Syllabus Nephrology Clerkship

<table>
<thead>
<tr>
<th>Course No.:</th>
<th>OM 7020, 7021, 7022</th>
<th>Course Title:</th>
<th>Nephrology Clerkship (IM3, Elective)</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>Department Chair:</td>
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<tr>
<td>Term - Dates:</td>
<td>Variable in OMS III academic year</td>
<td></td>
<td>Dr. Katrina Platt, DO</td>
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<td>Dr. Emmanuel Katsaros, DO</td>
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<td>Level:</td>
<td>OMS III-IV</td>
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Department of Clinical Education Contact Information

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Educational Goal

Purpose of the Rotation
The Nephrology Rotation is designed to provide students with evidence and guidelines based competency in the diagnosis and management of inpatient and outpatient nephrology related conditions and primary prevention of renal disease. This rotation will refine and expand on skills developed in the Internal Medicine clerkship to provide advanced preparation for the practice of the diverse specialties involved in the care of adult patients with renal disease.

Nephrology (4 credit hours)
This course provides supervised clinical education in Nephrology, including clinical diagnosis and management, technical and procedural skills, interpretation of diagnostic data, patient
education, and inter-professional communication. Students are exposed to progressive involvement and independence in patient management.

Nephrology Clerkship Learning Objectives

The student will be expected to:

1. Apply basic knowledge of the anatomy and physiology of the kidney and its vasculature and other organ systems to the care of the medical patient. Expand understanding of the role of anatomy and physiology in determining the signs and symptoms of renal diseases, diagnostic testing, and disease management. (COMP/AOA core competencies 2; Institutional outcomes 1, 2)

2. Apply basic knowledge of the molecular, biochemical, and cellular mechanisms for maintaining renal homeostasis in the care of the medical patient. Expand understanding of the role of molecular, biochemical and cellular pathways in determining the signs and symptoms of renal disease, diagnostic testing, and disease management. (COMP/AOA core competencies 2, 3; Institutional outcomes 1, 2, 7)

3. Refine skills in history and physical examination with particular attention to comprehensive evaluation of the kidney in both well patients and those with acute and chronic kidney disorders. (COMP/AOA core competencies 2, 3; Institutional outcomes 1, 2, 3, 4, 7)

4. Formulate and communicate a focused differential diagnostic list on each medical patient. (COMP/AOA core competencies 2, 4; Institutional outcomes 1, 2, 3, 4, 7)

5. Identify knowledge deficits and search the medical literature for the most current aspects of diagnostic and treatment strategies to apply the principles of evidence-based medicine to the care of the individual medical patient. This will be supported by ACC/AHA guidelines available online. (COMP/AOA core competencies 2, 6, 7; Institutional outcomes 1, 2, 6, 7)

6. Formulate strategies for disease prevention based on knowledge of disease pathogenesis and mechanisms of health maintenance, with the support of ACC/AHA guidelines and the United States Preventative Task Force Recommendations. (COMP/AOA core competencies 2, 6, 7; Institutional outcomes 1, 2, 7, 8)

7. Determine indications for obtaining a consultation from a nephrology specialist.

8. Be exposed to and formulate strategies in the care of patients on hemodialysis, peritoneal dialysis and renal transplant patients.

9. Integrate concepts of epidemiology and biostatistics (sensitivity/specificity/positive and negative predictive value) into the care of the individual medical patient. (COMP/AOA core competencies 2, 4, 6, 7; Institutional outcomes 1, 2, 7)

10. Formulate diagnostic and treatment plans taking into consideration cost-benefit analysis and access to healthcare. (COMP/AOA core competencies 2, 4, 6, 7; Institutional outcomes 1, 2, 4, 5, 6, 7, 8)
11. 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)

12. 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)

13. 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)

14. Participate in the education of patients, families, and other students. This should include communication of diagnosis, prognosis and treatment plan as well as education on risk factors for kidney disease and strategies for lifestyle modification such as smoking cessation, dietary changes, weight loss and increasing physical activity. (COMP/AOA core competencies 1, 2, 3, 4, 5; Institutional outcomes 1, 2, 3, 4, 5, 8)

15. Participate in an inter-professional team to enhance patient safety and improve patient care. (COMP/AOA core competencies 1, 2, 3, 4, 5, 6, 7; Institutional outcomes 1, 2, 3, 4, 5)

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

17. 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)

18. 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)

