trust
EPA 9	IPC 2	IPC 2: Use the knowledge of one's own role and those of other professions to appropriately assess and address the health care needs of the patients and populations served*
EPA 9	IPC 3	IPC 3: Communicate with other health professionals in a responsive and responsible manner that supports the maintenance of health and the treatment of disease in individual patients and populations
	IPC 4	IPC 4: Participate in different team roles to establish, develop, and continuously enhance inter-professional teams to provide patient- and population-centered care that is safe, timely, efficient, effective, and

DOMAIN 8: PERSONAL AND PROFESSIONAL DEVELOPMENT (PPD): Demonstrate the qualities required to sustain lifelong personal and professional growth

Relevant Entrustable Professional Activities	Reference to PCRS	WSUSOM Competency
	PPD 1	PPD 1: Develop the ability to use self-awareness of knowledge, skills, and emotional limitations to engage in appropriate help-seeking behaviors
	PPD 2	PPD 2: Demonstrate healthy coping mechanisms to respond to stress
	PPD 3	PPD 3: Manage conflict between personal and professional
EPA 6	PPD 4	PPD 4: Practice flexibility and maturity in adjusting to change with the capacity to alter behavior
	PPD 5	PPD 5: Demonstrate trustworthiness that makes colleagues feel secure when one is responsible for the care of patients
	PPD 6	PPD 6: Provide leadership skills that enhance team functioning, the learning environment, and/or the health care delivery system
EPA 6, 11, 12	PPD 7	PPD 7: Demonstrate self-confidence that puts patients, families, and members of the health care team at ease
EPA 2	PPD 8	PPD 8: Recognize that ambiguity is part of clinical health care and respond by using appropriate resources in dealing with uncertainty

* Competency that is aligned with WSUSOM's mission and program goal of Urban Clinical Excellence

Appendix 1

AAMC Core Entrustable Professional Activities for Entering Residency

EPA 1: Gather a history and perform a physical examination
EPA 2: Prioritize a differential diagnosis following a clinical encounter
EPA 3: Recommend and interpret common diagnostic and screening tests
EPA 4: Enter and discuss orders and prescriptions
EPA 5: Document a clinical encounter in the patient record
EPA 6: Provide an oral presentation of a clinical encounter
EPA 7: Form clinical questions and retrieve evidence to advance patient care
EPA 8: Give or receive a patient handover to transition care responsibility
EPA 9: Collaborate as a member of an interprofessional team
EPA 10: Recognize a patient requiring urgent or emergent care and initiate evaluation and management
EPA 11: Obtain informed consent for tests and/or procedures
EPA 12: Perform general procedures of a physician
EPA 13: Identify system failures and contribute to a culture of safety and improvement

GENERAL ORGANIZATION OF THE CURRICULUM

The Year 2 Curriculum for 2017-2018 will consist of eight courses:
Immunology/Microbiology/Infectious Disease, Physical Diagnosis, Pharmacology, Psychiatry,
Translational Medicine, Pathobiology, and Pathophysiology consisting of nine units.

ACADEMIC AND STUDENT PROGRAMS OFFICE

Vice Dean for Medical Education	Richard Baker, MD	577-5196
Assistant Dean for Basic Sciences	Matt Jackson, PhD	577-1450
Assistant Dean for Clinical Sciences	Chris Steffes, MD	577-1450

YEAR 2 COURSE DIRECTORS for 2017-2018

IMMUNOLOGY/ MICROBIOLOGY/ INFECTIOUS DIS.	Matthew Jackson, Ph.D.	577-1450
CLINICAL MEDICINE II	Joel Appel, MD, Kendra Schwartz, MD, MPH	577-9329
PHYSICAL DIAGNOSIS	Chih Chuang, MD	577-3019
TRANSLATIONAL MEDICINE II	Kendra Schwartz, MD, MPH	578-4202
PATHOBIOLOGY	Barbara Bosch, MD	577-9779
PHARMACOLOGY	Lawrence Lash, PhD	577-6022
PSYCHIATRY	Eva Waineo, MD	577-3130
PATHOPHYSIOLOGY COURSE	Barbara Bosch, MD	577-9779
CARDIOVASCULAR	Barbara Bosch, MD Shaun Cardozo, MD	577-9779 745-2620
RESPIRATORY	Barbara Bosch, MD Willane Krell, MD	577-9779 745-8471
RENAL	Madhumita Jena-Mohanty, MD Janet Poulik, MD	576-4504 966-7298

ENDOCRINOLOGY	Barbara Bosch, MD	577-9779
CONNECTIVE TISSUE	Barbara Bosch, MD	577-9779
HEMATOLOGY	Ali Gabali, MD Ayad Al-Katib, MD	745-8555 577-0982
GASTROINTESTINAL	Barbara Bosch, MD Murray Ehrinpreis, MD	577-9779 745-8601
NEUROLOGY	Edwin George, MD William Kupsky, MD	577-1423 745-8601
DERMATOLOGY	Darius Mehregan, MD	429-7844
STEP 1 PREPARATION	Courtney Moore, MD	745-4832

ACADEMIC PROGRAM

The Year 2 program is primarily devoted to understanding the effect of disease processes on organ structure and function and the actions of drugs. In the course of achieving this objective the curriculum is designed to help the student prepare him/herself for his/her role as a problem solver. This will involve acquiring basic information, but, more importantly, it will also involve understanding concepts and relationships. The lecture is one important method we have to help you learn. It is used to define part of what you are expected to know. It should be supplemented and reinforced by reading your assigned text, lecture notes, conferring with faculty and fellow Year 2 students, participating in the laboratories, computer assisted and problem solving sessions and increasing use of Blackboard.

ACADEMIC COMMUNICATION

Official Student Notices, Curricular Updates and Other Communications

The E-mail provided by the University for every student is a powerful communications tool. As described below, each class has a Class Listserve established to allow students to communicate with their class members, for faculty to provide course information to the class, and for administration to communicate with the class. Please check your E-mail on a regular basis.

Information which Academic and Student Programs and which the Office of Student Affairs need to communicate to the class will be provided through the Class Listserve to all members of the class and inside the Student Affairs Office. Such communications will include the testing logistics memos, official schedule changes and information regarding meetings among others. Immediate, critical information will continue to be communicated to the class with a paper memo in students' mailboxes in addition to the Listserve communication.

In addition to the listserv, students will be assigned membership in a group address in the medical school's Outlook directory. This address can be used for announcements regarding student organizational activities and other student based projects. Anyone who is listed in the SOM Outlook directory has access to these group addresses.

UNIVERSITY CLOSURE

In the event that Wayne State University closes due to severe weather then the School of Medicine will be closed. All classes, small group activities, and exams schedule during the closure will be cancelled. A revised schedule will be sent out via the list-serve.

Sign up for WSU broadcast messages here: <http://computing.wayne.edu/broadcast/>

E-Mail Address and Class Listserve

Faculty and Academic staff use a variety of methods to communicate with students. One of these methods is electronic mail (e-mail). All incoming medical students will be issued two e-mail addresses. The primary address, created and supported by the school of medicine will be issued during registration. The University will also issue an address that will allow you free access to the internet and other on-line University services including Academica. Students who were undergraduates at Wayne State will continue to use their undergraduate addresses and will not receive new e-mail accounts or passwords.

A class listserv will be created for students, faculty and academic administration to communicate general announcements to the class. Students should read their e-mail daily for important curriculum information. If you have any question regarding your e-mail address or the listserv contact the Conjoint Teaching Office, room 2361.

HONOR CODE

Wayne State University School of Medicine has an Honor Code expressed in the Oath of Academic Integrity presented to and signed by the Year 1 students during Orientation. Students, faculty and administration believe that academic and professional integrity is an important component in the training and practice of medicine.

Oath of Integrity

As a part of a community of medical students, I know that my instructors and fellow students have placed their trust in my academic and professional integrity. I recognize the importance of helping each other as we struggle. Dishonesty within a medical school, however, affects not only the student, but also the reputation of the institution, and potentially our future patients.

In view of this, I hereby vow to pursue my studies with integrity and conscience. I will not accept dishonesty among my peers and pledge to honor that trust that my instructors and fellow classmates have placed in me.

As a future physician, my patients and colleagues will entrust to me matters of a sensitive and confidential nature. In some circumstances, their very lives will depend upon my integrity. I will respect their faith in me and will maintain the level of dignity and honesty that medicine demands. From this day forward, I will keep honor in this profession.

ATTENDANCE

Participation in instructional activities reveals a student's attitude toward his/her professional preparation. Consequently, attendance is expected for lectures. **Attendance is mandatory for laboratories, Clinical Medicine small groups, conferences, case studies, demonstrations, patient panels and clinic days.** Attendance will be monitored using OneCard readers or sign-in sheets for off-campus activities.

MISSING ASSIGNMENTS Failure to complete all assignment, including make-up assignments for missed activities, **by the end of a course** could result in any of the following consequences:

- Being excluded from participation in any scheduling processes for the following year
- Being prevented from registering for the following year
- Having registration for the following year cancelled

LECTURE HALL ETIQUETTE

The following items highlight elements of common courtesy expected of all medical students who attend lectures:

- Silence all cell phones and pagers in the lecture hall.
- If you attend lectures, plan to stay. Sit close to an exit if you think you may have to leave a lecture early.
- Do not engage in activities during lecture that have nothing to do with the class (e.g. reading the newspaper).
- Keep whispering to a minimum.

Your compliance with these issues is an indicator of professionalism and will be greatly appreciated by the School of Medicine faculty and your fellow student/peers.

STUDENT DISABILITIES

Services for students with disabilities are coordinated by the Student Disability Services (SDS) Office located on the first floor of the David Adamany Undergraduate Library at 5155 Gullen Mall. Detailed information about SDS, the Americans with Disability Act (ADA), SDS policies and procedures, documentation guidelines, and types of accommodations can be found on the SDS website <http://studentdisability.wayne.edu/index.php>. The medical school encourages you to refer to the SDS website if you have a documented disability or suspect you have a disability that will impact your medical school performance. The SDS office can be contacted at 313-577-1851. Office hours are Monday-Friday 8:30-5:00 with extended evening hours on Monday and Thursday evenings until 7:00 during the fall and winter. *For further information on the Student Disability Services, please refer to the Policy and Procedures Manual.*

COURSE EXAMINATIONS

There will be two types of examinations, promotional and non-promotional. The purpose of promotional examinations is to determine whether students have acquired the necessary knowledge and skills. Faculty can also administer non-promotional examinations to assess their grasp of the material. Promotional examinations will **NOT** be returned to the students. Academic and Student Programs has instituted a Protected Examination Policy. Students are permitted, and strongly encouraged to use the Examination Question Citation process. Details of the Question Citation process will be presented to students at a separate Testing and Evaluation meeting prior to the first scheduled examination. *For further information on the course examination process, please refer to the Policy and Procedures Manual*

A comparable examination will be administered for students who have an excused absence (see policy regarding excused absences). It will be comparable in content to the original examination and it will have the same pass-fail level. The exam will not be retained by the student. Students cannot cite questions on a makeup examination. Make up exams will be administered every month during the academic term. Students who receive excused absences will be automatically scheduled for an exam at the next available make-up date. Exam schedules may be found in the online class calendar.

GRADING POLICIES

When the process for determining the student's final grades for courses, clerkships, electives or years is completed, one of the following grades will be placed on the student's transcript, i.e., **I** = Incomplete, **U** = Unsatisfactory, and **S** = Satisfactory for each course. Students that feel their grade is incorrect have the right to appeal the grade. *For further information on the Grading Policy, please refer to the Policy and Procedures Manual.*

PROMOTION

The Promotions Committee is the medical school decision-making body with regard to the promotions process and has the prerogative of determining the student's fitness and suitability for the study and practice of medicine. The Promotions Committee makes decisions relative to the retention, promotion, and readmission of students. It also has the responsibility of assuring that the rules of the School and rights of the individuals involved have been fairly met. The Promotions Committee will formally provide instructions for the exit interview with students who have been dismissed. *For further information on the promotion process, please refer to the Policy and Procedures Manual*

ACADEMIC STANDING

Enrolled students are designated to be in good academic standing unless they are officially placed on probation or are suspended. *For further information on the Academic Standing, please refer to the Policy and Procedures Manual.*

MANDATORY DIRECTED STUDY FOR YEAR 1 AND YEAR 2 STUDENTS REPEATING COURSEWORK

Students who are repeating coursework in Years 1 or 2 must also enroll in and complete a directed study course. This is a mandatory requirement of the Promotions Committee designed to enhance a student's study and test-taking skills with the goal of successful completion of remediation and to provide an educational foundation for advancement to the next level of training. *For further information on the Directed Study Program, please refer to the Policy and Procedures Manual.*

LEAVE OF ABSENCES

Students are expected to complete assignments as scheduled and pursue the course of study in the prescribed medical school sequence. On occasion a student's normal progression may be interrupted by – illness, pursuance of another course of study or research, or personal reasons. All requests for a leave of absence from the School of Medicine must be made in writing to the Assistant Dean for Student Affairs. Leaves should be discussed with the student's counselor and the Student Affairs Dean, prior to submitting a formal written request. *For further information on requesting a Leave of Absence, please refer to the Policy and Procedures Manual*

POLICY REGARDING EXCUSED ABSENCES

The School of Medicine's policy for absences from scheduled course/clerkship examinations is as follows:

- If you are ill on the day of a scheduled examination or have an unavoidable emergency and need to defer taking the examination to a later date, you are required to contact the Office of Student Affairs (313-577-1463) to report the nature of your medical emergency and request permission to defer taking the examination to a later date.

