

IM 655
NEPHROLOGY CLERKSHIP

CLERKSHIP ELECTIVE ROTATION SYLLABUS

OSTEOPATHIC MEDICAL SPECIALTIES
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At Michigan State University College of Osteopathic Medicine (MSUCOM), we are constantly working to improve our curriculum and to meet accreditation guidelines. We need to meet the challenges of modern medicine that force us to innovate. While changes will generally be instituted at the beginning of the school year, changes may also be implemented semester to semester.

Please be mindful of the need to read your syllabi before beginning your rotation.

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INTRODUCTION AND OVERVIEW

This course is designed to provide the student with an opportunity to actively engage in patient-based learning experiences under the guidance of a faculty member (preceptor) in collaboration, as appropriate, with residents and/or fellows. This syllabus provides an overview of rotation goals and objectives designed to help you gain an understanding of the breadth and scope of Nephrology.

ELECTIVE COURSE SCHEDULING

Preapproval

- This course does not require preapproval from the IOR. The student should follow the directions below for elective course confirmation and enrollment.

Required Prerequisites

- This course does not require any prerequisite courses.

Course Confirmation and Enrollment

- The student must be an active student at MSUCOM.
- Student must complete five core rotations prior to any elective rotation.
- It is the student's responsibility to provide the elective site/rotation acceptance material to the COM.Clerkship@msu.edu for MSU confirmation and scheduling.
 - MSUCOM clerkship confirmation is complete when the rotation is visible on the students Medtrics schedule.
- It is the student's responsibility to ensure enrollment prior to beginning any course/rotation.
 - Enrollment will be processed by the MSUCOM Registrar's Office upon clerkship confirmation.
 - Enrollment can be verified by the student by reviewing the Student Information System
- MSUCOM confirmation must occur at least 30 days in advance of the rotation.
- Once confirmed, the rotation may only be cancelled 30 days or more in advance of the start date.

ROTATION FORMAT

Rotations are typically two weeks, three credit hours or four weeks, six credit hours in duration. Timeframes for each rotation are decided at least 30 days prior to the beginning of the rotation.

Rotation schedules **are not** to be submitted until the last Friday-Sunday of the rotation. You must document your actual schedule worked. You are required to document any time off for illness, boards, etc. that caused a deviation from the schedule you were provided. **All rotation days must be accounted for.**

The overall performance of course participants will be evaluated through customary assessment.

instruments normally employed by the department for elective rotations, at the discretion of the instructor of record.

GOALS AND OBJECTIVES

GOALS

1. Develop an appreciation of the practice of nephrology as related to the specialty of the preceptor.
2. Assimilate what they learn and demonstrate their understanding of patient care through ongoing interaction and dialogue with, as well as formative feedback from, the preceptor.
3. Demonstrate an understanding of the (seven) osteopathic core competencies (as applicable).

Educational Goals:

The nephrology rotation is intended to provide the student with hands on experience in the evaluation and treatment of various conditions related to nephrology.

1. The clinical experience will emphasize the diagnosis and management of acute and chronic renal diseases.
2. The clinical experience will emphasize evaluation of risk factors, and management of risk factors to prevent disease advancement if possible.
3. The clinical experience will include learning to perform a complete and accurate patient history and physical exam.
4. The clinical experience will include identification and indications for appropriate diagnostic studies.
5. The clinical experience will help the student identify the first line therapy for common renal disorders.

OBJECTIVES

CLINICAL EVALUATION OF KIDNEY FUNCTION

1. Define and describe the importance of the glomerular filtration rate (GFR) in the setting of normal kidney function and compromised kidney function.
2. Be familiar with how to calculate the GFR using various mathematical equations.
3. Describe the role of serum creatinine, creatinine clearance and blood urea nitrogen (BUN), in regard to proper kidney function.
4. Explain how to interpret a dipstick urinalysis and urine microscopy.
 - o Recognize the pathophysiology and conditions associated with various urine casts.
5. Define hematuria and review the proper work-up of hematuria.
6. Be familiar with how to quantify proteinuria and the proper work up of proteinuria.
7. Explain the various imaging studies used to assess kidney function.
8. Review the indications, risks, and benefits of a kidney biopsy.