19. 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), consulting on hospitalized patients and/or consulting on outpatients as is relevant to your practice site
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 an understanding of specific medical procedures performed by Nephrologists with particular attention to 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. Participate in all conferences, morning reports, lectures, and meetings as directed by the attending and COMP faculty.
9. Lecture or present case histories as requested by interns, residents or attending.
10. Generate written discharge summaries on assigned patients under direct supervision of the attending physician.
12. Use the literature to review evidence-based diagnosis and management of renal conditions encountered 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

IF ON IM3 ROTATION, PLEASE SEE BLACK BOARD ECM V COURSE FOR THE FOLLOWING:

Internal Medicine Month 1:

1. Cardiology Week:
   - Med-U
     SIMPLE
     Case 1: 49 yo man with chest pain
     Case 2: 60 yo woman with episodic chest pain
     Case 3: 54 yo woman with syncope
     Case 4: 67 yo woman with shortness of breath and leg swelling
     Case 5: 55 yo man with fatigue
     Case 6: 45 yo man with hypertension
   - Cardiology Online Lectures: See Blackboard

2. Infectious Disease Week:
   - Med-U
     CORE
     Chest: Infections
     Neuro: Vascular and HIV
     SIMPLE
     Case 14: 18 yo woman seen for pre-college physical
     Case 15: 50 yo man with cough and nasal congestion
     Case 20: 48 yo woman with HIV
     Case 29: 55 yo woman with fever and chills
   - Infectious Disease Online Lectures- See Blackboard

3. Pulmonology Week:
   - Med-U
     SIMPLE
     Case 22: 71 yo man with cough and fatigue
     Case 28: 70 yo man with shortness of breath and leg swelling
Case 30: 55 yo woman with left leg swelling

4. Pulmonary Week

- Pulmonary Online Lectures- See Blackboard

5. Nephrology Week

- Med-U
  SIMPLE
  Case 23: 54 yo woman with fatigue
  Case 33: 49 yo woman with confusion
- Wise-MD
  Skills: Foley Catheter
- Nephrology Online Lectures- See Blackboard

Internal Medicine Month 2:

1. Gastroenterology Week

- Med-U
  SIMPLE
  Case 9: 55 yo woman with upper abdominal pain and vomiting
  Case 10: 48 yo woman with diarrhea and dizziness
  Case 11: 45 yo man with abnormal LFT’s
  Case 12: 55 yo man with lower abdominal pain
  Case 36: 45 yo man with ascites

- Gastroenterology Online Lectures- See Blackboard

2. Endocrinology Week

- Med-U
  SIMPLE
  Case 7: 28 yo woman with lightheadedness
  Case 8: 55 yo man with type 2 diabetes mellitus
  Case 13: 65 yo woman seen for annual physical
  Case 16: 45 yo man with obesity

- Endocrinology Online Lectures- See Blackboard

- Reading assignments: (online)
  2. 2013 American College of Cardiology/ American Heart Association Guidelines on the Treatment of Blood Cholesterol to Reduce Atherosclerotic Cardiovascular Risk in Adults

3. Hematology/Oncology Week

- Med-U
  CORE
  Chest: Masses
• Wise-MD
  Colon Cancer
  Lung Cancer
  Adrenal Adenomas

SIMPLE
  Case 17: 28 yo man with rash
  Case 19: 42 yo woman with anemia
  Case 21: 78 yo man with fever, lethargy, anorexia
  Case 27: 65 yo man with back pain

• Hematology Online Lectures- See Blackboard

4. Neurology Week

• Med-U
  CORE
    Neuro: Trauma

SIMPLE
  Case 18: 75 yo man with memory problems
  Case 24: 52 yo female with headache, vomiting, and fever
  Case 25: 75 yo hospitalized woman with confusion
  Case 26: 58 yo man with altered mental status

• Neurology Online Lectures- See Blackboard

Internal Medicine Month 3

• Med-U
  SIMPLE
    Case 31: 40 yo man with knee pain
    Case 32: 39 yo woman with joint pain
    Case 34: 55 yo man with acute low back pain
    Case 35: 35 yo female with three weeks of fever

• Rheumatology Online Lectures- See Blackboard

• Reading Assignments:
  1. Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure-7 (JNC-7) (Can be found online)
  2. JNC-8 (Can be found online)
  3. UpToDate: Obesity, Weight loss, and Cardiovascular Disease, Jackson, MD and Rubenfire, MD Oct. 2012
  4. UpToDate: Treatment of Acute Decompensated Heart Failure: Components of Therapy, Colucci, MD, April 2013
  5. UpToDate: Treatment of Acute Decompensated Heart Failure: General Considerations, Colucci, MD, April 2013
  6. UpToDate: Anemia in the Older Adult, Price, MD and

