Syllabus Cardiology Clerkship

<table>
<thead>
<tr>
<th>Course No.:</th>
<th>OM 7020, 7021, 7022</th>
<th>Course Title:</th>
<th>Cardiology Clerkship</th>
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</thead>
<tbody>
<tr>
<td>Credit Hours:</td>
<td>4 weeks, 4 credit hours for each rotation</td>
<td>Clerkship Director:</td>
<td>Emmanuel Katsaros, DO, FACP, FACR</td>
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<tr>
<td>Term - Dates:</td>
<td>Variable in OMS III academic year</td>
<td>Department Chair:</td>
<td></td>
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<tr>
<td>Level:</td>
<td></td>
<td>OMS III-IV</td>
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**Educational Goal**

**Cardiology (4 credit hours)**

This course provides supervised clinical education in Cardiology, including clinical management, technical and procedural skills, interpretation of diagnostic data, patient education, development of diagnostic and management plans, and interprofessional communication. Students are exposed to progressive involvement and independence in patient management.

The Cardiology rotation is designed to expose medical students to the cardiovascular care of the hospitalized adult, as well as outpatient care of cardiovascular diseases. Responsibilities for patient care...
will be graduated and supervised. The purpose is to teach fundamental knowledge in Cardiology and to
develop skills and behaviors necessary to care for adult patients. It will also introduce students to
inpatient experiences in critical care with regard to Cardiology consults.

<table>
<thead>
<tr>
<th>Cardiology Clerkship Learning Objectives</th>
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<td>The student will be expected to:</td>
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<tr>
<td>1. Apply basic knowledge of the anatomy and physiology of the organ systems to the care of the medical patient. (COMP/AOA core competencies 2; Institutional outcomes 1, 2)</td>
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<tr>
<td>2. Apply basic knowledge of the molecular, biochemical, and cellular mechanisms for maintaining homeostasis in the care of the medical patient. (COMP/AOA core competencies 2, 3; Institutional outcomes 1, 2, 7)</td>
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<td>3. Refine skills to obtain appropriately comprehensive history and physical examination on both acute and chronic hospitalized and ambulatory medical patients. (COMP/AOA core competencies 2, 3; Institutional outcomes 1, 2, 3, 4, 7)</td>
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<tr>
<td>4. Formulate and communicate a focused differential diagnostic problem list on each medical patient. (COMP/AOA core competencies 2, 4; Institutional outcomes 1, 2, 3, 4, 7)</td>
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<td>5. Identify knowledge deficits and search the medical literature for the most current aspects of diagnostic and management strategies to thereby apply the principles of evidence-based medicine to the care of the individual medical patient. This will be supported by ACP on-line material such as guidelines review. (COMP/AOA core competencies 2, 6, 7; Institutional outcomes 1, 2, 6, 7)</td>
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<tr>
<td>6. Formulate strategies for disease prevention based on knowledge of disease pathogenesis and mechanisms of health maintenance, with the support of ACP on-line guidelines and the United States Preventative Task Force Recommendations. (COMP/AOA core competencies 2, 6, 7; Institutional outcomes 1, 2, 7, 8)</td>
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<tr>
<td>7. Integrate concepts of epidemiology and population-based research methods into the care of the individual medical patient. (COMP/AOA core competencies 2, 4, 6, 7; Institutional outcomes 1, 2, 7)</td>
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<tr>
<td>8. Formulate diagnostic and treatment plans taking into consideration a cost-benefit analysis and access to healthcare. (COMP/AOA core competencies 2, 4, 6, 7; Institutional outcomes 1, 2, 4, 5, 6, 7, 8)</td>
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<tr>
<td>9. Skillfully present patient history, physical and diagnostic information in a systematic, coherent and concise manner, which addresses the chief complaint/problem, identifies pertinent positive and negative findings and supports a logical assessment. (COMP/AOA core competencies 2, 3, 4; Institutional outcomes 2, 3)</td>
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<tr>
<td>10. Respect the cultural and ethnic diversity of their patients’ beliefs in evaluating and managing their medical care. (COMP/AOA core competencies 1, 2, 3, 4, 5; Institutional outcomes 2, 3, 4, 5, 6, 8)</td>
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<tr>
<td>11. Display honesty, integrity, respect, and compassion for patients and their families. (COMP/AOA core competencies 1, 2, 3, 4, 5; Institutional outcomes 23, 4, 5, 6, 8)</td>
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<tr>
<td>12. Participate in the education of patients, families, and other students. (COMP/AOA core competencies 1, 2, 3, 4, 5; Institutional outcomes 1, 2, 3, 4, 5, 8)</td>
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<tr>
<td>13. Participate in an inter-professional team to enhance patient safety and improve patient care.</td>
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(COMP/AOA core competencies 1, 2, 3, 4, 5, 6, 7; Institutional outcomes 1, 2, 3, 4, 5)