FLUIDS AND ELECTROLYTES

1. Define osmolality and be familiar with how to calculate the plasma osmolality.
2. Be familiar with how to calculate the osmolol gap and explain its significance.
3. Define **hyponatremia** and the various risk factors for hyponatremia.

4. Review the approach to the patient with hyponatremia using plasma osmolality, urine osmolality, and volume status.
5. Review the treatment of acute and chronic hyponatremia.
6. Define **hyponatremia** and its associated risk factors.
7. Review the approach to the patient with hyponatremia.
8. Differentiate between **central and nephrogenic diabetes insipidus** with regard to pathophysiology, diagnosis, and treatment.
9. Define **hypokalemia** and review the mechanism, causes and proper evaluation of hypokalemia.
10. Describe the clinical manifestations and treatment of hypokalemia.
11. Define hyperkalemia and review the mechanism, causes and proper evaluation of hyperkalemia.
12. Describe the clinical manifestations and treatment of hyperkalemia.
13. Review **hypophosphatemia and hyperphosphatemia** with regard to its pathophysiology, causes, evaluation and proper treatment.

ACID BASE DISORDER

1. Review how to interpret arterial blood gases and be able to classify each condition as acidosis or alkalosis, respiratory or metabolic and acute or chronic.
 - Be familiar with the expected compensation of each of these conditions.
2. Review the causes, clinical manifestations, and proper evaluation of **metabolic acidosis**.
 - Be familiar with the role of the anion gap, how to calculate it and the conditions associated with a high and low anion gap.
 - Be familiar with how to calculate the urine anion gap and be able to interpret its value.
 - Review the causes of **normal anion gap metabolic acidosis** and **anion gap metabolic acidosis**.
3. Review the causes, clinical manifestations, and proper evaluation of **metabolic alkalosis**.
 - Differentiate between saline-responsive and saline resistant metabolic alkalosis using the effective arterial blood volume and urine chloride.
4. Review the causes, clinical manifestations, and proper evaluation of **respiratory alkalosis**.
 - Review the acute and chronic compensations.
 - Briefly discuss the treatment of respiratory alkalosis
5. Review the causes, clinical manifestations, and proper evaluation of **respiratory acidosis**.
 - Review the criteria for acute and chronic respiratory acidosis.
 - Briefly discuss the treatment of respiratory acidosis

HYPERTENSION (HTN)

1. Review the epidemiology and risk factors associated with HTN.
2. Be familiar with the current JNC8 guidelines for normal blood pressure, prehypertension, stage 1 HTN and stage 2 HTN.
3. Review the pathogenesis and management of essential HTN.
4. Review the incidence, pathophysiology, risk factors and management of secondary HTN including.
 - Kidney disease

- Primary Aldosteronism
 - Renovascular HTN
 - Pheochromocytoma
5. Understand the characteristics of white coat HTN and be familiar with its management.

TUBULOINTERSTITIAL DISORDERS

1. Review the pathophysiology, clinical manifestations, diagnosis, and evaluation of the various tubulointerstitial diseases including those caused by:
 - Immunologic
 - Infectious
 - Malignancy
 - Medications
 - Metabolic factors
 - Obstruction
2. Discuss the proper management of tubulointerstitial diseases.