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Recommended Topics in Nephrology (to see or do)

Basic:
Prior to graduation, medical students should obtain experience assisting in the care of patients with renal disorders with the supervision of the attending or a qualified technician. In addition, students must be able to define, describe and discuss these topics or procedures, and understand their indications and contraindications as well as risks and benefits. These skills can be performed during an inpatient or outpatient nephrology clerkship. Below is listed a set of topics that we recommend the students would be exposed to on the Nephrology Clerkship:

1. Recognition of the clinical symptomatology and management of common renal diseases, e.g., acute glomerulonephritis, nephrotic syndrome, acute and chronic renal failure based on the pathophysiology of the disease process.
2. Understanding the significance and physiologic principles of laboratory tests employed in the assessment of renal function.
3. Understanding the normal physiology of fluid, electrolyte and acid base balance. Diagnosis and management of common electrolyte and acid base disorders.
5. Insight into the metabolic and endocrine functions of the kidneys and metabolic consequences of renal failure.
6. Instructions pertaining to the diagnosis and management of various forms of hypertension, including renin-angiotensin aldosterone system.
7. Diagnosis and management of acute and chronic medical problems in patients with renal disease and renal failure.

Technical and Interpretation Skills

Students are expected to acquire certain technical skills and interpretation that are commonly employed in medical care. Wherever possible, appropriate students are encouraged to participate in procedures under adequate supervision. The student should be able to:

1. interpret a complete blood count.
2. interpret common chemistry measurements
3. calculate creatinine clearance (Cockcroft-Gault, abbrev. MDRD)
4. interpret results of a urinalysis and culture
5. interpret microalbumin/creatinine ratio
6. interpret arterial blood gas measurements.
7. interpret serum and urine electrolyte measurements.

Clinical Faculty

Students are assigned to specific credentialed clinical faculty/preceptors at their core clinical site.

<table>
<thead>
<tr>
<th>Pomona</th>
<th>Lebanon</th>
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<tbody>
<tr>
<td>Katrina Platt, D.O. Clerkship Director for Internal Medicine Assistant Professor of Internal Medicine</td>
<td>Katherine Fisher, DO, Clerkship Director for Internal Medicine and Director for Clinical Education Assistant Professor of Internal Medicine</td>
</tr>
</tbody>
</table>
Appointments available by email at kplatt@westernu.edu  
Appointments available by email at kfisher@westernu.edu

### 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 patient presentation. It also provides a complete narrative to subspecialty areas of medicine and their diseases while providing context to all the topics.


**Required Online Resources:**

- **National Kidney Foundation:**  KDOQI Guidelines--https://www.kidney.org/professionals/guidelines

### 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  

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.


**Attendance Policy:** Refer to the Clinical Education Manual at http://www.westernu.edu/bin/ime/cem-2014.pdf.

**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.

<table>
<thead>
<tr>
<th>WU INSTITUTIONAL OUTCOMES</th>
<th>Health Professional Education</th>
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<tbody>
<tr>
<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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<tr>
<td>3</td>
<td>Interpersonal Communication Skills</td>
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<td>4</td>
<td>Collaboration Skills</td>
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</table>
Ethical and Moral Decision Making Skills

The graduate should be able to perform the highest quality of care, governed by ethical principles, integrity, honesty and

Life Long Learning

The graduate should be able to engage in life-long, self-directed learning to

Evidence-Based Practice

The graduate should be able to utilize research and evidence-based practice and apply relevant findings to the care of

Humanistic Practice

The graduate should be able to carry out compassionate and humanistic approaches to health care delivery when interacting with patients, clients, and their families. They should unfailingly advocate for patient needs.

<table>
<thead>
<tr>
<th>COMP/OA 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>
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<tr>
<td>2</td>
<td>Medical Knowledge</td>
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<td>3</td>
<td>Patient Care</td>
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<td>4</td>
<td>Interpersonal and Communication skills</td>
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<tr>
<td>5</td>
<td>Professionalism</td>
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<td>6</td>
<td>Practice-Based Learning and Improvement</td>
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<td>7</td>
<td>Systems-based Practice</td>
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<tr>
<td><strong>COMPARISON OF OUTCOMES STANDARDS: WU AND COMP</strong></td>
<td>WU</td>
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<td>Humanistic Practice</td>
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