For further information on the Excused Absence Policy, please refer to the Policy and Procedures Manual.

ACADEMIC SUCCESS

To help students succeed a series of academic success programs have been developed through the Office of Academic and Student Programs, Academic Support Services. The programs are open to all students, some or all of these programs may be required for students in remediation. Students will be required to attend these sessions in person. *For further information on the Academic Success Program, please refer to the Policy and Procedures Manual.*

POLICY FOR ONE YEAR CLOCK TO PASS STEP 1

School of Medicine policy is that students have one year following the completion of their sophomore coursework to report a passing score for Step 1 USMLE. The one year clock will begin on July 1 of the sophomore academic calendar. Students have one year to post a passing score for Step 1 USMLE or face dismissal from the Medical School. Students who have failed Step I re-examinations (including those opting for a leave of absence) are not permitted to participate in Student Senate, serve as class officers, sit on medical school committees, hold leadership roles in student organizations, or participate in extra-

curricular international travel projects or programs. *For further information on the Step 1 policy, please refer to the Policy and Procedures Manual.*

SPECIAL MATRICULATION

Students who fail USMLE Step 1 are designated as **Special Matriculation** Students. At the beginning of Special Matriculation, if the student is enrolled in a clerkship, he or she has the option of immediately stopping the clerkship he or she is taking. Students may enroll in a school-approved USMLE Step 1 review course in order to prepare for the examination. If a student chooses to remain in a clerkship after receiving a failing score on Step 1, he/she will be required to complete all clinical components of that clerkship by the time the clerkship ends. *For further information on the Special Matriculation Program, please refer to the Policy and Procedures Manual.*

ENTRY POINTS FOR BEGINNING YEAR III COURSE WORK

Only three entry points are permitted for students to begin Year III course work. These are:

- At the beginning of Period 1 (the beginning of July)
- At the beginning of Period 3 (late August/beginning of September)
- At the beginning of Period 7 (the beginning of January)

UNITED STATES MEDICAL LICENSING EXAMINATIONS

Wayne State University School of Medicine students are **required** to take USMLE, Step 1 and 2, at designated times prior to graduation. Students must pass Step 1 with a minimum score designated by NBME in order to be promoted to Year III. If a student chooses to remain in a clerkship after receiving a failing score on Step 1, he/she will be required to complete all clinical components of that clerkship by the time the clerkship ends. He/she must take the clerkship examination on the normal date at the end of the clerkship. If the student fails to do this, credit will be denied for the clerkship and it will have to be repeated after the student passes Step 1.

STUDENT EVALUATION OF THE CURRICULUM

Evaluation is considered a course requirement. Students have input into the evaluation of the curriculum through two different processes.

- Wayne State University requires that all students evaluate all faculty using a standard question form. This is both a privilege and a responsibility for you as a WSU student. Students who have not turned in their evaluation for a course will not have their course grade posted. It is recognized that not all students attend all lectures (or have the comparable experience of viewing the streaming video or listening to audiotape of the session)! However, all students are required to evaluate each course, and to evaluate the appropriate items for all faculty regardless of attendance. For example, students can evaluate the quality of the lecture notes whether or not they listened to, or viewed (in person or through streaming video), the lecturer.
- The School of Medicine provides students a unique opportunity to give constructive feedback to faculty. Students participating in the Co-Curricular Medical Education Evaluation program will conduct focus groups. The focus groups leaders present a summary of their evaluation and suggested changes to the Course Director and the Assistant Deans of Evaluations and Basic Science Education. This is an opportunity for students and faculty to engage in meaningful dialog.

REGISTRATION GUIDELINE & YEAR III ORIENTATION

Students who are scheduled to return to regular academic status after an absence for any reason of 1 year or more following completion of second year coursework are required to attend a one month clinical refresher before starting or continuing third year clerkship rotations. All Year II students will be required to register for Year III as scheduled by the Office of Records and Registration. The tentative time for registration is immediately after the final exam for the year. In addition, regardless of the date you plan to begin Year III clerkships, you will be required to attend the Year III Orientation as scheduled by the Assistant Dean, Clinical Science for the first week in July.

INJURIES, NEEDLESTICKS AND EXPOSURES TO BODY FLUIDS

During the course of a medical student's education, he or she will come into contact with occupational hazards as a natural consequence of certain laboratory exercises. Medical students are at particular risk for needlestick injuries and other sharp injuries, since because they are in training they may not be skilled in specific procedures being performed. At all times, if a student is uncomfortable performing an assigned procedure because of the perception that his or her skills are inadequate or that supervision will not be adequate, then that student **MUST** refrain from doing the procedure and report to the instructor.

It is the obligation of the School of Medicine to formally educate its students regarding the prevention of occupational injuries. In addition, the school has developed programs by which students who are injured or exposed in the course of their training have the knowledge to properly seek care. Such programs are formally presented to students in the first, second and third years of the medical school curriculum.

In the event that a student is injured, stuck with a needle or other sharp instrument, or sustains exposure to a body fluid on mucous membranes or non-intact skin while engaged in coursework the student must report the incident to the instructor immediately. A written report must be completed detailing the circumstances of the exposure. The student should also notify his or her counselor of the reported incident.

A student who sustains an injury or exposure to blood and/or body fluids while participating in medical school coursework must go to the Occupational Health Services Section at UHC-4K if the event of a non-emergency injury and if the injury occurs between 8:00 am and 4:00 pm Monday-Friday. In the event of an emergency or if the injury occurs after hours or on a weekend, the student must go to the DRH emergency room. If medical treatment is required, the students' medical insurance co-payments or deductibles will be waived for the first treatment. Follow-up medical appointment(s), if necessary, will be the responsibility of the student.

For further information on the Injuries, needlestick and exposure policy, please refer to the Policy and Procedures Manual.

YEAR 2 GENERAL INSTRUCTIONS AND LABORATORY RULES

During this year, you will be working with pathogenic micro-organisms which are capable of causing infections in yourself and others. There is no danger if you learn to carry out the laboratory techniques carefully; however, careless procedures on your part will endanger yourself and others. For the protection of all individuals working in the laboratory, the following rules must be strictly observed:

- Always wear a knee length laboratory coat when working in the laboratory.

- No food or drink should be consumed in the laboratory. Food should be stored only in the refrigerators labeled "**Food Only**" (one is provided in each inner lab). Students are responsible for keeping this refrigerator clean.
- Students must refrain from eating, smoking, or putting anything in their mouths. No mouth pipetting is permitted. Pipettors will be provided.
- Before beginning any work in the laboratory, wipe the bench top with a sponge which has been moistened with a disinfectant solution.
- At the end of the laboratory period, the sink must be cleared of all debris. All equipment must be removed from the top of the work bench and the area wiped with disinfectant solution.
- Before leaving the laboratory, during or after an experimental session, students must wash their hands thoroughly with soap and water. **An antibacterial soap** is provided at the sink in each inner laboratory.
- The inoculating loops and needles must be placed in the small tabletop discard bucket provided. **DO NOT** put used inoculating loops or needles on the tabletop.
- Any spilled or broken infectious material should be thoroughly wet down with a disinfectant and then brought to the attention of an instructor.
- Report any situation which might be hazardous to you or your fellow students to your laboratory instructor.
- In case of any accident, report first to your laboratory instructor and to Conjoint Teaching Services.
- Store any materials to be used or observed at a later class period in a drawer in the inner lab, one of the Year 2 incubators, or the Year 2 refrigerator labeled "Lab Supplies" as required.
- Laboratory supplies and materials will be clearly indicated for your use. **DO NOT** use any materials not specifically marked for your use. Additional supplies can be picked-up during the lab exercise from Conjoint Teaching Services.

DISCARDS

- Discard all disposable materials such as tubes, petri dishes, etc., and any material contaminated with blood or serum in the cans marked "**Microbiological Discards**". These materials will be picked up and sterilized once a week.
- When you are finished observing or working with cultures, discard them. **DO NOT** leave them in the incubators, refrigerators, or drawers.

- Small items such as slides, Pasteur pipettes, berel pipettes, etc. should be discarded in the small white containers on the bench top.
- All syringes and needles must be discarded in the containers labeled "SHARPS."
- **NEVER** discard materials used in the laboratory experiments in the **WHITE CANS** labeled "**PAPER ONLY**".

DRESS CODE

We do not have a dress code, but we expect you to have an appearance that inspires confidence in you and your school when working with patients and dealing with the public.

STUDENT COUNCIL

The Student Council is asked to appoint a representative from each class to the Curriculum Committee and the Promotions Committee. It is through these committees as well as through discussions with the individual faculty members, Course Directors, the Director of Curricular Management, and the Dean of Curricular Affairs, that your perspective can be presented effectively and our program can be improved. Students also play an important role in evaluating each course.

THE VERA P. SHIFFMAN MEDICAL LIBRARY

The Vera P. Shiffman Medical library welcomes WSU School of Medicine students, faculty and staff to its newly renovated permanent location in the Mazurek Medical Education Commons. The hours of service are: **8:00 a.m. – midnight, Monday – Thursday; 8:00 a.m. -8:00 p.m. Friday, noon-8 p.m. Saturday and noon – midnight Sunday**. In addition to open reading areas study rooms are available and can be reserved during the library's service hours. When not in use other Mazurek classrooms are available for study purposes when the library is closed. Your WSU One Card provides you with access to the library and should be presented on entry.

Library services including circulation/reserves and reference are now located on the main floor of Mazurek along with books and journals published after 1980. A collection of books and DVDs for 'class reserve' and some of the more popular examination review books are located behind the service desk. While reserve materials are restricted to three hours, books in the circulating collection may be signed out for one month; journals do not circulate. You may find more materials in our library catalog that can be accessed from any location. Our online catalog gives the location of library resources and links to online materials including several thousand electronic journals. The library's web site at <http://www.lib.wayne.edu/shiffman> directs students to the online catalog, databases and more. Shiffman also provides One Card operated photocopiers and printers for both desktop and wireless printing.

In addition to wireless access for WSU students, faculty and staff in all areas, the library houses a ten seat computer training lab that is available to students when it is not in use.

