

IM 659  
**MEDICAL CRITICAL CARE**

**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 Medical Critical Care.

### 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](mailto: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 core rotations, at the discretion of the instructor of record.

## GOALS AND OBJECTIVES

### GOALS

1. Develop an appreciation of the practice of medicine as related to critical care medicine.
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).
4. Understand and observe the common procedures performed by critical care physicians and their appropriate indications.
5. Medical Knowledge: The student is expected to be able to describe the clinical presentation, pathophysiology, and management of the following critical care diseases:
  - Types of Circulatory Shock and their treatment.
  - Early recognition of SIRS, Sepsis and Septic Shock.
  - Develop understanding of central venous and arterial waveform, and their role in management of the critically ill patient.
  - Acute Respiratory Failure and ARDS.
  - Initial institution of Mechanical Ventilation, understanding ABGs, and the impact of ventilator changes on ABGs.
  - Massive GI bleeds.
  - Acid Base disorders with special emphasis on Acute Metabolic Disorders.
  - Acute renal failure in the ICU and use of CRRT (Continuous Renal Replacement Therapy).
  - Acute MI and Cardiogenic Shock.
  - Neurological/ neurosurgical emergencies in critical care.
  - Hematological issues in the ICU.
  - Review of ACLS and BLS
  - Delirium in the ICU
  - Nutrition in the ICU.
  - Critical illness in Toxicology.
  - End of life issues, approach to palliative care and hospice care.
6. The student should complete a medical history including details of current symptoms, previous medical/surgical issues and management efforts, and risk factors that could impact the diagnosis or management of their current problem.
7. Perform a complete physical exam of the critically ill patient.
8. Interpret common lab and radiographic abnormalities in the critically ill patient.

## OBJECTIVES

The critical care rotation is intended to provide the student with hands-on experience in the evaluation and treatment of various conditions related to critically ill patients.

1. The clinical experience will emphasize the diagnosis and management of critical illnesses and the order in which they should be treated.
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 and the appropriate order of performance.
5. The clinical experience will help the student identify the first line therapy for critical illnesses and their treatment order.

## 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:

#### **Medical Critical Care**

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 Websites

Robbins and Cotran 10<sup>th</sup> edition; Pathological Basis of Disease. Chapter 4, Hemodynamic disorders, thromboembolism disease and Shock <https://www-clinicalkey-com.proxy1.cl.msu.edu/#!/content/3-s2.0-B9780323531139000042>

Marino's The ICU Book, Paul Marino; 4th Edition <http://catalog.lib.msu.edu/record=b10856609~S39a>

Surviving Sepsis Campaign <https://www.sccm.org/SurvivingSepsisCampaign/Home>

Guyton and Hall, Textbook of Physiology; 12th Edition. Chapters 15, 20, 24  
<http://catalog.lib.msu.edu/record=b9765366~S39a>

**Required reading found through Access Medicine available through MSU library. Further reading assignments are under the purview of the preceptor.**

**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	Online D2L Drop Box	<b>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.</b>
Reflective Essay	Online D2L Drop Box	11:59 pm Last Sunday of 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: <a href="https://msucom.medtricslab.com/users/login/">https://msucom.medtricslab.com/users/login/</a> . 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. Reflective Essay: Write a 2-page reflective essay on an ethical dilemma witnessed and its resolution or, utility of ICU care in patients with exceptionally low survival probability (opinion essay). Write a 2–3-page reflective essay on patient(s) that “taught you the most.” Can be on dealing with any aspect of critical care including importance of communication, establishing clear goals of care, etc.

## PROCEDURE LOGS

In D2L under Course Requirements is the IM 659 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 Observe/Perform/Interpret and Participate in the listed rotation specific procedures. 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](mailto: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
- Reflective Essay

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](mailto: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](mailto: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](http://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](mailto: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 uploaded 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	Online 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.		
Reflective Essay	Online D2L Drop Box	Completed and uploaded by 11:59 pm Last Sunday of Rotation		
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"> <li>• Student may receive "Below Expectations" in up to one (1) subcategory.</li> <li>• Overall categories must receive "Meets Expectations" or "Exceeds Expectations"</li> </ul>	Will be the conditional grade until all requirements of this rotation are met	<ul style="list-style-type: none"> <li>• Receives two (2) or more "Below Expectations" within the subcategory sections.</li> <li>• Receives comments that indicate below expectations of performance.</li> <li>• See Unsatisfactory Clinical Performance above</li> </ul>
Student Evaluation of Clerkship Rotation	Can be accessed and submitted electronically by students within the dashboard of their Medtrics profiles	Completed 100% by 11:59 pm the last day of the 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

## PATIENT TYPES AND PROCEDURE LOG

Name: \_\_\_\_\_ Student ID#: \_\_\_\_\_

Procedure	#Required	Date	Supervisor Initials
Observe/Assist 4 central line placements	1. 2. 3. 4.		
Observe/Assist 4 arterial line placements	1. 2. 3. 4.		
Observe/Assist 3 endotracheal intubations	1. 2. 3.		
Perform 3 ABGs	1. 2. 3.		
Interpret five chest X-rays in the ICU (line placements, ET tube placement etc.)	1. 2. 3. 4. 5.		
Interpret 5 EKGs/Rhythm strips in the critically ill patient	1. 2. 3. 4. 5.		
Participate in five critical care consults in the ICU.	1. 2. 3. 4. 5.		
Observe four family meetings with Critical Care team.	1. 2. 3. 4.		