GLOMERULAR DISEASE

1. Review the pathophysiology and clinical manifestations of glomerular diseases.
2. Differentiate between the **nephrotic and nephritic syndrome**.
3. Review the conditions that cause the **nephrotic** syndrome with regard to the pathophysiology, diagnosis, clinical manifestations, and management.
 - Minimal Change disease
 - Focal Segmental Glomerulosclerosis
 - Membranous Nephropathy
 - Secondary causes including diabetic nephropathy, amyloidosis, multiple myeloma, and HIV.
4. Review the conditions that cause the **nephritic syndrome** with regard to the pathophysiology, diagnosis, clinical manifestations, and management.
 - IgA Nephropathy
 - Membranoproliferative Glomerulonephritis
 - Hepatitis C and B Virus associated kidney disease.
 - Poststreptococcal Glomerulonephritis
 - Lupus nephritis
 - Anti-Glomerular Basement Membrane Antibody Disease
 - Small and Medium Vessel Vasculitis
 - Thrombotic Microangiopathy

ACUTE KIDNEY INJURY

1. Describe the characteristics/criteria of acute kidney injury (AKI)
2. Discuss the clinical manifestations and proper evaluation of AKI.
 - Be familiar with how to calculate the **fractional excretion of sodium (FENa)** and its implication.
3. Be familiar with the following classifications of AKI with respect to pathophysiology, risk factors, prevention, and treatment.
 - **Prerenal Azotemia**
 - Volume depletion
 - Hypotension
 - **Intrarenal Disease**

- Tubular Necrosis
 - Acute Contrast Induced nephropathy.
 - Rhabdomyolysis and pigment nephropathy
 - Acute interstitial nephritis
 - **Postrenal Disease**
 - Obstruction
4. Briefly review the pathophysiology, criteria, and treatment of
- Cardiorenal syndrome
 - Hepatorenal syndrome

KIDNEY STONES

1. Discuss the pathophysiology and epidemiology of kidney stones.
2. Discuss the clinical manifestation and proper diagnosis of kidney stones.
3. Review the risk factors and prevention of the following types of stones.
 - Calcium Oxalate stones
 - Struvite stones
 - Cystine stones
 - Uric Acid stones
4. Discuss the proper management of kidney stones both in the acute and chronic setting.

CHRONIC KIDNEY DISEASE

1. Define chronic kidney disease (CKD) and be familiar with its various stages.
2. Review the pathophysiology and epidemiology of CKD.
3. Review the screening protocols for patients at elevated risk of CKD.
4. Explain the clinical manifestations and proper evaluation of CKD.
5. Discuss the pathophysiology, risks, and management of the complications of CKD including:
 - Cardiovascular
 - Anemia
 - Chronic kidney disease and mineral and bone disorders
 - Renal osteodystrophy
6. Explain the role, indications, and several types of **dialysis**.
 - Discuss the common complications associated with dialysis.
7. Be familiar with the role of **kidney transplantation** in the patient with CKD.

COLLEGE PROGRAM OBJECTIVES

In addition to the above course-specific goals and learning objectives, this clerkship rotation also facilitates student progress in attaining the College Program Objectives. Please refer to the complete list provided on the MSUCOM website (<https://com.msu.edu/>) and in the Student Handbook.

REFERENCES

REQUIRED STUDY RESOURCES

Desire 2 Learn (D2L): Please find online content for this course in D2L (<https://d2l.msu.edu/>). Once logged in with your MSU Net ID, your course will appear on the D2L landing page. If you do not see your course on the landing page, search for the course with the following criteria, and pin it to your homepage: **Nephrology**.

If you encounter any issues accessing this D2L course, please email the CA (on the title page of this syllabus). It is your responsibility to make sure you have access to the course D2L page on the first day of the course.

SUGGESTED STUDY RESOURCES

Recommended Texts

1. **Harrisons Principles of Internal Medicine 21st edition** (available online from MSU Libraries) <https://accessmedicine-mhmedical-com.proxy1.cl.msu.edu/book.aspx?bookID=3095#265396326>

Part 2: Chapter 52 Azotemia and urinary abnormalities

<https://accessmedicine-mhmedical-com.proxy1.cl.msu.edu/content.aspx?sectionid=262791059&bookid=3095&Resultclick=2>

Part 2: Chapter 53 Fluid and Electrolyte disturbances

<https://accessmedicine-mhmedical-com.proxy1.cl.msu.edu/content.aspx?sectionid=265471636&bookid=3095&Resultclick=2>