Off campus access to many library resources including electronic textbooks and examination review materials, MEDLINE, online journals and web resources will require student's WSU Access ID (ab1234). For more details about computer labs and remote access please see www.lib.wayne.edu/shiffman or send questions or suggestions to askmed@wayne.edu

MEDICAL EDUCATION SUPPORT GROUP

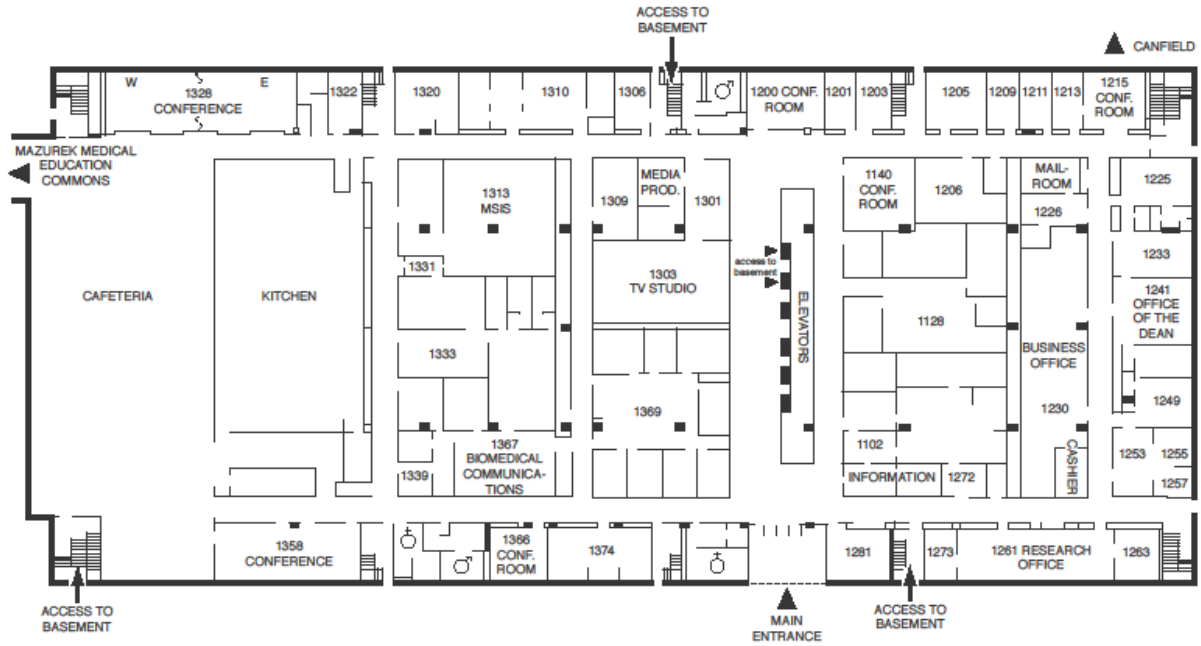
The Medical Education Support Group (room 231 Mazurek Medical Education Commons) offers students support services for BlackBoard and PDA applications.

SCHOOL OF MEDICINE LEARNING RESOURCES

Two 40-seat computer labs on the third floor (rooms #325 and #324) are made available by the School of Medicine for students.

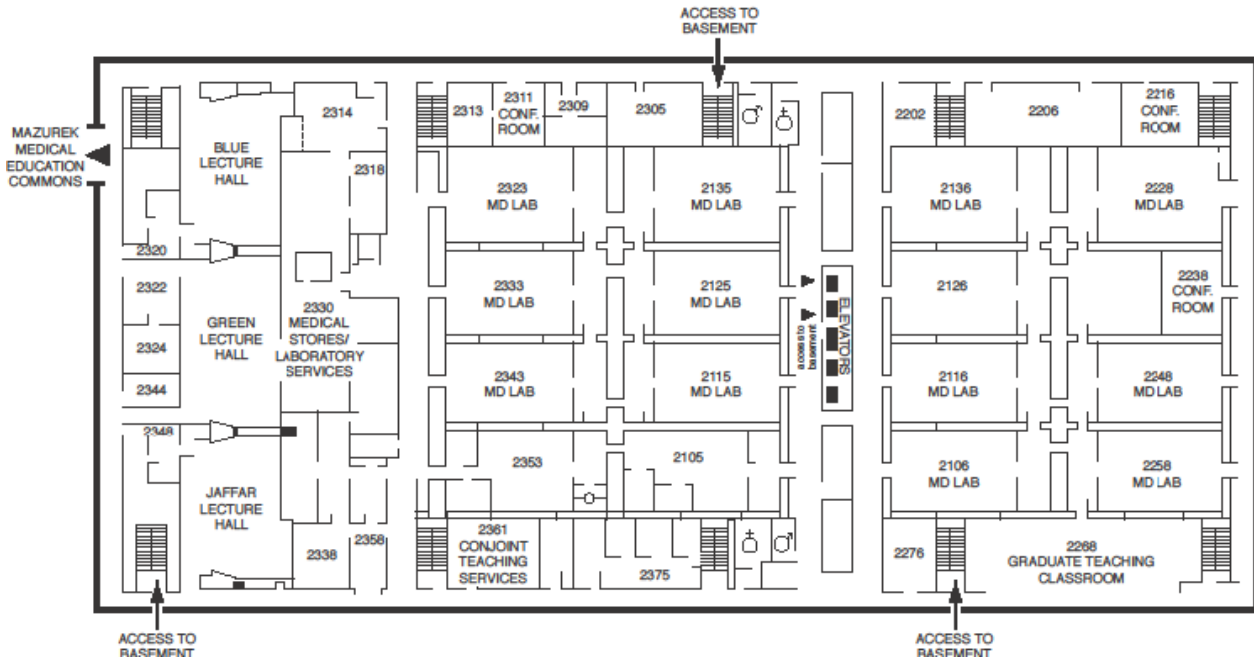
MAP OF SCOTT HALL

FIRST FLOOR

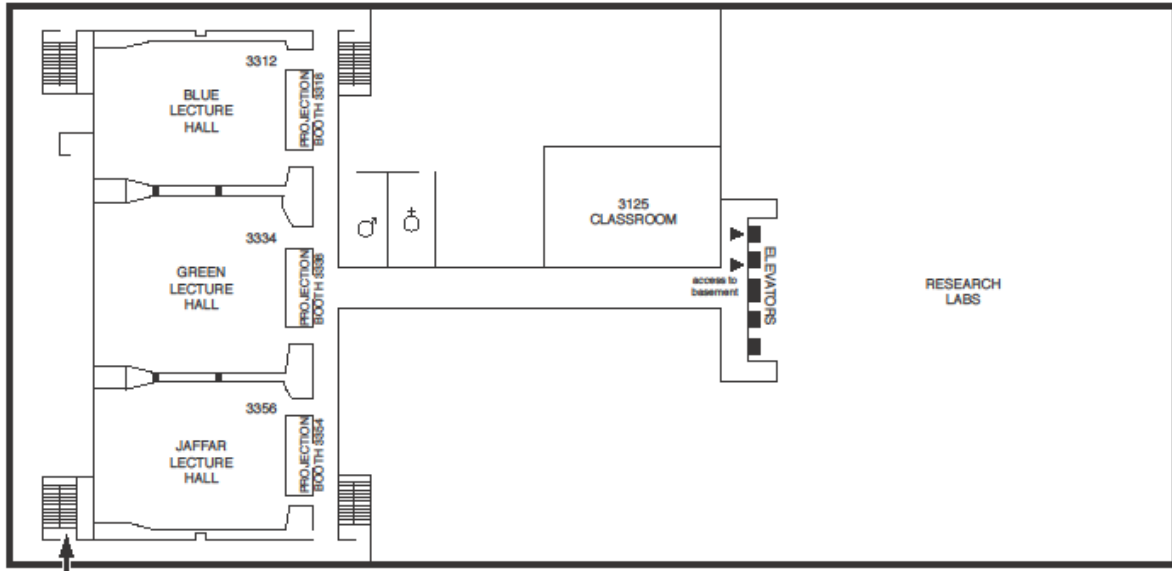


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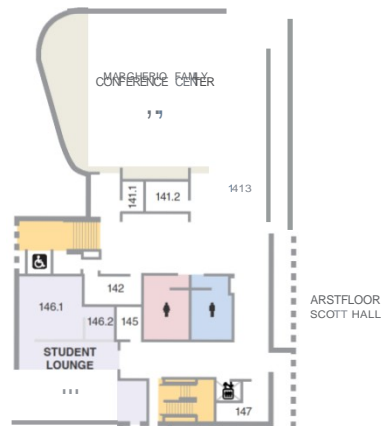
THIRD FLOOR



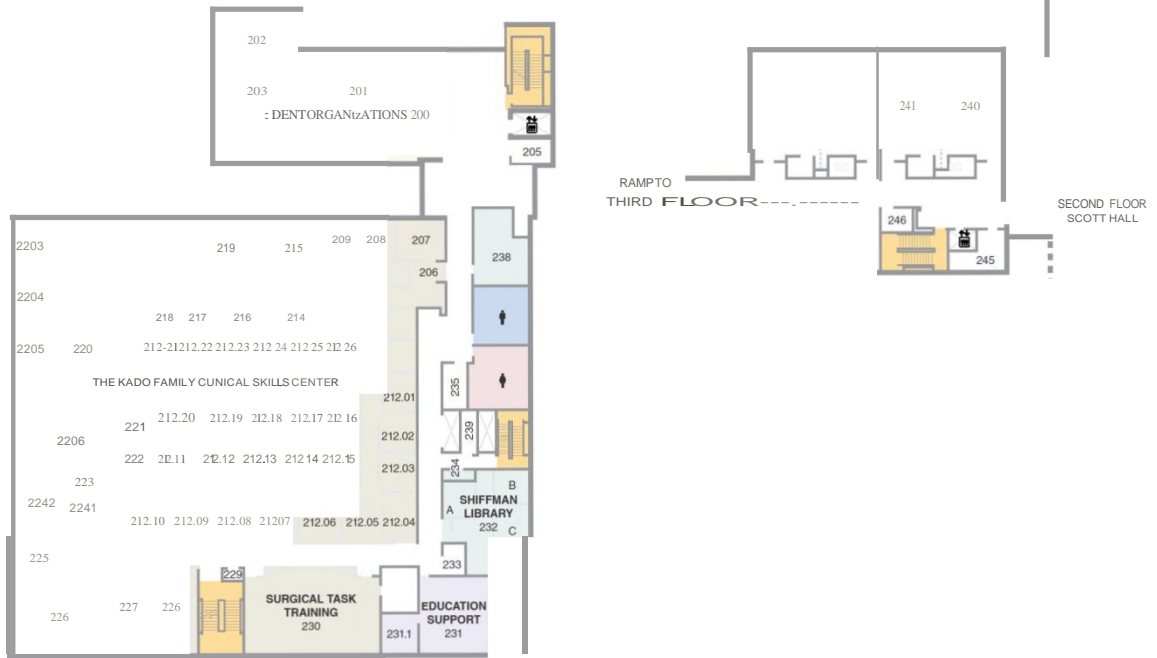
Map of Mazurek Education Commons

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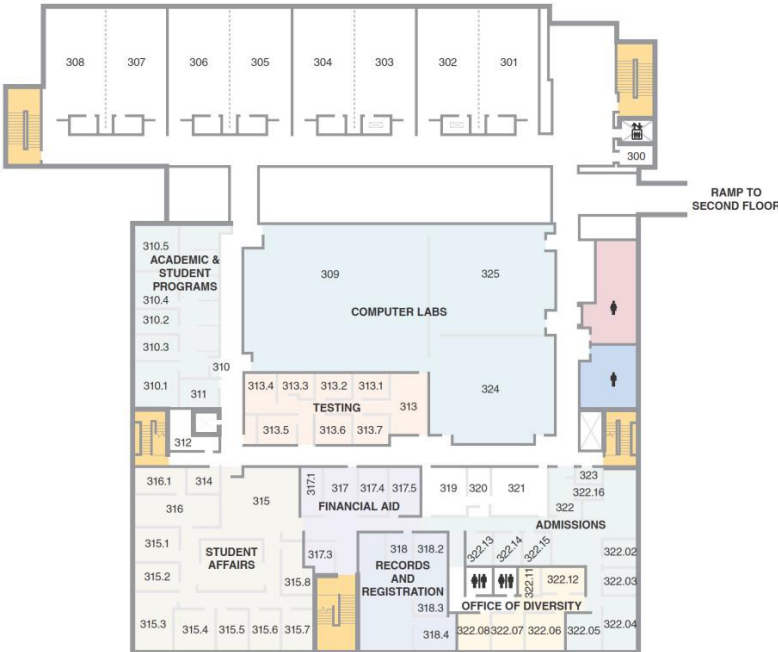
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Discipline: Immunology/Microbiology/Infectious Disease

Course Director: Matt Jackson, Ph.D.

Course Objectives:

The Immunology/Microbiology/Infectious Disease Course provides students with an understanding of host-parasite relationships. This understanding will encompass the workings of the innate and acquired immune protective systems as well as the microorganisms with which the protective systems seek to eliminate. The course has two coordinated components, Immunology and Microbiology/Infectious Diseases. The Microbiology/Infectious Diseases component is presented using an organ-based approach to reflect the diagnostic strategy used by physicians. Basic science lectures in Microbiology are followed by Infectious Disease presentations by clinical faculty. Wet labs cover topics in basic immunology and diagnostic microbiology. Students will also demonstrate accountability by participating in team learning exercises in the lab.