14. Display collegiality, professionalism and respect toward all members of the healthcare team. (COMP/AOA core competencies 4, 5, 7; Institutional outcomes 3, 4)

15. Follow all infection control policies and guidelines as established by the Centers for Disease Control and Prevention (CDC) and the Society for Healthcare Epidemiology of America (SHEA). (COMP/AOA core competencies 2, 4, 6, 7; Institutional outcomes 1, 2, 7)

16. Obtain a greater understanding of the patient-physician relationship and consistently apply the “bio psychosocial model.” (COMP 1,2,3,5,7; Institutional Outcomes 1,2,3,4,5,6,8)

17. Apply Osteopathic Principles and Practice as an integral part of patient treatment and care.( COMP 1,2,3,4,5, 6,7; Institutional Outcomes 1,2,3,4,5,6,7,8)

**Rotation Expectations**

1. Assist in admitting patients to the hospital (from the ER, direct admit, transfer under the supervision of the attending or resident/intern).
2. Write accurate, organized and legible progress notes.
3. Recommend to the intern, resident or attending physician a treatment plan for assigned patients.
4. Demonstrate a knowledge of specific medical procedures (indications and contraindications).
5. Make daily rounds and record progress notes and review orders on patients (Preceptors/Clinical Faculty: please direct students on approved use of any electronic medical records. If the student is not allowed to enter data directly into the electronic records, please have the student “hand write” all progress notes and orders for daily review).
6. Accompany attendings, residents and interns on rounds.
7. Effectively communicate with attendings, residents and interns about patients when on rounds and with regard to perceived problems with patients and any change of status of patients.
8. Effectively communicate with attendings, residents and interns about patients when on rounds and with regard to perceived problems with patients and any change of status of patients.
9. Participate in all conferences, morning reports, lectures, and meetings as directed by the attending and COMP faculty.
10. Lecture or present case histories as requested by interns, residents or attending.
11. Generate written discharge summaries on assigned patients under direct supervision of the attending
12. Use the literature to research information germane to patients on the service
13. Apply Osteopathic Principles and Practice to the patient care plan
15. Wear appropriate attire.
16. Be professional at all times.

**Required Educational Assignments**

**Recommended Procedures List (to see or do)**

**Basic and Advanced Procedures**

Prior to graduation, medical students must obtain experience observing or performing the procedures listed below. In addition, students must be able to define, describe and discuss these procedures, and understand their indications, risks, contraindications and benefits. As appropriate, medical students should be able to obtain written or verbal consent. All or most of these skills can be performed during an internal Cardiology clerkship.