Part 2: Chapter 55 Acidosis and alkalosis

<https://accessmedicine-mhmedical-com.proxy1.cl.msu.edu/content.aspx?sectionid=262791135&bookid=3095&Resultclick=2>

Part 6: Chapter 277: Hypertensive vascular disease

<https://accessmedicine-mhmedical-com.proxy1.cl.msu.edu/content.aspx?sectionid=265454202&bookid=3095&Resultclick=2>

Part 6: Chapter 278: Renovascular Disease

<https://accessmedicine-mhmedical-com.proxy1.cl.msu.edu/content.aspx?sectionid=265454352&bookid=3095&Resultclick=2>

Part 9: Chapter 309 Cell Biology and Physiology of the Kidney

<https://accessmedicine-mhmedical-com.proxy1.cl.msu.edu/content.aspx?bookid=3095§ionid=263549775>

Part 9: Chapter 310 Acute kidney injury

<https://accessmedicine-mhmedical-com.proxy1.cl.msu.edu/content.aspx?bookid=3095§ionid=265425859>

Part 9: Chapter 311 Chronic kidney disease

<https://accessmedicine-mhmedical-com.proxy1.cl.msu.edu/content.aspx?bookid=3095§ionid=265425997>

Part 9: Chapter 312 Dialysis in the treatment of Kidney F

<https://accessmedicine-mhmedical-com.proxy1.cl.msu.edu/content.aspx?bookid=3095§ionid=263549840>

Part 9: Chapter 314 Glomerular diseases

<https://accessmedicine-mhmedical-com.proxy1.cl.msu.edu/content.aspx?bookid=3095§ionid=263549889>

Part 9: Chapter 316: Tubulointerstitial diseases of the kidney

<https://accessmedicine-mhmedical-com.proxy1.cl.msu.edu/content.aspx?bookid=3095§ionid=265426494>

Part 9: Chapter 318 Nephrolithiasis

<https://accessmedicine-mhmedical-com.proxy1.cl.msu.edu/content.aspx?bookid=3095§ionid=263550180>

Part 22: Chapter S1 Fluid and electrolyte imbalances and acid-base disturbances: case examples <https://accessmedicine-mhmedical-com.proxy1.cl.msu.edu/content.aspx?bookid=3095§ionid=265476817>

Part 23: Chapter A4: Atlas of urinary sediments and renal biopsies

<https://accessmedicine-mhmedical-com.proxy1.cl.msu.edu/content.aspx?bookid=3095§ionid=265476474>

2. Rennke: Renal Pathophysiology: The Essentials 6th ed;
<http://ezproxy.msu.edu/login?url=https://premiumbasicsscience.lwwhealthlibrary.com/book.aspx?bookid=3308>

3. Hypertension references (JNC 8):

2014 evidence-based guideline for the management of high blood pressure in adults: report from the panel members appointed to the Eighth Joint National Committee (JNC 8) <https://libkey.io/libraries/118/articles/48648450/content-location>

Harold C. Sox, MD, Trustworthiness of high blood pressure guidelines. Editorial. JAMA 2014; 311(5): 472-474.

<http://jama.jamanetwork.com.proxy1.cl.msu.edu/article.aspx?articleid=1791421>

Eric D. Peterson, MD, MPH; J. Michael Gaziano, MD; Philip Greenland, MD. The right goals and purposes for treatment hypertension. Editorial. JAMA 2014; 311(5): 474-476.

<http://jama.jamanetwork.com.proxy1.cl.msu.edu/article.aspx?articleid=1791422>

Howard Bauchner, MD; Phil B. Fontanarosa, MD, MBA; Robert M. Golub, M. Updated guidelines: recommendations, review, and responsibility. Editorial. JAMA 2014; 311(5): 477-478.