Course Structure:

- **Lectures** – covered on 3 faculty-authored written exams
- **Laboratories** – required attendance; wet lab exercises in Immunology, Bacteriology, Virology; covered on a single, 25 station lab practical. The laboratory topics are correlated with the lecture presentations. Please read the introductory material to each exercise in your lab manual prior to coming to the laboratory. Pathogenic microorganisms will be used in the lab exercises. Therefore, **you must wear a lab coat for all lab sessions and use safe laboratory practices**. Unless officially excused, attendance at all laboratory activities is mandatory.
- **The lab practical** will cover laboratory exercises and it will be necessary to make a diagnosis based on a case study presentation and interpret basic laboratory results for the practical. Simple laboratory manipulations will be required on the practical. The laboratory practical will be weighted so that it is equivalent to one written exam.
- **A single case study session** facilitated by the Infectious Diseases faculty with content that will be covered on the last written exam
- **A single NBME exam** covering Immunology and Microbiology that will count as 10% of the total cumulative points for the course. The NBME score will be normalized based on class performance and will be factored in to the final grade.

Pass Rate:

Course pass rate will be established by the Course Director using cumulative percentages from all assessments. A 70% will be required to pass the course with the Course Director's discretion to lower it.

Digital Content:

The Immunology, Microbiology, and Infectious Diseases website is accessible to Wayne State medical students and faculty through BlackBoard. The website contains digitized lecture presentations, review tables, interactive questions, course outlines, a list of microbiology study guides, and a faculty contact list. Faculty and students are also encouraged to use BlackBoard as a forum for discussion of relevant course material. All lecture presentations are provided as streaming media.

Attendance:

All small group and laboratory learning activities in the Immunology and Microbiology course are required. Participation in instructional activities reveals a student's attitude toward his/her professional preparation. The Course Director will determine the consequences for non-attendance at required activities.

Assignments:

Any assignments, including remediation assignments for failure to meet the attendance requirement are to be completed by the end of the course, unless other arrangements have been made between the course director and the student. Failure to complete any or all assignments by established deadlines could result in any of the following consequences:

- Being excluded from participation in any scheduling process for the next academic year
- Being prevented from registering for the next academic year
- Cancellation of registration for the next academic year

Narrative Assessment:

Narrative assessment will be an element of the Immunology/Microbiology/Infectious Disease. This form of assessment will assess student competency in the following domains:

- Preparation
- Participation
- Quality of Work
- Self-Directed/Lifelong Learning
- Professionalism
- Clinical Reasoning/Problem Solving

Lab instructors will complete an assessment form (below) following the conclusion of all laboratory exercises for the course. A student with a score of 1 in any of the Professionalism attributes or with a cumulative score of less than 20 will be required to complete a remediation assignment developed by the Course Director. Students who fail to successfully remediate will receive an incomplete for the course. Incompletes are reported to the Promotions Committee for academic decision.

Lecturers	
Brown, Patricia	pbrown@med.wayne.edu
Chandrasekar, Pranatharthi	pchandrasekar@med.wayne.edu
Deol, Abhinav	adeol@med.wayne.edu
Ebright, Jack	jebright@med.wayne.edu
Holland, Thomas	aa1608@wayne.edu
Kado, Rachel	RKADO1@hfhs.org
Kaye, Keith	kkaye@med.wayne.edu
Montgomery, Paul	pmontgo@med.wayne.edu
Parajuli, Prahlad	pparajuli@med.wayne.edu
Pellett, Philip	dx0934@wayne.edu
Pogue, Jason	jpogue@dmc.org
Shaw, Michael	Michael.Shaw@providence-stjohnhealth.org
Sobel, Jack	ad6283@wayne.edu
Suvas, Susmit	fc6877@wayne.edu
Thipparthi, Raghavendar	ai7741@wayne.edu
Tse, Harley	ad6056@wayne.edu
Veltman, Jennifer	jveltma@med.wayne.edu
Withey, Jeff	jwithey@med.wayne.edu

DOMAIN	Performance not in line with expectations for a Year 1/2 medical student (1)	Often performs below expected level but not consistently (2)	Performance at expected level (3)	Often performs above expected level but not consistently (4)	Performance far above expected level (5)	NA (0)
PREPARATION	Consistently unprepared for Small Group discussion, is unprepared for oral presentations, and/or does not complete Self-Study assignments. Lack of preparation and organization in oral presentations.		Evidence of having read the syllabus and/or completed self-study assignments based upon apparent familiarity with the topics being discussed in the Small Groups. Preparation is evident in oral presentations; they are organized, complete and concise.		Student has gone above and beyond to seek out additional resources in addition to completing the required reading and other assignments which led to valuable discussion in the Small Groups. Oral presentations are complete and informative demonstrating thoughtful preparation and practice.	
PARTICIPATION/ COMMUNICATION SKILLS	Has unexcused absences and/or does not participate in Small Group discussions, labs and/or class; inattentive and unengaged.		Volunteers answers, offers appropriate comments, &/or asks questions during discussions. Alert, attentive, and engaged during discussions.		Consistently volunteers answers, offers appropriate comments that contribute to the learning of his/her peers, and/or asks questions related to the material being discussed. Always alert, attentive, and engaged during discussions.	
QUALITY OF WORK	Consistently incomplete and poorly organized work and/or does not reflect what is covered in the course, discussion with team members and/or use of information resources.		able to produce work and assignments in an organized and complete fashion. Able to provide available information such as textbooks and notes, and discussion with team members.		able to consistently produce superior work and assignment in an organized and complete fashion. Able to provide available information such as textbooks and notes, and discussion with team members. It reflects use of multiple resources.	
SELF-DIRECTED/LIFELONG LEARNING	Rarely shows initiative in seeking out information, feedback etc. Infrequently responds to instruction.		Demonstrates initiative in seeking out information and using available resources. Solicits and responds to instruction and feedback. Ability to assess learning gaps.		Is inquisitive and consistently demonstrates initiative in seeking out information and resources. Able to assess learning gaps and develop learning plans. Seeks out additional information and utilizes credible resources. Consistently incorporates feedback and demonstrates improvement effectively.	
PROFESSIONALISM (with members of the team)	Often causes friction. Poor team skills. Often disrespectful. Often works in isolation. Cannot be relied upon by other team members.		Respectful and open to all team members. Ability to work cooperatively with all team members. Mature and dependable. Sensitive to others. Shares pertinent information.		Excellent interpersonal skills. Respectful, mature, and cooperative with all team members. Highly sensitive to others' needs. Appropriately assertive. Highly dependable. Identifies opportunities to assist teammates.	
PROFESSIONALISM (Professional behavior, demeanor, and work ethic)	Does not meet obligations. Frequently absent or late. Lacks interest and enthusiasm toward learning. Poor effort and lack of self-direction. Depends on others to complete the work.		Meets obligations. Punctual, well-motivated, responsible. Assumes responsibility. Generally solves through on assigned tasks. Shows enthusiasm and self-direction.		Exceeds obligations. Always punctual. Assumes added responsibility. Completely reliable. Superior team player. Excellent enthusiasm and self-direction.	
PROFESSIONALISM (ethics and interpersonal relationships with patients/cadavers or Sp3) IE APPLICABLE	Demonstrates lack of regard for social or cultural issues. Disrespects patient's dignity and disregard a patient's privacy.		Demonstrates compassion. Shows good understanding of patient's perspective. Respectful of patient's dignity. Protective of patient's privacy.		Consistently compassionate and sensitive to social, cultural, and religious issues. Advocates for patient's dignity. Vigilant in protecting patient's privacy. Consistently develops a trusting relationship with patient.	
CLINICAL REASONING/PROBLEM SOLVING IE APPLICABLE	Unable to integrate knowledge from basic sciences to apply to a clinical case (patient interview, virtual case, standardized patient, or case) presenting symptoms and demographics.		Able to apply basic science concepts to a clinical case in an organized fashion. Able to develop hypotheses based on organized information. Able to synthesize information from patient interview, virtual case, standardized patient or patient case)		Consistently able to synthesize information from a clinical case (patient interview, virtual case, standardized patient or patient case). Applies knowledge from basic sciences to synthesize information and develop hypotheses, refines hypotheses and re-prioritizes them to approximate a differential diagnosis.	

Discipline: Clinical Medicine 2

Course Director: Joel Appel, M.D.

Course Overview & Objectives:

Clinical Medicine 2 (CM2) is a continuation of Clinical Medicine 1 (CM1). It is a collaborative course involving community-based physicians and University faculty in the departments of Family Medicine, Internal Medicine, Pediatrics, and Emergency Medicine.

The purpose of Clinical Medicine is to introduce the student to the knowledge, skills, and attitudes necessary for clinical practice. CM2 continues to emphasize medical interviewing and communication skills, and teaches the concepts and skills of comprehensive physical examination. Medical record keeping and professional behaviors are also emphasized. CM2 also covers several special topics as outlined in the course objectives.

By the end of Clinical Medicine 2, students will be able to demonstrate increased knowledge and skills in the following areas:

- medical interviewing
- analytical reasoning
- medical record-keeping and organizational skills
- the patient-centered clinical method
- medical ethics
- end-of-life issues
- geriatrics
- persons with disabilities
- special needs populations
- clinical prevention and population health
- medico-legal issues
- health care financing
- performing a comprehensive history and physical examination
- written and oral case presentation

Course Structure:

CM2 is the second year of this longitudinal course. CM2 consists of four small group sessions and physical diagnosis sessions with Standardized Patient Teaching Associates (SPTAs) and practice with synthetic models. There is also an Interprofessional Team Home Visit patient panel and an HIV/ethics program comprised of a patient panel, small group sessions, and a lecture.

There are four small group (SG) sessions in CM2. You will continue with the same small group that you were in for CM1. Attendance is required. Since this course is an introduction to the clinical experience, it is expected that you will prepare and participate by: (1) working with your team to create a presentation or video on the specified topic for each session; (2) posting that product to the OneDrive folder; (3) reviewing others on your topic; (4) actively participate in the presentation of your product during the session. Once assigned to a small group, you will not receive credit for attendance at any other group. As is the case on rounds in your Year 3 clinical rotations, physician instructors will select students randomly to discuss a case assignment. For SG sessions you are required to dress as if you were seeing patients. This means wearing your (clean) white coat and appropriate professional attire.

Self-study materials are an integral complement to the lectures and will be included in the written examination. PowerPoints presented by lecturers and other resources and course information can be accessed via the Blackboard course site. You are responsible for knowing all of the material presented in these formats.

The Physical Diagnosis (PD) component of CM2 (Part 2) will build on the interviewing, history- taking, physical examination and clinical decision-making skills that you have developed so far. The PD section begins in November and continues for the remainder of the academic year. Assignments related to these sessions will be on Blackboard and will have a due date. Attendance is required for ALL SESSIONS. Not completing the assignments prior to attending sessions at the Clinical Skills Center and absence from these required sessions will be considered unprofessional and may result in referral to the Professionalism Committee, or possibly course failure at the discretion of the Course Director.

The purpose of Interprofessional Team Visit is to address the AAMC Interprofessional Collaborative Practice Competencies: Values/Ethics for Interprofessional Practice, Roles/Responsibilities, Interprofessional Communication, and Teams and Teamwork. It also provides an opportunity to foster a holistic approach to the care of older adults, who are aging successfully. For this visit you will be matched with a Bachelors or Masters of Social Work student, a second or third year pharmacy student or a first year or second year Physical Therapy or second year Occupational Therapy, Physician Assistant, or nursing student to conduct an assessment of an older adult in his/her home. Once matched, it will be your responsibility to contact your student team members to decide on the best date/time to conduct this visit and determine who will contact the older adult to schedule and confirm the visit. Some students have found it useful to use <http://meetingwizard.com/> to schedule their visit. The majority of team visits will be conducted in October, however some of teams will be assigned to the visit in January and February. Please wear appropriate professional attire with a clean white coat, and take your School of Medicine ID with you for the visit. Prior to the visit, you will attend a team orientation:

- FALL GROUP IPTV team orientation teams will be assigned to one of the following dates: September 12, 14, 15 19 & 21 to be held in Mazurek classrooms at 5:45 pm.
- WINTER GROUP IPTV team orientation teams will be assigned to one of the following dates: January 18, 23, 25 and Jan 30 to be held in Mazurek classrooms at 5:45 pm.

To help you prepare for the visit you will watch two taped lectures on aging (successful aging and a mini nutritional assessment), and review Power Point presentations on interprofessional teams and safety issues. During the home interview, you will assess the older adult using the Mini Nutritional Assessment questionnaire, http://www.mnaelderly.com/forms/mna_guide and conduct a vision screen and review the CDC recommended Preventive Services for older adults or the web version <http://epss.ahrq.gov/ePSS/search.jsp>. The other health professional students on your team will be performing their own profession-specific assessments, which you will observe for additional learning. After the visit, you and your team should debrief. You are required to attend a debriefing on your visit and discuss your team assessment with the IPTV faculty. IPTV Medical Students Debrief: November 4 from noon to 1 pm and March 6 at 12:00 pm to be held in Mazurek Classrooms. Enter the data from your questionnaires within three days of completing the visit.