- EKG
- Holter monitor
- Echocardiograms
- Treadmill/cardiolyte stress tests
- Stress echo
- Angiogram
- PTCA
- Pacemaker/AICD implantation
- EP studies

### Core Topics of Study

- Cardiomyopathies (restrictive, hypertrophic, dilated)
- Anemia/work up evaluation
- Congestive Heart Failure diastolic Vs systolic, acute Vs chronic
- Hypertension/diagnosis and medication classes
- Valvular heart disease (Surgical correction)
- Electrolyte imbalance
- Angiograms
- PTCA/CABG
- Myocardial infarction/arrhythmia/ACS/ ACLS protocols/code blue
- Cardiac rehabilitation/VO2 max
- Holter monitors/EKG, Treadmill/cardiolyte stress tests
- Echocardiograms/stress echo
- Nutrition
- Pacemakers/AICD
- Pericarditis/endocarditis
- EP studies/ablation
- Shock causes and treatment/sepsis
- Blood transfusions/reactions, hyper/hypocoaguable states
- Heart transplantation
- Anti-arrhythmic medications
- Balloon pump/ventricular assist devices

### Instructional Methods

Scheduled rotation time (minimum 40 hours per week) will be used for supervised patient care, case presentations (onsite) and independent studying. You should review current guidelines on evidence based medicine posted on the ACP website and readings as directed by your supervising physician.

### Texts and Media

**Required Textbook:**

1. Harrison’s principle of Internal Medicine, 18th Ed. (Access Medicine); A gold standard
   internal medicine book that connects pathophysiology to a patients presentation. It also provides a
   complete narrative to subspecialty areas of medicine and their diseases while providing context to
   all the topics.

2. Internal Medicine Essentials for Students A Companion to MKSAP for Students 5, Alguire, American
   College of Physicians, 2011.

### Rotation Format, Evaluation, Grading and Student Feedback

Additional information is located in the Clinical Education Manual at:
http://www.westernu.edu/bin/ime/cem-2014.pdf
Rotation Schedule
Each site will provide students with a schedule on their first day of the rotation. If not provided please ask and have a clear understanding as to the expectations. These schedules are rarely available prior to the start the rotation.
It is solely your responsibility to read and understand all information provided to you by the site. Some sites have additional requirements above and beyond those set forth by the College of Osteopathic Medicine.

Evaluation/Grading
Grading for your clerkship will be calculated according to the Clinical Education Manual [link to manual].

Please note, your attending/preceptor’s evaluation is based on, but not limited to the following:

• Communication skills regarding patients
• Care provided to assigned patients
• Attendance and participation at conferences, morning reports lectures and meetings
• Demonstration of library references on patients
  • Completion and accuracy of paperwork on patients (Histories and Physicals, progress notes, treatment plans, presentations, hand-outs, etc.)
  • Interaction with attendings, residents, students, medical staff, nursing and ancillary personnel
• General knowledge base and knowledge applied to specific patients
• Motivation in the learning process
• Overall performance, participation, enthusiasm to learn, and effort to improve
• Mid-rotation grades should be given by the intern/resident/attending. The final grade should be given/reviewed with the student on the last day of the rotation.

General Policies

Policy on Disability Accommodations: To obtain academic accommodations for this rotation, students with disabilities should contact the Center for Disability Issues and the Health Professions and the system coordinator within ten days of the beginning of the system. Disability Services can be reached at 909.469.5380.

Remediation Policy: Refer to the Clinical Education Manual at [link to manual].

Attendance Policy: Refer to the Clinical Education Manual at [link to manual].

