

OST 615
Biomedical Research

CLERKSHIP ELECTIVE ROTATION SYLLABUS

Department of COM Research
JOHN L. GOUDREAU, DO, PhD, FACN
CHAIRPERSON
goudrea2@msu.edu

FURQAN BIN IRFAN, MBBS (MD), PhD, MBA
INSTRUCTOR OF RECORD
irfanfur@msu.edu

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For questions about content or administrative aspects of this course, please contact:

RUSTI SIDEL
COURSE ASSISTANT (CA)
smithru2@msu.edu

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

Biomedical Research Clerkship OST 615 is a 6-credit elective that provides students with biomedical research experience. Directed research enables medical students to test and compare different theories and approaches and explore different methods in order to determine better modalities for patient care and therapy. Students are enrolled in 6 credits (40 hours' research per week for 4 weeks). Research Clerkships may not be done simultaneously with any other clerkship. Students may enroll for OST 615 a total of 3 times, up to 18 credits. <https://com.msu.edu/info/research-scholarly-activity/request-research-credits/clerkship-ost615>

ELECTIVE COURSE SCHEDULING

Preapproval

- Preapproval This course requires preapproval from the IOR. This course requires preapproval from the College of Osteopathic Medicine Research Office.

The student must contact the Research Office via email (com.research@msu.edu) with the following details mentioned below and on the following webpage (<https://com.msu.edu/info/research-scholarly-activity/request-research-credits/clerkship-ost615>)

- 90-day advance application approval required (applies to a rotation add, change or cancellation) with the following documents:
- After formalizing an agreement with a research mentor, complete the OST 615 Research Proposal Form and send to the College of Osteopathic Medicine Research Office.
- Research mentor must provide a description of the project and details regarding the student's role on the project including the source of funding for the project if it is funded.
- Student must provide their resume or CV.
- Student or research mentor must provide the project's MSU IRB Approval Letter for Human Subjects research.
- Student must provide documentation certifying completion of MSU Human Research Protection Training if the research involves human subjects. Students receive a certificate of completion for this training and must provide an electronic copy to the College of Osteopathic Medicine Research Office.
- Student or research mentor must provide the project's MSU AUF Approval Letter if the research involves animals.
- Student must provide documentation certifying completion of the IACUC tutorial if the research involves animals. Students receive a certificate of completion for this training and must provide an electronic copy to the College of Osteopathic Medicine Research Office.
- Confirmation of approval from the Research Office is to be sent to COM.Clerkship@msu.edu for final clerkship approval and scheduling.

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.

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- 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

This rotation has been designed to provide an experiential research experience. Depending on the type of research, each week could be spent working in a lab for translational and molecular research, working on a computer/laptop for bioinformatics and data science research, working and interacting with patients for clinical research, and working in the community for community-based and/or public health research.

GOALS AND OBJECTIVES

GOALS

1. Provide biomedical research experience.
2. Basic Science, translational, clinical, bioinformatics, epidemiology or public health research may be pursued.

OBJECTIVES

1. The student will gain an understanding of research methods.
2. The student will conduct biomedical research under faculty supervision.

COMPETENCIES

1. Ability to understand analytical approaches to defining scientific questions.
2. Detailed knowledge of a specific research area

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:

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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.

ROTATION REQUIREMENTS

REQUIREMENT	SUBMISSION METHOD	DUE DATE Please refer to D2L for actual (month/day) due dates
Student Report on Research	Student must provide a report on the research project at the end of the semester by email to: COM.research@msu.edu	Last Day of Rotation
Research Mentor Evaluation of Student	Students should actively seek feedback on their performance at the end of the course rotation. Research Mentor must provide a Student Evaluation at the end of the semester by email to: COM.research@msu.edu	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

ROTATION EVALUATIONS**Research Mentor Evaluation of Student**

Students should actively seek feedback on his/her performance throughout the course of the clinical rotation. Students should also sit down and discuss the formal evaluation with the clinical supervisor.

Research Mentor must provide a Student Evaluation at the end of the semester by email to COM.research@msu.edu by addressing the following questions:

- Did the student actively participate in the research project you assigned him/her?
- Did they carry out the research as you expected?
- Did they put in the hours they had agreed to?
- Were you satisfied with the student?
- Will the student continue working with you in the upcoming semester?
- Based on this experience, are you willing to have other medical students participate in short-term projects with you?

Students receive credit at the end of the semester once the mentor approves the student report and once the research mentor evaluation is received, reviewed, and approved by the College of Osteopathic Medicine Research Office.

Student Report on Research

Students must provide a report on the research. Provide a narrative report of around a page indicating what you did in qualitative and quantitative terms, e.g., "I examined 250 charts of previous patients that

had condition XX and recorded how many of them had a high score on Y, but exhibited a low score on Z, etc.” Indicate the results and relevance of these findings to the hypothesis that the Investigator is addressing.

In the light of your research, what in your opinion is the next step(s) in the research project? How many hours a week did you spend on the project? Student's must have their research mentor review and approve their final report before submitting it.

Email your report to your research mentor. Once they approve it, please forward the report along with the mentor's approval to the College of Osteopathic Medicine Research Office by email to: COM.research@msu.edu

ROTATION EVALUATIONS

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

There is no corrective action available for this course.

As determined by the IOR, the student will receive an N grade for the course if all assignments 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.

STUDENT RESPONSIBILITIES AND EXPECTATIONS

To gain the knowledge and skills to successfully complete the MSUCOM clerkship program, consistent participation/attendance in program activities is essential. Any time off must not interfere with the quality of the rotation.

1. In the event a student needs to be absent from any rotation for the reasons listed below and permissible by the rotation syllabus, students may request time off.
2. Any absence (unless emergent) must be approved in advance (at least 30 days) of absence by the research office and medical education department (student coordinator/director or DME), utilizing the Clerkship Program Excused Absence Request Form. Students must notify the IOR/CA and medical education of emergent/illness absences on day of absence.

3. A student may not be absent more than 2 days on any one 4-week rotation (no time off allowed for rotations of 2 weeks or less) for the reasons below (exception Interview absences or Conference absences as below).
4. Any additional time off any one rotation must be approved by the MSUCOM Instructor of Record for the course the absence will occur and COM Clerkship.

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
Student Report on Research	Student must provide a report on the research project at the end of the semester by email to: COM.research@msu.edu	Student has achieved a level of performance judged to be satisfactory by the department according to the student's research performance.	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
Research Mentor Evaluation of Student	Students should actively seek feedback on their performance at the end of the course rotation. Research Mentor must provide a Student Evaluation at the end of the semester by email to: COM.research@msu.edu	<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 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