Course Requirements:

Missing the mandatory sessions below will be considered unprofessional and may result in referral to the Professionalism Committee or course failure at the discretion of the course director. The HIV/ethics panel and small groups are required - you will need to swipe your ONE CARD to confirm your attendance. SG sessions on September 17 and 24, 2015 - attendance will be taken by your SGI. Physical Diagnosis sessions at the Clinical Skills Centers – details will be provided in the Clinical Medicine 2 Part 2 syllabus, available in November.

Reasonable accommodations will be offered to students who provide advanced notice to Dr. Appel, Course Director, of conflicts between religious obligations and any of the required sessions of the CM 2 course. Dr. Appel must be notified of the conflict no later than 8/14/15 by email with a read receipt. Generally, students may be offered a make-up session or be required to complete an alternative learning experience.

Evaluation, Feedback, and Grading:

Each student is responsible for the concepts and skills listed in each unit under Learning Objectives. Resources for acquiring competency in these objectives include the SG sessions, large group sessions, self-study, supplemental information in the syllabus, any handouts provided during class, and the practice of physical examination skills with the standardized patients. The course is PASS/FAIL, with a minimum pass of 75%.

Any student who does not pass the computerized exam on the first try will be allowed one retest. If the student passes on the second attempt, they will receive a grade of S*. A second failure of the exam will result in the assignment of a remediation paper. Completion of the remediation paper will also result in a grade of S*.

Components of Evaluation for CM2

Computerized examination on October 15, 2015
PD Final Written examination, Spring 2016
Physical Diagnosis Practical Examination, Spring 2016
Adherence to the Professionalism Standards of the School of Medicine
Attendance at all required sessions

Grade Appeal Process:

All grade appeals should be directed to the Course Director. Students should not contact their small group instructor to discuss grade appeals.

Required/Recommended Equipment, Textbooks:

Required equipment: Stethoscope (good quality – comparable to Littman Cardio 3)

Recommended equipment: oto-ophthalmoscope kit, tuning forks – 128 Hz and 512Hz, reflex hammer, penlight, sphygmomanometer (BP cuff)

Required reading materials:

- Course syllabus, additional lecturer handouts
- Blackboard assignments

Required textbook:

Bickley, Lynn S. **Bates' Guide to Physical Examination and History Taking.** 10th Edition, Lippincott Williams and Wilkins C., 2010

Recommended textbooks:

Cohen-Cole, S.A. (Ed). The Medical Interview: The Three Function Approach. Second Edition, Mosby-Year Book, Inc. 2000

Lo, Bernard. Resolving Ethical Dilemmas: A Guide for Clinicians. Fourth Edition, Lippincott, Williams and Wilkins, 2010

Recommended websites:

<http://www.usersguides.org/> (JAMA or “Users Guide textbook supported online access)

The JAMA Clinical Rational Examination Series:

<http://jama.jamanetwork.com/collection.aspx?categoryid=6257>

The Institute for Healthcare Improvement, a patient care quality and safety resource:http://www.ihl.org*

You may also find a medical dictionary such as *Stedman's* useful for this course, as well as for other courses during the first two year.

Key Personnel/Contact Information:

Course Director	Dr. Joel Appel	jappel@med.wayne.edu	313.577.9329
PD Section Director	Dr. Chih Chuang	chuang@med.wayne.edu	313.577.3019
IPTV Section Director	Dr. Jennifer Mendez	jmendez@med.wayne.edu	313.577.2125
Clinical Skills	Deshaun Harris	dharris@med.wayne.edu	313.577.1024
Course Coordinator	Gini Gilchrist	ggilchri@med.wayne.edu	313.577.9329

Clinical Medicine Course offices are located at 225 Mazurek Education Commons, in the Kado Clinical Skills Center (Suite 206).

Discipline: Psychiatry

Course Director: Eva Waiono, M.D.

Course Overview & Objectives:

This course focuses on normal development, and the recognition and treatment of psychiatric disorders seen in adults and children. We will also discuss psychiatric nomenclature, the mental status examination, and the DSM-5. In addition, there will be lectures on common psychiatric problems seen in the general hospital setting, and the impact of medical illness on the patient. This course will prepare you for your clinical rotation in psychiatry in the third year. It will also provide a background in psychiatry for future work in any clinical area of medicine.

Recommended Textbooks (None are required):

Kaplan and Sadock's Synopsis of Psychiatry. 11th Ed. Lippincott Williams & Wilkins: 2014.

Required Sessions:

The session titled "Drug/Alcohol Use in Physicians/Medical Students" which includes both a lecture and patient panel and is scheduled for November 7th from 9:30-11am is required.

Evaluation:

There will be two multiple-choice examinations in this course.

Contact Information:

Course Director: Eva Waiono, M.D.

Email: ewaiono@med.wayne.edu

Course Assistant: Yolanda Pitts

Email: ypitts@med.wayne.edu

Discipline: Pharmacology

Course Director: Lawrence H. Lash, Ph.D.

Course Description:

Pharmacology, the study of the action of drugs on cells and organisms, is interdisciplinary in that it combines knowledge of the biochemical and molecular mechanisms of drug action with the anatomical distribution of drugs in the body and the physiologic (and sometimes pathologic) responses to the drugs. Upon successful completion of the medical pharmacology and therapeutics course, we expect that students will possess knowledge of pharmacology and have received an introduction to therapeutics (the clinical application of drug use including appropriate doses) that will be expanded subsequently in the clinical training. There is a brief exposure to some important regulatory and administrative issues. We use mini-exams to provide students concrete examples that test knowledge objectives. The goal of the knowledge objectives and mini-exams is to allow formative assessment to determine both the content and depth of knowledge expected as well as their level of comprehension.

Course and Knowledge Objectives:

The overall objectives of the course are to introduce the basic principles of pharmacology and each of the major categories of pharmacologic agents.

In the area of basic principles, students are expected to:

1. Apply principles of pharmacodynamic action to appropriate case scenarios.
2. Apply principles pharmacokinetic action to appropriate case scenarios.
3. Analyze and calculate major pharmacodynamic and pharmacokinetic parameters.
4. Identify significant regulatory and administrative issues in the use of pharmacological agents.
5. Locate and apply appropriate therapeutic information to provide a foundation for lifelong learning in use of pharmacological agents.

For each major category of pharmacologic agents, a prototype drug is identified. This prototype has been selected as being representative of the class. For each of the prototype drugs, students are expected to identify the following properties and apply that knowledge to appropriate case scenarios:

6. Evaluate properties of therapeutic agents and apply this to appropriate case scenarios to address the question: What are the underlying (patho)physiological processes and what are the potential pharmacological targets?
7. Evaluate properties of therapeutic agents and apply this to appropriate case scenarios to address the question: For which diseases or conditions are use of the drug indicated?
8. Evaluate properties of therapeutic agents and apply this to appropriate case scenarios to address the question: What other preexisting conditions may prevent this drug from being used in a particular patient?
9. Evaluate properties of therapeutic agents and apply this to appropriate case scenarios to address the question: What is the biochemical or molecular mechanism of action of the drug?
10. Evaluate properties of therapeutic agents and apply this to appropriate case scenarios to address the question: What are the expected therapeutic or physiologic responses of the drug?
11. Evaluate properties of therapeutic agents and apply this to appropriate case scenarios to address the question: What are the expected side effects of the drug (predictable adverse effects)?
12. Evaluate properties of therapeutic agents and apply this to appropriate case scenarios to address the question: What are the signs of toxicity of the drug?
13. Evaluate properties of therapeutic agents and apply this to appropriate case scenarios to address the question: What is the time course for the amount of drug in the body and what factors may produce individual variation from the norm (pharmacokinetics)?

14. Evaluate properties of therapeutic agents and apply this to appropriate case scenarios to address the question: What are the routes of administration and how is the drug absorbed?
15. Evaluate properties of therapeutic agents and apply this to appropriate case scenarios to address the question: Where does the drug go within the body (distribution)?
16. Evaluate properties of therapeutic agents and apply this to appropriate case scenarios to address the question: How is the drug removed from acting within the body (metabolism, excretion) and how is elimination enhanced in poisoning?
17. Evaluate properties of therapeutic agents and apply this to appropriate case scenarios to address the question: With what other drugs does this drug produce an interaction, and are pharmacodynamic or pharmacokinetic mechanisms involved?

Detailed knowledge of dose levels and regimens is not required.

A short list of other drugs within the same class of agents will be provided in the lecture notes if the other agents are commonly used or have particular properties.

- Students will be expected to identify these additional agents and their particular properties and apply that knowledge to appropriate case scenarios.

Course Structure:

The Medical Pharmacology and Therapeutics course has been re-organized to emphasize intensive coverage of pharmacology in year-II of the curriculum. This pharmacology unit begins with modules on General Principles and Autonomic Pharmacology as these provide a foundation for the discipline. The remainder of the intensive course uses lectures, clinical correlation sessions, and self-study materials to cover modules on Pharmacology of Autacoids and Inflammation, Metabolic Pharmacology, CNS Pharmacology, Cardiovascular Pharmacology, and Cancer Chemotherapy. The course also includes topics that span across systems, such as drug abuse, toxicology and poisoning, pain, pediatric and geriatric pharmacology, prescription writing and drug costs, and pharmacovigilance.

The pharmacovigilance module focuses on drug interactions and associated adverse events and is taught in a small-group/interactive classroom format that enhances the coverage and emphasis on these important topics. The pharmacovigilance sessions have required attendance. Any student who receives an incomplete on a required session should refer to the SOM policy manual for a description of potential consequences.

A primary focus of the intensive pharmacology coverage is to provide specific preparation for students to answer Step 1 examination questions that require knowledge of pharmacology. This goal is achieved in partnership with the topics of antimicrobial and antiviral therapy that are comprehensively covered in the Infectious Diseases Unit that also occurs early in the year-II Medical Curriculum. The overall course is enhanced by coverage of the therapeutic topics that are relevant to each pathophysiology unit and to psychiatry during their respective courses throughout the second year.

Evaluation of Knowledge:

At the conclusion of each module, students are given a formative, self-evaluation mini-exam. This examination is constructed to be representative of the questions on the formal examination and allows the student to assess his/her level of mastery of the material without a score or grade being recorded. In general, students are expected to achieve a score of 80% on these mini-exams. With a performance below this standard, a student should identify the problematic areas and review the material again.

There are three course examinations. Following the conclusion of the course, all students will also take an NBME practice examination in pharmacology that will provide comprehensive assessment of the material

plus the antibiotics/antiviral material provided through the Infectious Diseases Unit. The final grade is primarily determined by the combined scores from three examinations that cover the intensive pharmacology course. According to SOM policy, performance on the NBME subject examination is weighted as 10% of the overall determination. The passing grade for the course is typically set on the basis of student performance on the exams and in small-group sessions, and is guaranteed to be no higher than 70%, but has typically been slightly lower than that in recent years.

Evaluation of knowledge of pharmacology also is included in the United States Medical License Examination (USMLE) Step 1 at the conclusion of year-II. A student must pass this examination to progress into Year 3 of medical school. Review material on pharmacology topics specifically in the context of preparation for Step 1 is provided on an extra-curricular basis near the end of year-II.

Recommended textbook:

Basic & Clinical Pharmacology 13th Edition by B.G. Katzung, S.B. Masters & A.J. Trevor, McGraw Hill, New York, 2014, \$69 list.

- Full text is available online via the Shiffman library.

Reference text:

Goodman & Gilman's The Pharmacological Basis of Therapeutics. 12th Edition, Brunton, Chabner & Knollman Eds., McGraw Hill, New York, 2011. List price \$213.00

- This book is encyclopedic and expensive but is still the best overall reference. The updated text is available on-line via the Shiffman library.

Up-to-date drug and therapeutics information:

The Medical Letter – Medical Letter, Inc. is a nonprofit organization that provided non-biased, peer-reviewed drug information and evaluation. Its biweekly publication, The Medical Letter, is generally regarded as the most authoritative source of current drug information. The faculty of the Department of Pharmacology gives it our highest rating and it is now available through the WSU/Shiffman library subscription system.