Academic Dishonesty: Complete confidence in the honor and integrity of the health professions student and health care professional is essential. Such confidence depends entirely on the exemplary behavior of the individual health care provider in his or her relations with patients, faculty and colleagues. Strict honesty as a personal way of life should be nurtured during the period of education for professional service. The student shall conduct all aspects of his or her life with honor and integrity. This includes accountability to oneself and to relationships with fellow students, future colleagues, faculty, and patients who come under the student’s care or contribute to his or her training and growth, and members of the general public. This applies to personal conduct that reflects on the student’s honesty and integrity in both academic and non-academic settings, whether or not involving a University sponsored activity.
Upon accepting admission to the University, each student subscribes to and pledges complete observance to the Standards of Academic and Professional Conduct as outlined in the University Catalog for each academic program. A violation of these standards is an abuse of the trust placed in every student and could lead to suspension or dismissal.
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<th>WU INSTITUTIONAL OUTCOMES</th>
<th>Health Professional Education</th>
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<td>1</td>
<td>Critical Thinking</td>
</tr>
<tr>
<td>2</td>
<td>Breadth and Depth of Knowledge in the Discipline/Clinical Competence</td>
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<td>3</td>
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<tr>
<th>COMP/AOA CORE COMPETENCIES</th>
<th>Competency: Osteopathic Medical Students are part of an educational continuum that leads to residency and the curriculum provides the foundation for the following outcomes:</th>
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<tbody>
<tr>
<td>1</td>
<td>Osteopathic Philosophy and Osteopathic Manipulative Medicine</td>
</tr>
<tr>
<td>2</td>
<td>Medical Knowledge</td>
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<tr>
<td>3</td>
<td>Patient Care</td>
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<tr>
<td>4</td>
<td>Interpersonal and Communication skills</td>
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Residents are expected to uphold the Osteopathic Oath in the conduct of their professional activities that promote advocacy of patient welfare, adherence to ethical principles, collaboration with health professionals, life-long learning, and sensitivity to a diverse patient population. Residents should be cognizant of their own physical and mental health in order to effective care for patients. Please note that professionalism is an integral part of the career of a physician. Clinical sites do have the right to fail a student or remove them from rotation due to deficits in professionalism.

Residents must demonstrate the ability to critically evaluate their methods of clinical practice, integrate evidence-based medicine into patient care, show an understanding of research methods, and improve patient care practices.

Residents are expected to demonstrate an understanding of health care delivery systems, provide effective and qualitative patient care within the system, and practice cost-effective medicine.

<table>
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<th>COMPARISON OF OUTCOMES STANDARDS: WU AND COMP</th>
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<th>COMP</th>
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<td>Critical Thinking</td>
<td>1</td>
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<td>3, 4, 5</td>
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Internal Medicine/Cardiology Texts

Alexander: The Heart. McGraw
Cecil: Cecil’s Textbook of Medicine. Saunders
Braunwald: Heart Disease. Saunders
Baim: Grossman’s Cardiac Catheterization, angiography, and Intervention
Topal: Textbook of Interventional Cardiology
Constant: Essentials of Bedside Cardiology
Harrison: Harrison’s Principles of Internal Medicine. McGraw
Goroll: Primary Care Medicine. Lipp.
Washington University: Manual of Medical Therapeutics. L.B.
Wagner: Marriott's Practical Electrocardiology. W & W.
Braunwald: Heart Disease: A Textbook of Cardiovascular Medicine
Drugs of Choice: The Medical Letter
Rizack: Medical Letter Handbook of Adverse Drug Reactions
Jacobs: Laboratory Test Handbook
Tierney: Current Medical Diagnosis & Treatment
Berkow: Merck Manual
Burnside: Physical Diagnosis
Dambro: Griffith’s 5 Minute Clinical Consultant
Ward: Foundations for Osteopathic Medicine
DiGiovanna: Osteopathic Approach to Diagnosis and Treatment
Goldberg: Primer of Water, Electrolyte, and Acid-Base Syndromes
Thaler: The Only EKG Book You Will Ever Need
Hollenbert: Hypertension: Mechanisms and Therapy
Mandel: Cardiac Arrhythmias: Their Mechanisms, Diagnosis, and Management
Williams: Hematology
Lee: Wintrobe’s Clinical Hematology
Larsen/Wilson: Williams Textbook of Endocrinology
Kane: Essentials of Clinical Geriatrics
Duthie: Practice of Geriatrics
Koff: Hospice, a Caring Community
Marino: The ICU Book
Loftus: The Nerd’s Guide to Pre-rounding “How to look smart while feeling stupid in the first months of the third year” UCSF Department of Internal Medicine