<http://jama.jamanetwork.com.proxy1.cl.msu.edu/article.aspx?articleid=1791423>

<https://sites.jamanetwork.com/jnc8/>

<https://www.ajmc.com/view/the-jnc-8-hypertension-guidelines-an-in-depth-guide>

Rotation Requirements

REQUIREMENT	SUBMISSION METHOD	DUE DATE Please refer to D2L for actual (month/day) due dates
Patient Types and Procedure Log	See page at the end of syllabus and upload into D2L Drop Box for the course	11:59 pm Last Sunday of Rotation
Clinical Shift Schedule	Upload to D2L Drop Box	Not to be submitted until the last Friday-Sunday of the rotation, and must be the schedule you worked, not what you were scheduled to work.
<p>Harrison's Questions Bank Quiz from Nephrology questions – Minimum 70% passing score.</p> <p>25 question quiz for a 2-week rotation</p> <p>46 question quiz for a 4-week rotation</p>	Please submit only your first page with your score to the D2L drop box	11:59pm the last day of the rotation.
Attending Evaluation of Clerkship Student	Students must select their attending physician as directed within the rotation description in Medtrics. At the start of the last week of the rotation, students will need to request an evaluation in Medtrics. By requesting an attending evaluation from their assigned attending physician, the attending physician will receive an automated email link connecting them to their assigned Attending Evaluation within Medtrics. Attendings will be able to electronically access and submit the forms on behalf of their students.	Last Day of Rotation
Student Evaluation of Clerkship Rotation	Students will submit their rotation evaluations electronically at the conclusion of every rotation by accessing the Medtrics system: https://msucom.medtricslab.com/users/login/ . By the last week of each rotation, students will receive an automated email link connecting them to their assigned evaluation. Students can also access pending evaluations on the 'Home' or 'Evaluations' tabs within their Medtrics accounts.	Last Day of Rotation

WEEKLY READINGS/OBJECTIVES/ASSIGNMENTS

1. Review of the Nephrology Modules from the Genitourinary course pack will be of value to the student. There is no assigned textbook. Reading assignments are under the purview of the preceptor.
2. Harrison's Principles of Internal Medicine 21st edition (available online from MSU Libraries) <https://accessmedicine-mhmedical-com.proxy1.cl.msu.edu/book.aspx?bookID=3095#265396326>

QUIZZES

3. Harrison's Question Bank Quiz
Instructions for accessing In Access Medicine
 - Go to <https://lib.msu.edu/health/medicine/> then click on AccessMedicine.
 - Once in Access Medicine, select "Cases," then "Fluid/Electrolyte Acid Base Cases."
 - This will bring you to Harrison's Fluid/Electrolyte & Acid-Base Cases
 - Select "Go to Review Questions"

Create a 46-question quiz (25 if only 2 weeks) for yourself with the following guidelines:

- 46 available Section VII: Disorders of the Kidney and Urinary Tract

Submit your score sheet to the D2L Dropbox (You must achieve a minimum of 70%). You may take as many quizzes as it takes to achieve this. Each time you select the number of questions assigned the computer will select them from its question bank. This should help prepare you for COMAT and part 2 of boards. Please submit only the front page with your name and score to the drop box).

PROCEDURE LOGS

In D2L under Course Requirements is the IM 655 Patient/Procedure Log to be completed during your rotation and uploaded into the corresponding drop box (It is also included as the last page of this syllabus). It is the hope that you have an opportunity to evaluate / interpret and participate in some rotation specific consults. We understand not all sites experience all the procedures listed. Please seek out and ask to be included where you can.

ROTATION EVALUATIONS

Attending Evaluation of Student

Attending Evaluation of the Student is completed electronically via Medtrics by the supervisor designated within the Medtrics rotation description. To initiate this evaluation, each student must select their attending physician as directed within the rotation description in Medtrics. Students will receive an email from Medtrics to select the attending 7 days prior to the end of the rotation. Should your rotation lack a rotation description or if you have any questions, please contact COM.Clerkship@msu.edu. Upon selecting the attending physician directed within the Medtrics rotation description, the attending physician will receive an automated email link connecting them to their assigned Attending Evaluation within Medtrics.