Discipline: Pathobiology

Course Director: Barbara Bosch, M.D.

Course Overview:

The Pathobiology Course is a formal introduction into the basic mechanisms and consequences of human disease. Using examples from multiple body sites, this course provides an in-depth study of basic pathologic processes. The pathology curriculum draws heavily upon previously introduced concepts of gross anatomy, histology, biochemistry, cell biology, genetics, physiology, immunology, and microbiology. Familiarity with these areas is important since disease states are essentially perturbations of normal biochemical, cellular and anatomical homeostasis. The course is organized into major categories of disease, including the following:

- cellular adaptation and injury
- inflammation and repair
- circulatory disturbances and atherosclerosis
- forensic pathology
- immunopathology
- neoplasia
- genetic and pediatric diseases
- nutritional, infectious and environmental disorders

Within each of these categories, two concepts are particularly emphasized. The first, pathogenesis (mechanism of disease development), is reviewed primarily at the molecular and cellular level. It is at this step that the course interfaces with biochemistry, cell biology, genetics, physiology, immunology, and microbiology. The second area of emphasis is altered morphology (anatomic pathology), both microscopic and macroscopic. In this regard, the course interfaces with histology and anatomy. Histopathology and gross pathology of human disease are, when possible, correlated with the respective clinical presentation and physical exam findings. Morphologic changes are also presented in the context of pathogenesis, with correlations made between the microscopic abnormalities and gross pathology. Although students are not expected to develop diagnostic pathology skills, it is a definite goal of the course for the students to learn basic criteria for the morphologic distinctions between major classes of human disease. Histopathology is extremely challenging for students. Therefore, morphology of disease is covered from a variety of perspectives. These include images presented in lectures, photomicrographs in textbooks, and slides available on the Blackboard website. In addition, there are weekly pathology laboratories / case-based learning sessions which employ virtual microscopic slides of representative human disease states (see below).

Additional kinds of information covered in this course include the classification, epidemiology, etiology, pathophysiology, clinical pathology, and natural history of disease processes. Students are introduced to the use of gross tissue examination, histopathology, ultrastructural pathology, and laboratory medicine as diagnostic tools. Genetic, environmental and social factors are considered in understanding the cause and progression of many diseases.

Course Objectives:

At the end of the Pathobiology Course, students should be able to:

1. Discuss the pathogenesis (intrinsic &/or extrinsic) of the major classes and categories of human disease at the molecular, cellular and tissue level.
2. Review normal cellular physiology and histology. Describe and explain the basic functional and anatomical consequences of major human disease states at the level of cells, tissues and ultimately the whole body.

3. Recognize and distinguish in representative tissue sections or photographs:
 - a) the diverse types of cellular adaptations (e.g., hypertrophy, hyperplasia, metaplasia) and accumulations;
 - b) hypoxic cell injury;
 - c) the various types of necrosis;
 - d) the different patterns of inflammation;
 - e) the sequential characteristics of wound healing;
 - f) hemodynamic disorders, such as congestion, edema, atherosclerosis, thrombosis, and infarction;
 - g) cytologic dysplasia and several of the common types of benign and malignant human neoplasms;
 - h) examples of genetic, pediatric and infectious disease, as covered in the respective small group sessions.
4. Summarize the basic principles of laboratory testing and interpretation, and correlate the molecular and cellular mechanisms of disease with some of the more commonly utilized clinical laboratory assays.
5. Begin to acquire skills of observing and synthesizing the distinctive pathologic characteristics of gross and microscopic tissue specimens, analyzing this information in an attempt to formulate a pathogenetic sequence of events, and correlating the morphologic alterations with likely clinical &/or laboratory disease manifestations.
6. Demonstrate a fundamental knowledge of the principles of nomenclature, as well as basic epidemiology, of human disease.

Course Structure:

Instructional material is presented in lectures, after which the students have five laboratories / case-based learning sessions, one small group study electronic laboratory, and weekly interactive reviews to facilitate their understanding of the content. Blackboard is an additional instructional modality used in the course.

Lectures:

Five faculty members of the Department of Pathology provide the lectures within this course.

Laboratories / Case-Based Learning (CBL) Sessions:

The five laboratories / case-based learning sessions utilize examination of both gross and microscopic pathology in order to reinforce concepts, as well as to demonstrate correlations between disease morphology and clinical features. The labs / CBL sessions are student-directed, active, problem-solving activities. A major goal of this component of the course is for students to develop their ability to make objective observations using a universal form of medical technology, the microscopic slide. In addition, these small group sessions allow the students to assess their understanding of course material, through both collaborative discussions and the completion of assessment questions at the end of each lab / CBL session. Attendance at these small group sessions is mandatory.

Small Group Study E-Lab:

There is one required e-lab near the end of the course during which the students work again in their CBL small groups. Failure to complete the e-lab by the designated deadline necessitates the completion of a remediation assignment in order for the course to be passed successfully.

Interactive Reviews:

The students are provided with the opportunity to participate in weekly interactive review sessions during which they can answer practice exam questions with an audience response system and receive immediate feedback.

Blackboard:

The Pathobiology Course site on Blackboard provides the students with access to additional teaching materials (e.g., PowerPoint slides; streaming videos of lectures, reviews and lab / CBL wrap-up sessions; electronic version of the textbook). In addition, this site is the primary means of communication between students and faculty outside of class and provides a Discussion Board in which student questions can be answered and concerns addressed.

Required Textbook:

Kumar V, Abbas AK and Aster JC (eds). *Robbins and Cotran Pathologic Basis of Disease*, 9th edition (2015), Elsevier Saunders. ISBN: 1455726133

Course Faculty:

The five lecturers and multiple additional laboratory instructors are members of the WSUSOM Department of Pathology.

Course Evaluations:

Knowledge of learning objectives is formally assessed with two verbal and image-based multiple-choice format examinations (each composed of approximately 100 questions). The pass rate for the course is 70% of the exam items answered correctly, with the Course Director having the discretion to lower it further. In addition, the students need to satisfactorily complete the assessment questions at the end of each lab / CBL session.

Performance in the laboratory / case-based learning sessions, including professionalism, teamwork and communication skills, is judged according to the satisfaction of the teaching faculty.

Discipline: Pathophysiology – Respiratory Unit

Unit Directors: Fulvio Lonardo, M.D. and Basim Dubaybo, M.D.

Unit Overview:

The overall goal of the Year 2 Respiratory Pathophysiology Unit is to engage the medical students in learning the key concepts related to the pathology and pathophysiology of pulmonary disease processes, as well as basic principles of their diagnosis and treatment. The following content areas are covered:

- review of the normal anatomy, histology and physiology of the respiratory system
- arterial blood gases
- introduction to the chest X-ray
- obstructive lung diseases
- pulmonary hypertension
- pulmonary embolism / thromboembolic disease
- pleural diseases
- neonatal and pediatric pulmonary disease
- environmental / occupational lung diseases
- pulmonary infectious diseases
- interstitial lung disease
- lung cancer
- smoking cessation
- disorders of the oral cavity
- sleep medicine
- respiratory failure
- aging and the respiratory system

Relevant pharmacologic management of pulmonary diseases is also reviewed.

Unit Objectives:

The overall objective of the Respiratory Pathophysiology Unit is to provide the students with a conceptual framework for analyzing and understanding some common respiratory disorders in terms of their causes (when known) and the derangements of function that result.

At the end of the unit, students should be able to:

1. Review the anatomy, histology, physiology, and clinical examination of the respiratory system.
2. Define each respiratory disease discussed and describe its:
 - a. a. basic foundational considerations (e.g., epidemiology)
 - b. etiologic factors and pathogenetic mechanisms
 - c. associated functional and structural derangements (i.e. pathophysiologic consequences and pathologic features)
 - d. clinical manifestations
 - e. relevant diagnostic work-up
 - f. differential diagnosis (in broad principle)
 - g. natural history and potential complications
 - h. principles of treatment and prevention
3. Summarize the effects of aging on the respiratory system.

Unit Structure:

Instructional material is presented in lectures, after which the students have five active learning question sets, several self-study exercises, and two case-based small group learning (CBL) sessions to facilitate their understanding of the content. Blackboard is an additional instructional modality used in the unit.

Lectures:

Faculty members from the Department of Internal Medicine (Geriatrics and Pulmonary / Critical Care Divisions), the Department of Pathology and the Department of Pharmacy provide the lectures within this unit.

Active Learning Question Sets:

The students are provided with the opportunity to work through five active learning question sets, which are subsequently reviewed in the lecture hall.

Self-Study Exercises:

There are several self-study assignments to help the students apply information learned in the unit to clinical case scenarios.

Case-Based Small Group Learning (CBL) Sessions:

Two case-based small group learning (CBL) sessions, each followed by a 1-hour wrap-up, are scheduled within the unit in order to promote the integration of concepts, as well as to emphasize correlations between the clinical manifestations of respiratory disease and the corresponding pathologic abnormalities. These CBL sessions are student-directed, active, problem-solving activities. In addition, these small group sessions allow the students to assess their understanding of course material through collaborative discussions with their classmates and instructors. Attendance at these small group sessions is mandatory.

Blackboard:

The Respiratory Pathophysiology Unit site on Blackboard provides the students with access to additional teaching materials (e.g., PowerPoint slides; streaming videos of the lectures, question set reviews and CBL case wrap-up sessions; electronic version of the required textbook). In addition, this site is the primary means of communication between students and faculty outside of class and provides a Discussion Board in which student questions can be answered and concerns addressed.

Required Textbook:

Kumar V, Abbas AK and Aster JC (eds). *Robbins and Cotran Pathologic Basis of Disease*, 9th edition (2015), Elsevier Saunders. ISBN: 1455726133

Recommended Textbook:

West JB. *Pulmonary Physiology and Pathophysiology: An Integrated, Case-Based Approach*, 2nd edition (2007), Wolters Kluwer / Lippincott, Williams & Wilkins. ISBN: 0781767016

Unit Faculty:

Members of the Department of Internal Medicine (Geriatrics and Pulmonary / Critical Care Divisions), the Department of Pathology and the Department of Pharmacy provide the lectures and facilitate the small group sessions in this unit

Unit Evaluations:

Knowledge of learning objectives is formally assessed with a verbal and image-based multiple-choice format examination. This examination is composed of approximately 100 questions. The pass rate for the unit is 70% of the exam items answered correctly, with the Unit Directors having the discretion to lower it further. In addition, the students need to satisfactorily participate in the mandatory small group sessions in the unit.

Discipline: Pathophysiology – Hematology Unit

Unit Directors: Ali Gabali, M.D., Ph.D. and Ayad Al-Katib, M.D.

Unit Overview & Objectives:

The curriculum for the Hematology Unit of Pathophysiology encompasses a wide spectrum of hematologic disorders, transfusion medicine and pharmacology as it relates to hematology. The overall philosophy is to focus discussion of the pathogenesis/pathophysiology, clinical manifestations, laboratory features, diagnostic criteria, and differential diagnosis of common hematological disorders. Treatment is not stressed, but is included as it relates to the natural history, prognosis, or the understanding of the pathophysiologic disease process. The unit is organized around disorders of the red blood cells, myeloid disorders, lymphoid disorders, hemostasis disorders and pharmacology of drugs used in blood disorders and cancer.

Teaching methods include whole-class lectures, laboratory sessions, self-study, problem-based small group learning exercises, case-based reviews by faculty, and practice exam sessions.

The following topics are covered in hematology curriculum:

- Benign disorders of white blood cells
- Anemias
- Myelodysplastic syndromes
- Acute leukemias
- Myeloproliferative neoplasms
- Hematopoietic stem cell transplantation
- Benign and malignant lymphocyte disorders
- Hemostasis (bleeding disorders and the hypercoagulable state)
- Transfusion medicine

The Laboratory sessions are conducted in the MD labs (~25 students per lab). The laboratory sessions are designed around “unknown” case studies, which promote interaction and discussion between the students and session leaders. Copies of the labs with answers are posted on blackboard following the end of each laboratory session.

The laboratory sessions are a requirement for the course. Attendance is taken at the laboratory sessions. Students are responsible for any and all material presented in the laboratory sessions.

Problem-based sessions: Student groups will be provided with a virtual microscopy slide and a short case history and will be asked to develop a differential diagnosis and propose further diagnostic work up based on morphological findings in the slide, determine likely final diagnosis and present their findings to the whole lab group and to the instructor for critiquing. There are 5 PBL sessions conducted in the MD Labs

Case-based learning sessions: These sessions will be conducted by the lecturers as practical application of the factual knowledge covered in each lecture. Representative cases from the above topics will be selected by the lecturer and students will be guided through a number of MCQs towards proper diagnostic work up.

The final examination will be between 60 - 100 questions. 15 questions will be from pictures. Photographs may be taken directly from the pictures used in the laboratory session. The final exam will cover materials presented in the lectures and laboratory and review cases.

Recommended Textbooks:

1. A.V. Hoffbrand, J.E. Pettit, P.A.H. Moss, **Essential Hematology**, Blackwell Science Ltd., 4th edition, 2001.
2. Mehta and A.V. Hoffbrand, **Hematology at a Glance**, Blackwell Science Ltd., 2000

Discipline: Pathophysiology – Cardiovascular Unit

Unit Directors: Barbara Bosch, M.D. and Shaun Cardozo, M.D.

Unit Overview:

The overall goal of the Year 2 Cardiovascular Pathophysiology Unit is to engage the medical students in learning the key concepts related to the pathology and pathophysiology of cardiovascular disease processes, as well as basic principles of their diagnosis and treatment. The following content areas are covered:

- review of the normal anatomy and physiology of the cardiovascular system
- systemic hypertension
- atherosclerosis and ischemic heart disease
- cardiovascular disease in the elderly
- basic electrophysiological principles
- ECG interpretation, including the recognition and management of arrhythmias
- valvular heart disease
- diseases of the pericardium
- tumors of the cardiovascular system
- examination of the cardiovascular system
- primary myocardial disease
- congestive heart failure
- non-atherosclerotic vascular disease, including aneurysms, aortic dissection and vasculitis
- congenital heart disease

Unit Objectives:

At the end of the Cardiovascular Pathophysiology Unit, students should be able to:

1. Review the normal anatomy, histology, physiology, and clinical examination of the cardiovascular system.
2. Understand and be able to describe the mechanisms by which altered anatomy, physiology and biochemistry result in diseases of the heart and vascular system.
3. Gain an introductory understanding of how cardiovascular diseases present clinically as human disease.
4. Demonstrate a working knowledge of circulatory hemodynamics, ventricular mechanics and cardiac adaptation.
5. Discuss the etiology, pathology, complications, and treatment of systemic hypertension.
6. Describe the pathogenesis, clinicopathologic features and strategies for prevention of atherosclerosis.
7. Explain the pathogenetic mechanisms, morphologic findings, diagnostic techniques, and treatment modalities of ischemic heart disease, including myocardial infarction.
8. Summarize the prevalence and effects of aging on the cardiovascular system, as well as its impact on management of important cardiovascular diseases.
9. Review the basic principles of the electrocardiogram and be able to detect key abnormalities using this diagnostic technique.
10. Recommend management for the more frequently identified cardiac arrhythmias.
11. Discuss the etiology, clinicopathologic features, pathophysiologic consequences, and basic management of valvular heart disease.
12. Describe the pathogenesis, pathology, clinical manifestations, diagnosis, and treatment of diseases of the pericardium.
13. Discuss the more common tumors of the heart.

14. Identify and explain the pathophysiology of the more frequently encountered findings on cardiac auscultation.
15. Summarize the etiologic factors, pathologic features, clinical findings, and pathophysiologic consequences of primary myocardial diseases.
16. Discuss the pathogenesis, clinicopathologic manifestations, complications, and basic treatments of heart failure.
17. Describe the clinicopathologic manifestations of non-atherosclerotic vascular diseases, including the various vasculitides.
18. Discuss the epidemiology, pathology, pathophysiology, clinical features, and complications of the more common congenital heart defects.

Unit Structure:

Instructional material is presented in lectures, after which the students have several self-study assignments, a problem-based learning (PBL) case exercise, two interactive reviews, a Harvey session, and a clinical case discussion to facilitate their understanding of the content. Blackboard is an additional instructional modality used in the unit.

Lectures:

Faculty members from the Cardiology Division of the Departments of Internal Medicine and Pediatrics, the Department of Pathology and the Department of Pharmacy provide the lectures within this unit.

Self-Study Assignments:

There are two electronic laboratories and a self-study ECG assignment to help the students apply information learned within the unit to problem-solving activities.

Problem-Based Learning (PBL) Case Exercise:

A new problem-based learning (PBL) activity is scheduled for three separate, 2-hour sessions during the second week of the unit, followed by a 1-hour wrap-up session. Active participation within these small group discussion sessions is mandatory.

Interactive Reviews:

The students are provided with the opportunity to participate in two interactive review sessions during which they can answer practice exam questions with an audience response system and receive immediate feedback.

Harvey Session:

The Harvey session is a one-hour case-based presentation of cardiac sounds that helps to complement both the Cardiovascular Pathophysiology Unit and the Physical Diagnosis Course. Student groups (12-15 individuals per group) work with an instructor and review several patient cases, accompanied by relevant heart sounds. The material that is presented overlaps with the teaching within this unit and is used to enhance learning through case-based scenarios. Attendance at this activity is mandatory. If a student fails to participate in this small group session, he/she is required to write a remediation paper pertaining to the patient cases that were missed.

Clinical Case Discussion:

Near the end of the unit, students participate in a 2-hour cardiology clinical case review discussion to help integrate concepts taught over the span of the unit. Attendance at this session is mandatory.

Blackboard:

The Cardiovascular Pathophysiology Unit site on Blackboard provides the students with access to additional teaching materials (e.g., PowerPoint slides; streaming videos of the lectures, reviews and PBL case wrap-up session; electronic version of the required textbook). In addition, this site is the primary means of communication between students and faculty outside of class and provides a Discussion Board in which student questions can be answered and concerns addressed.

Required Textbook:

Kumar V, Abbas AK and Aster JC (eds). *Robbins and Cotran Pathologic Basis of Disease*, 9th edition (2015), Elsevier Saunders. ISBN: 1455726133

Recommended Textbook:

Lilly LS (ed). *Pathophysiology of Heart Disease*, 6th edition (2016), Wolters Kluwer / Lippincott, Williams & Wilkins. ISBN: 1451192754

Unit Faculty:

The lecturers are members of the Cardiology Division of the Departments of Internal Medicine and Pediatrics, the Department of Pathology and the Department of Pharmacy.

The small group instructors for the Harvey session and clinical case review discussion are members of the Department of Internal Medicine, Cardiology Division.

The facilitators for the problem-based learning (PBL) case exercise are members of a variety of WSUSOM academic departments.

Unit Evaluations:

Knowledge of learning objectives is formally assessed with a verbal and image-based multiple-choice format examination, which also includes the identification of cardiac auscultatory findings. This examination is composed of approximately 100 questions. The pass rate for the unit is 70% of the exam items answered correctly, with the Unit Directors having the discretion to lower it further. In addition, the students need to satisfactorily participate in the mandatory small group sessions in the unit.

Performance in the problem-based learning (PBL) activity, including preparation, communication, professionalism, and clinical reasoning, is judged according to the satisfaction of the small group facilitators.

Discipline: Pathophysiology – Neurology Unit

Unit Directors: William Kupsky, M.D. and Edwin George, M.D., Ph.D.

Unit Overview:

The Pathophysiology Unit: Neuroscience builds on the elements of neuroanatomy and neurophysiology presented in the Year 1 Neurosciences course to provide an introduction to the pathologic and pathophysiologic basis of diseases of the nervous system. These include diseases of the central and peripheral nervous system, muscle, neuromuscular junction, and organs of special sensation. The course emphasizes the principles of neuroanatomic localization of lesions in the nervous system as a basis for understanding the use of the neurologic examination and includes basic principles of neuroradiology in clinical diagnosis to prepare for the Year III/IV clinical rotations in Neurology. Selected topics in pharmacology provide background for treatment of some kinds of neurologic disease.

Unit Objectives:

1. At the end of this course, the student should understand the definitions, pathophysiology, pathological and neuroimaging features, and major neuroanatomic and clinical features of the following major disorders of the nervous system including:
 - Increased intracranial pressure, edema, mass lesions, and hydrocephalus.
 - Cerebrovascular disease and stroke, including ischemic and hemorrhagic stroke, hypertensive cerebrovascular disease, and global hypoxic/ischemic disease.
 - Nervous system tumors, including gliomas, PNET's, meningiomas, Schwann cell tumors, and metastatic disease.
 - Neurodegenerative diseases, including Alzheimer, Parkinson, Huntington, ALS, and prion diseases.
 - Demyelinating and autoimmune diseases, including multiple sclerosis, ADEM and related diseases, Guillain-Barre and related diseases.
 - Neuromuscular diseases, including neurogenic muscle disease, myopathies (such as Duchenne muscular dystrophy, inflammatory myopathy, and steroid myopathy), and peripheral neuropathies (axonopathy vs. demyelinating neuropathy).
 - Epilepsy, including classification and basic principles of treatment.
 - Movement disorders, including pathophysiology and pharmacology of basal ganglia dysfunction.
 - Normal neurodevelopment and major diseases causing developmental delay.
 - Diseases of the vestibular system and extra-ocular movements.
 - Disorders of cognition and consciousness.
 - Headache, including classification and pharmacology.
 - Categories of traumatic disease, including closed head injury, skull fracture, and penetrating head injury.
2. At the end of this course, the student should be familiar with the major modalities of neuroimaging (CT and MRI scanning), be able to recognize normal and altered structures and formulate a basic differential diagnosis for common patterns of imaging abnormality.
3. At the end of this course, the student should understand the basic definitions of clinical electrophysiology and the basic use of this technique in the evaluation of neuromuscular disease.

Unit Structure:

The course consists of a series of lectures, including in-class lectures, a small-group case discussion with neurology faculty, a *mandatory* laboratory demonstration session (“Clinic Day”), *mandatory* E-lab exercises, , and in-class review sessions.

Final evaluation consists of

- a) A 100-question written examination, which includes 10-15 pictures of pathologic materials and neuroimages
- b) Successful completion of the mandatory E-lab exercises.
- c) Documentation of attendance or remediation of the Clinic Day exercise.

Unit Materials:

- Lectures (in class and available as on-line streaming videos).
- Course syllabus.
- Ancillary materials (streaming videos, PowerPoint files, discussion board) available on Blackboard.

Supplementary Texts:

Robbins and Cotran *Pathologic Basis of Disease*, 8th edition (2009).

Merritt's Neurology. Merritt, Rowland. Lippincott Williams & Wilkins; 10th edition, or *Diseases of the Nervous System: Clinical Neuroscience and Therapeutic Principles*. Asbury, McDonald, McKhann, Goadsby, McArthur. Cambridge University Press; 3rd edition, or *Textbook of Clinical Neurology*, Goetz et al. 2nd Ed. Saunders.

Useful Websites or other on-line resources are included with the course syllabus.

Discipline: Pathophysiology – Dermatology Unit

Unit Director: Darius Mehregan, M.D., Ph.D.

Unit Objectives:

At the completion of the course students should be able to:

- Understand the function and structure of the skin.
- Understand basic concepts and terminology in dermatology
- Classify skin lesions based on morphology.
- Recognize and be familiar with common inflammatory skin diseases.
- Recognize and be familiar with skin cancers and pigmented lesions.
- Understand the basic etiology and pathophysiology of common skin disorders.
- Understand basic dermatopharmacology, surgery and light/laser treatment options and their application to the management of common dermatoses seen in the primary care environment.
- Understand basic treatment strategies for multiple skin diseases.

Textbook:

Highly Recommended: Course will closely follow text book

Lookingbill and Marks' Principles of Dermatology (PRINCIPLES OF DERMATOLOGY (LOOKINGBILL)
(Paperback) by [James G. Marks Jr. MD](#) (Author), [Jeffrey J. Miller MD](#) (Author)

Discipline: Pathophysiology – Connective Tissue Unit

Unit Directors: Barbara Bosch, M.D. and Marie-Claire Maroun, M.D.

Unit Objectives:

At the completion of this unit, students should be able to:

- Review the development and basic normal function and structure of bones, joints and connective tissues.
- Explain how to analyze synovial fluid and perform crystal analysis.
- Discuss the epidemiology, pathogenesis, clinical manifestations, diagnosis, and basic treatment of rheumatic diseases.
- Summarize the epidemiology, pathogenesis, clinical manifestations, diagnosis, and basic treatment of metabolic bone disorders.
- Describe the major bone and soft tissue tumors in terms of epidemiology, location, characteristic radiologic findings, pathologic features, and natural history.
- Interpret musculoskeletal radiographs / imaging studies, and recognize their utility in the diagnosis and treatment of musculoskeletal abnormalities.
- Discuss the surgical approach to various musculoskeletal disorders, including skeletal fractures.
- Explain the pharmacology of drugs used in the treatment of musculoskeletal diseases.
- Describe the pathogenesis of and characteristic clinicopathologic findings seen with various congenital and acquired disorders of bone and the extracellular matrix.