Attendings will be able to electronically access and submit the Attending Evaluation of the Student. Attendings will access the electronic form within Medtrics by selecting the email link on a smart device. No login (username/password) will be required for attendings to access their pending evaluation(s) assigned to them. After the electronic form has been submitted by their attending, students can review the Attending Evaluation of the Student that were completed by visiting the 'Evaluations' module (in the 'About Me' tab) of their Medtrics profiles.

Students are encouraged to seek formative/verbal feedback on their performance at least weekly. Students are also encouraged to discuss the Attending Evaluation of the Student with the supervisor completing the evaluation.

Any evidence of tampering or modification while in the possession of the student will be considered "unprofessional behavior" and will be referred to the Committee on Student Evaluation (COSE).

Grades are held until all rotation requirements are received. Students are required to ensure their rotation requirements are completed correctly.

Student Evaluation of Clerkship Rotation

Students will submit their rotation evaluations electronically at the conclusion of every rotation by accessing the Medtrics system: <https://msucom.medtricslab.com/users/login/>. By the last week of each rotation, students will receive an automated email link connecting them to their assigned evaluation for the respective rotation. Students can also access their pending evaluations on the 'Home' or 'Evaluations' tabs within their Medtrics accounts.

Unsatisfactory Clinical Performance

The Instructor of Record will review/investigate a student's performance on a rotation when a concern is raised by the supervisor(s), and/or when the Attending Evaluation of Clerkship Student contains any below expectation marks within the professionalism area, any unsatisfactory written comments, or a total of two or more below average marks on the evaluation. After investigations, the Instructor of Record will determine a final grade for the student.

Professionalism concerns, as well as accolades, will also be referred to the MSUCOM Spartan Committee Clearinghouse for resolution, per MSUCOM's Common Ground Framework for Professional Conduct.

CORRECTIVE ACTION

If a student does not successfully complete the rotation requirements of the course, the student will receive an NGR grade and be permitted to go through a 'corrective action' process.

The following assignments are eligible for corrective action and will be due no later than 14 days after the last day of the rotation at 11:59pm:

- Patient Types and Procedure Log
- Clinical Shift Schedule
- Harrison's Questions Bank Quiz from Nephrology

The student is responsible for contacting the Course Assistant (on the title page of this syllabus) if they believe missing assignments were reported in error, or if they are unclear about the corrective action process.

While it is the responsibility of the student to ensure that the Attending Evaluation of Clerkship Student is completed, this requirement may extend beyond the corrective action deadline.

If a student **successfully completes** the corrective action process, as determined by the IOR, the student will receive credit for the deficient academic grading requirement(s) and be eligible for a change in rotation grade (from NGR to Pass, pending the Attending Evaluation of Clerkship Student).

As determined by the IOR, the student will receive an N grade for the course if all assignments and the corrective action process are **not completed** successfully within 14 days after the last day of rotation at 11:59pm (except for the Attending Evaluation). Additionally, a letter of unprofessional behavior for late submission of assignments will be sent to the MSUCOM Spartan Community Clearinghouse.

BASE HOSPITAL REQUIREMENTS

Students are responsible for completing all additional requirements set by the hospital/clinical site at which they are completing a rotation. Students are not responsible for reporting to MSUCOM the results of any requirements that exist outside of those listed above.

STUDENT RESPONSIBILITIES AND EXPECTATIONS

Course participants will meet the preceptor on the first day of the rotation at a predetermined location to be oriented to rotation hours, location(s), and expected duties and responsibilities while on-service.

*The student **will** meet the following **clinical responsibilities** during this rotation:*

- Students are expected to function collaboratively on health care teams that include health professionals from other disciplines in the provision of quality, patient-centered care.

*The student **will** meet the following **academic responsibilities** during this rotation:*

- Students are expected to identify, access, interpret and apply medical evidence contained in the scientific literature related to patients' health problems.
- Students are expected to: assess their personal learning needs specific to this clinical rotation, engage in deliberate, independent learning activities to address their gaps in knowledge, skills, or attitudes; and solicit feedback and use it on a daily basis to continuously improve their clinical practice.