Discipline: Pathophysiology – Endocrine and Reproductive Unit

Unit Directors: Barbara Bosch, M.D. and Julie Samantray, M.D.

Unit Overview & Objectives:

The common disorders affecting the endocrine system will be highlighted through didactic lectures. Where pertinent, the clinical and pathologic lectures will be supplemented by pharmacology lectures, to provide a more comprehensive and integrative approach. In addition there will be three MD laboratory sessions, which will involve clinical problem-solving sessions with a focus on the more common clinical problems. These small group sessions will allow close interaction of members of the Clinical Endocrinology faculty and students.

At the end of the unit, the students should have an understanding of:

- Clinical and pathologic understanding of the major regulatory mechanisms affecting the endocrine system and correlation of clinical disorders (hereditary and acquired) with altered anatomy and function.
- The integrative function of the hypothalamic-pituitary axis and the various functional and structural disorders that affect this system.
- Thyroid gland anatomy, function, structural and functional diseases and interpretation of thyroid function tests with clinico-pathologic correlations
- Disorders of the female reproductive tract.
- Male hypogonadal disorders and interpretation of the functional tests.
- Physiological basis of clinical testing of major clinical disorders, including congenital diseases, of the adrenal glands.
- Endocrine (non-essential) causes of hypertension, including reno-vascular hypertension and the bases of the clinical diagnostic tests.
- Pathogenesis, clinico-pathologic features, and basic aspects of treatment and prevention of Diabetes mellitus and Obesity, two important multi-system disorders, with major socio-economic implications.
- Normal bone architecture, role of bone in calcium metabolism, and disorders of structure and function of bone, including metabolic bone disorders

Common disorders of calcium metabolism including diseases of the parathyroid gland with a combined clinical and pathologic presentation of the more important disorders Clinico-pathologic aspects of common disorders of the female genital tract. These include infectious disorders of the lower female genital tract with particular emphasis on human papilloma-virus infection and its relationship to preneoplastic and neoplastic disorders of the lower female genital tract. Clinico-pathologically important dysfunctional and neoplastic disorders of the upper female genital tract, including the uterus, fallopian tubes and ovaries, will be described. These include endometrial dysfunctional bleeding disorders, benign endometrial tumors, discussion of endometrial hyperplasias and carcinomas, and myometrial tumors including leiomyomas and sarcomas. Disorders of the fallopian tubes to be described include salpingitis, and ectopic pregnancy. Classification of ovarian neoplasia including benign, borderline and malignant neoplasia with clinico-pathologic correlations will be described. A short section will include clinically important disorders of the placenta and trophoblastic disease. Another short section will be a discussion of endometriosis.

The pathophysiology of the more common disorders of the male genitourinary tract and to establish a link between these and clinical presentation and to emphasize the clinical significance of the pathologic classification, grading and staging of prostatic and testicular cancers

Working knowledge of the important surgical and pathological diseases of the breast, with emphasis on surgical anatomy and basic aspects of diagnostic testing and treatment.

Instruction is imparted by combination of didactic lectures, small group lab sessions, extensive handouts, and suggested readings.

Discipline: Pathophysiology – Renal/Urinary Tract Unit

Unit Directors: Madhumita Jena Mohanty, M.D. and Janet M. Poulik, M.D.

Unit Overview:

The Pathophysiology-Renal/urinary tract unit provides students with an understanding of normal physiology and renal and urinary tract disorders through didactic lectures and a MD laboratory session. The MD laboratory sessions will correlate with lectures and will aid in integrating the various principles of pathology and basic and clinical sciences in a patient-oriented problem-solving approach. The MD laboratories will be taught by members of the division of Pathology. Didactic lectures will be given by faculty members from the division of nephrology and pathology.

Unit Objectives:

At the end of the unit, students should have an understanding of:

- Renal and urinary tract disorders (acquired, congenital and hereditary) based on altered structure and/or function,
- Pathophysiologic mechanisms and natural histories of each of these disorders,
- Normal renal physiology and various disorders of body fluid, electrolyte and acid-based regulation including their cause(s), interrelations, perpetuating factors and the principles underlying appropriate therapeutic strategies,
- Syndromes of acute kidney injury and chronic kidney disease , uremia and end stage renal disease and their effects of the functions of the various organ-systems of the body, and thereby understand the principles for appropriate supportive and therapeutic measures,
- Physiologic basis for the pharmacologic actions of diuretics and thereby gain insight into both their various and appropriate therapeutic applications as well as attendant side effects.

Unit Structure:

- Didactic lectures.
- Laboratory- required attendance.

Competency is judged by the successful passing of a 70-100 question multiple-choice exam.

Competency in laboratory sessions (labs and small group patient problem solving) is judged by the ability to answer clinically based or pathologically based/problem solving questions in the exam.

Professionalism will be assessed by monitoring required attendance.

Discipline: Pathophysiology – Gastrointestinal Unit

Unit Directors: Barbara Bosch, M.D. and Murray Ehrinpreis, M.D.

Unit Overview:

The overall goal of the Year 2 Gastrointestinal Pathophysiology Unit is to engage the medical students in learning the key concepts related to the pathogenesis, pathology and pathophysiology of disease processes affecting the gastrointestinal tract, pancreas and hepatobiliary system, as well as basic principles of their diagnosis and treatment. The following content areas are covered:

- Review of the normal anatomy, histology and physiology of the gastrointestinal organs
- Liver disorders
- Diseases affecting the gallbladder, extrahepatic biliary tract and pancreas
- Diseases of the esophagus, stomach, small intestine, and colon
- Effects of various systemic disorders on the GI tract

Relevant pharmacologic management of gastrointestinal diseases is also reviewed.

Unit Objectives:

At the end of the Gastrointestinal Pathophysiology Unit, students should be able to:

1. Review the normal anatomy, histology and physiology of the gastrointestinal tract, pancreas and hepatobiliary system.
2. Define and differentiate between the major clinicopathologic syndromes of hepatic disease. For each of these syndromes, describe the etiology, pathogenesis, pathology, manner in which normal functions are altered, characteristic laboratory findings, and clinical features.
3. For each of the major neoplastic and non-neoplastic disease states of the gastrointestinal tract, pancreas and hepatobiliary system, discuss its:
 - a) basic foundational considerations (e.g., epidemiology)
 - b) etiologic factors and pathogenetic mechanisms
 - c) associated functional and structural derangements (i.e. pathophysiologic consequences and pathologic features)
 - d) clinical manifestations and differential diagnosis (in broad principle)
 - e) natural history and potential complications
4. Gain a fundamental ability to distinguish between normal tissue structure and selected pathologic processes of the gastrointestinal tract, pancreas and liver using virtual microscopic slides.
5. Apply the knowledge acquired during this unit to begin to make decisions regarding the diagnosis, treatment and prevention of diseases of the gastrointestinal tract, pancreas and hepatobiliary system.

Unit Structure:

Instructional material is presented in lectures, after which the students have two case-based small group learning (CBL) sessions and one case discussion seminar to facilitate their understanding of the content. Blackboard is an additional instructional modality used in the unit.

Lectures:

Faculty members from the Department of Internal Medicine (including the Gastroenterology and Infectious Diseases Divisions), the Department of Pathology and the Department of Pharmacy provide the lectures within this unit.

Case-Based Small Group Learning (CBL) Sessions and Case Discussion Seminar:

Two case-based small group learning (CBL) sessions, each followed by a 30-minute wrap-up, are scheduled within the unit in order to promote the integration of concepts, as well as to emphasize correlations between the clinical manifestations and the corresponding pathologic abnormalities of diseases of the gastrointestinal tract, pancreas and hepatobiliary system. These CBL sessions are student-directed, active, problem-solving activities. In addition, these small group sessions allow the students to assess their understanding of course material through collaborative discussions with their classmates and instructors. One case discussion seminar is also included near the end of the unit. Attendance at these sessions is mandatory.

Blackboard:

The Gastrointestinal Pathophysiology Unit site on Blackboard provides the students with access to additional teaching materials (e.g., PowerPoint slides; streaming videos of the lectures and CBL wrap-up sessions; electronic version of the required textbook). This site is also the primary means of communication between students and faculty outside of class and provides a Discussion Board in which student questions can be answered and concerns addressed.

Required Textbook And Monograph:

Kumar V, Abbas AK and Aster JC (eds). *Robbins and Cotran Pathologic Basis of Disease*, 9th edition (2015), Elsevier Saunders. ISBN: 1455726133

Ehrinpreis MN. Jaundice: A Problem-Oriented Clinical Approach (included in the syllabus)

Unit Faculty:

Members of the Department of Internal Medicine (including the Gastroenterology and Infectious Diseases Divisions), the Department of Pathology and the Department of Pharmacy provide the lectures and facilitate the active learning sessions in this unit.

Unit Evaluations:

Knowledge of learning objectives is formally assessed with a verbal and image-based multiple-choice format examination. This examination is composed of approximately 100 questions. The pass rate for the unit is 70% of the exam items answered correctly, with the Unit Directors having the discretion to lower it further. In addition, the students need to satisfactorily participate in the mandatory, active learning sessions in the unit.

Translational Medicine II/ Evidence Based Practice

Kendra Schwartz, MD, MSPH

Course Overview:

The core concept of Translational Medicine is to maximize the benefits of science and research to improve the health of Americans. This includes a synthesis of basic science, clinical science, and social science.

This fundamental concept was described by Sackett, Haynes, *et al* in *Clinical Epidemiology: a basic science for clinical medicine, Second Edition*, Little Brown and Company, Boston, 1991. By applying the label *A Basic Science for Clinical Medicine*, Sackett, Haynes, *et al* demonstrate how to use research performed on a population and apply it to individual patient care. Loosely described and practiced in a multitude of ways, this has been referred to as "Evidence-based medicine." Although their book was published a decade ago, it foreshadowed both the NIH's concern to ground the clinical practice of medicine in the basic sciences, but also to acknowledge the environment or context of care.

The goal of this course is to introduce the concepts of Translation Medicine as defined by the NIH; teach basic research design, teach and practice the basic skills of Clinical Epidemiology; and help students improve these skills to be effective clinicians.

Learning Objectives for Translational Medicine II/Evidence-based Practice

At the end of the course, students will be able to:

1. highlight important clinical research questions, stemming from a presented case or patient interaction
2. assess and critique research as it is reported in major medical journals, based on how data are derived
3. translate current clinical research into lay language for patients
4. articulate the need to engage in life-long learning to stay abreast of the medical literature
5. demonstrate proficiency in completing USMLE Step 1 like questions related to clinical epidemiology

Grading:

Translational Medicine/Evidence-based Practice is a pass/fail course; student assessment is based on a series of reading and assignments, which will be discussed in small group discussion groups with a faculty facilitator. Small group assignments will be distributed by e-mail. Failure to complete all assignments and participate in small groups discussions will result in course failure. Students will be assessed by their small group discussion leader using the Narrative Assessment form.

Structure:

Students will be assigned to a small group (12-13 students) that will meet for three sessions (6 hours total) lead by one of the course facilitators. An assignment will be given to students to complete prior to attending each session.

The dates of the meetings are:

September 21, 2017

October 5, 2017

October 12, 2017

Step 1 Preparation Course - Beginning in the 2016/2017 Academic Year

Course Director: Courtney Moore, M.D.

Course Objectives:

Develop and implement independent study plans in preparation for taking the mandatory Step 1 United States Medical Licensing Exam (USMLE)

Course Structure:

- Students will access the online syllabus for the Step 1 preparation course
- Students will access the online videos demonstrating how to interpret a Step 1 question
- Students will access online Step 1 preparation scheduling guides
- Students will prepare a plan of work for Step 1 preparation
- Students will use USMLE World and First Aid for Step 1 as resources to prepare for the licensure exam
- Students will use take at least two practice Step 1 exams provided by the National Board of Medical Examiners
- Students will interpret Step 1 Course outcomes as follows:
 - 1) Students will identify the importance of the structure of the practice exam and the relative weight associated with each content area
 - 2) Students will accurately interpret clinical vignettes as part of question processing
 - 3) Students will analyze their test performance to determine weaknesses in content
 - 4) Students will adjust their Step 1 plan of work based on outcomes