- It is the **student's** responsibility to notify the Clerkship Office (com.clerkship@msu.edu) immediately if they are placed on quarantine or contract COVID.

MSU COLLEGE OF OSTEOPATHIC MEDICINE STANDARD POLICIES

The following are standard MSUCOM policies across all Clerkship rotations.

CLERKSHIP ATTENDANCE POLICY

MSUCOM requires student participation in clerkship rotations and clinical activities with consistent attendance to acquire the skills and knowledge necessary for successful program completion. This policy will define the policy and procedures regarding absences for clerkship activities. [Clerkship-Absence-Policy.pdf \(msu.edu\)](#)

POLICY FOR MEDICAL STUDENT SUPERVISION

The MSUCOM curriculum includes required clinical experiences in a variety of clinical learning environments. The Medical Student Supervision Policy outlines all supervision agreements and expectations. [Clerkship Medical Student Supervision Policy.pdf](#)

MSUCOM STUDENT HANDBOOK

The Student Handbook is published electronically by MSUCOM for students in the Doctor of Osteopathic Medicine program. This handbook does not supersede other Michigan State University or College of Osteopathic Medicine policies, regulations, agreements, or guidelines. <https://osteopathicmedicine.msu.edu/current-students/student-handbook>.

COMMON GROUND FRAMEWORK FOR PROFESSIONAL CONDUCT

The Common Ground Framework provides the MSUCOM community with a reminder of the unity of mind, body, and spirit that underlines the field of osteopathic medicine. The framework is a set of guiding, foundational principles that underpin professional conduct and integrity and applies to all professionals at work within the shared college community, independent of their specific roles or responsibilities.

<https://osteopathicmedicine.msu.edu/about-us/common-ground-professionalism-initiative>

MEDICAL STUDENT RIGHTS AND RESPONSIBILITIES

The rights and responsibilities of students enrolled in MSUCOM are defined by the medical colleges of Michigan State University, including the College of Osteopathic Medicine, the College of Human Medicine, and the College of Veterinary Medicine. Students enrolled in the professional curricula of these colleges are identified as “medical students.” These colleges collectively define “Medical Student Rights and Responsibilities” (MSRR). This document addresses academic rights and responsibilities, governance, procedures for complaints, due process, and other topics. The current version is available on the MSU Spartan Life website at the address below: <http://splife.studentlife.msu.edu/medical-student-rights-and-responsibilities-mssr>

MSU EMAIL

MSU email is the official communication from faculty and staff to students and students are responsible for checking it daily and maintaining their MSU email accounts so that messages can be received.

Forwarding MSU email to another email account or failure to check email are not valid excuses for missing a deadline or other requirements of the DO program.

Further, students must use secure email when working in a hospital, clinic, or other health care setting if discussion of patient information is involved. MSUNet (msu.edu) email is secure; many web-based email systems including Hotmail, Gmail, and Yahoo are not.

<https://osteopathicmedicine.msu.edu/current-students/student-handbook>.

DUTY HOURS AND FATIGUE MITIGATION

The accreditation standards for graduate medical education programs include restrictions on the duty hours of residents. Additionally, institutions are expected to promote a clinical learning environment in which duty hours are monitored and strategies exist to mitigate the effects of fatigue. [Clerkship Duty Hours and Fatigue Mitigation Policy.pdf](#)

STUDENT EXPOSURE PROCEDURE

A protocol has been developed by the University Physician to report incidents of exposure, e.g., needle sticks, mucous membrane exposure, tuberculosis exposure, etc., and it may be found here:

<https://osteopathicmedicine.msu.edu/current-students/clerkship-medical-education/injury-and-property-damage-reports>

Contact Associate Dean for Clerkship Education, Dr. Susan Enright (enright4@msu.edu), if exposure incident occurs.

COURSE GRADES

P/Pass – means that credit is granted, and that the student achieved a level of performance judged to be satisfactory by the department according to the student's didactic and clinical performance.

NGR/No Grade Reported – means that a final grade ('Pass' or 'No Grade') cannot be determined due to one or more missing course requirements. The NGR grade will be changed to a final grade once all the completed course requirements have been submitted to and processed by MSUCOM (either to the department or Clerkship Team). An 'NGR' grade will NOT remain on a student's transcript.

N/No Grade – means that no credit is granted, and that the student did not achieve a

level of performance judged to be satisfactory by the department according to the student's didactic and clinical performance.

N Grade Policy

Students who fail this rotation will have to repeat the entire rotation and fulfill all (clinical and academic) requirements.

STUDENT ACCOMMODATION LETTERS

Michigan State University is committed to providing equal opportunity for participation in all programs, services, and activities. Requests for accommodations by persons with disabilities may be made by contacting the Resource Center for Persons with Disabilities (RCPD) at 517-884-RCPD, or on the web at www.rcpd.msu.edu. Once a student's eligibility for (clinical and/or testing) accommodation(s) are determined, the student may be issued an Accommodation Letter. Students must present their letter to the Clerkship Team (COM.Clerkship@msu.edu) at the start of the semester in which they intend to use their accommodations (for tests, projects, labs, etc.). Accommodation requests received after the semester onset will be honored whenever possible.

If modifications, updates, or extensions to an existing letter are made after the semester begins, it is the responsibility of the student to submit the newest version to the Clerkship Team if he/she intends to utilize the accommodation going forward.

SUMMARY OF GRADING REQUIREMENTS

Requirement	Submission Method	Pass	No Grade Reported	No Pass
Patient Types and Procedure Log	See page at the end of syllabus and upload into D2L Drop Box for the course	Completed and submitted by 11:59 pm Last Sunday of Rotation	Will be the conditional grade until all requirements of this rotation are met	Failure to complete 100% and upload by 14 days after the last day of the rotation at 11:59 pm
Clinical Shift Schedule	Upload to D2L Drop Box	Not to be submitted until the last Friday-Sunday of the rotation, and must be the schedule you worked, not what you were scheduled to work.		
Harrison's Questions Bank Quiz 25 question quiz for a 2-wk. rotation; 46 question quiz for a 4-wk. rotation	Please submit only your first page with your score to the D2L drop box	Completed and submitted by 11:59 pm Last Sunday of Rotation; 70% required to pass		
Attending Evaluation of Clerkship Student	Attendings receive an automated email link connecting them to their assigned evaluation(s) within Medtrics, where they may access and submit the electronic form(s) directly	<ul style="list-style-type: none"> • Student may receive "Below Expectations" in up to one (1) subcategory. • Overall categories must receive "Meets Expectations" or "Exceeds Expectations" 	Will be the conditional grade until all requirements of this rotation are met.	<ul style="list-style-type: none"> • Receives two (2) or more "Below Expectations" within the subcategory sections. • Receives comments that indicate below expectations of performance. • See Unsatisfactory Clinical Performance above
Student Evaluation of Clerkship Rotation	Can be accessed and submitted electronically by students within the dashboard of their Medtrics profiles	Completed and submitted by 11:59 pm Last Sunday of Rotation	Will be the conditional grade until all requirements of this rotation are met.	Failure to complete and submit within 14 days from the end of the rotation

Student Name: _____ Student ID#: _____

PATIENT TYPES AND PROCEDURE LOG

Procedure	#Required	Date	Supervisor Initials
Evaluate two patients. with acute kidney injury	1. 2.		
Evaluate two patients. with electrolyte disturbances	1. 2.		
Interpret 10 BUN/Cr/GFR and electrolyte sets to assess for acute or chronic kidney disease	1. 2. 3. 4. 5. 6. 7. 8. 9. 10.		
Participate in five Nephrology consults in the hospital or office.	1. 2. 3. 4. 5.		
Discuss with preceptor their recommendations regarding NSAIDS including Toradol (Ketorolac) for patients of varying ages			