Edward Via College of Osteopathic Medicine

MED 8050/MED 8055
Clinical Internal Medicine II and Modules
Academic Year 2024 - 2025

ROTATION SYLLABUS

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I. Rotation Description

As clinicians, teachers, and researchers, our internal medicine faculty members are committed to the college's mission to provide medical education and research that prepares globally minded, community-focused physicians and to improve the health of those most in need.

The Internal Medicine faculty are passionate about medicine and medical education. The Internal Medicine faculty include those practicing primary care internal medicine, hospital medicine, and those who practice in the full range of sub-specialties. Sharing the college's mission, and leading by example, members of our faculty provide volunteer care for the under-served in regional free clinics, and on international medical missions.

During the third-year internal medicine rotations, students expand their knowledge of adult health and wellness, preventative, primary, secondary and tertiary care. They learn about the treatment of acute and chronic medical conditions, palliative and end of life care and gain the ability to apply this knowledge in the clinical setting. The curriculum is taught through case modules, assigned readings, bedside and clinic teaching, journal clubs, tumor boards, grand rounds, and through one-on-one student-preceptor experience in caring for patients in the clinical setting.

Students are expected to complete their assignments for both internal medicine and the longitudinal OMM course. The Core Internal Medicine rotations include inpatient and outpatient exposure, as well as general internal medicine and medical sub-specialty exposure. The practice of internal medicine occurs in the private, public and governmental clinic settings, in long-term care facilities, in inpatient institutional settings and in the emergency departments of hospitals and institutions. Due to the variety of practice opportunities and formats in internal medicine rotations, students should review their specific site instructions for a more detailed description of their specific practice setting.

II. Course Goals and Objectives

A. Goals of the Course

- To acquire the knowledge, skills and competencies that are required to evaluate and treat patients with acute and chronic medical conditions commonly found in the adult at a level consistent with a graduating generalist medical student.
- To develop the physical examination and clinical skills required of a graduate medical student in general internal medicine practice, including the ability interpret information relative to normal and abnormal structure, function and physiology.
- To apply historical and clinical information for problems solving to advance the health of the patient.

- To develop the psycho-social and communication skills and competencies that are required to communicate with, and treat a wide diversity of patients in acute, outpatient and institutional settings.
- To develop the ability to research medical literature and scientific resources for information that affects the patient's condition, treatment and outcomes and the ability to evaluate and apply scientifically valid information to maximize the outcome of the patient.
- To develop knowledge, skill application and understanding of the indications, contraindications and application of medical procedures and therapies common to the specialty, including but not limited to ordering and interpretation of diagnostic studies, utilization of pharmacological agents, psychological and nutritional therapies, incorporation of osteopathic principles and practices into the patient's care, and clinical procedures such as central line placement, lumbar punctures, intubation, management of ventilators, etc.

B. Clinical Performance Objectives

While the end-of-rotation exam is derived from the didactic curriculum and objectives described above in the "Clinical Modules – Required Curriculum" section, the end-of-rotation evaluation completed by your preceptor is based on clinical core competencies. These core competencies reflect student performance in 6 key areas: communication, problem solving, clinical skills, medical knowledge, osteopathic medicine and professional and ethical considerations. Your end-of-rotation evaluation from your preceptor will be based directly on your performance in these 6 core competencies as described below.

1. **Communication** - the student should demonstrate the following clinical communication skills:
    a. Effective listening to patient, family, peers, and healthcare team
    b. Demonstrates compassion and respect in patient communications
    c. Effective investigation of chief complaint, medical and psychosocial history specific to the rotation
    d. Considers whole patient: social, spiritual & cultural concerns
    e. Efficiently prioritizes essential from non-essential information
    f. Assures patient understands instructions, consents & medications
    g. Presents cases in an accurate, concise, well organized manner
2. **Problem Solving** – the student should demonstrate the following problem-solving skills:
    a. Identify important questions and separate data in organized fashion organizing positives & negatives
    b. Discern major from minor patient problems
    c. Formulate a differential while identifying the most common diagnoses
    d. Identify indications for & apply findings from the most common radiographic and diagnostic tests
    e. Identify correct management plan considering contraindications & interaction
3. **Clinical Skills** - the student should demonstrate the following problem-solving skills:
    a. Assesses vital signs & triage patient according to degree of illness
    b. Perform good auscultatory, palpatory & visual skills
    c. Perform a thorough physical exam pertinent to the rotation
4. **Osteopathic Manipulative Medicine** - the student should demonstrate the following skills in regards to osteopathic manipulative medicine
    a. Apply osteopathic manipulative medicine successfully when appropriate
    b. Perform and document a thorough musculoskeletal exam
    c. Utilize palpatory skills to accurately discern physical changes that occur with various clinical disorders
    d. Apply osteopathic manipulative treatments successfully
5. **Medical Knowledge** – the student should demonstrate the following in regards to medical knowledge

a. Identify & correlate anatomy, pathology and pathophysiology related to most disease processes
b. Demonstrate characteristics of a self-motivated learner including demonstrating interest and enthusiasm about patient cases and research of the literature
c. Are thorough & knowledgeable in researching evidence-based literature
d. Actively seek feedback from preceptor on areas for improvement
e. Correlate symptoms & signs with most common disease

6. **Professional and Ethical Behaviors** - the student should demonstrate the following professional and ethical behaviors and skills:
   a. Is dutiful, arrives on time & stays until all tasks are complete
   b. Consistently follows through on patient care responsibilities
   c. Accepts & readily responds to feedback, is not resistant to advice
   d. Assures professionalism in relationships with patients, staff, & peers
   e. Displays integrity & honesty in medical ability and documentation
   f. Acknowledges errors, seeks to correct errors appropriately
   g. Is well prepared for and seeks to provide high quality patient care
   h. Identifies the importance to care for underserved populations in a non-judgmental & altruistic manner

III. Rotation Design

A. Educational Modules

Educational modules using lectures, cases, and other forms of delivery are used for third year curriculum. Each student must complete a post-rotation exam to assure that the expected basic content or medical knowledge has been acquired during the rotation. In addition to the experiences received in the clinical training sites, students are expected to read the content of the assigned textbooks and online materials in order to complete the entire curriculum assigned for the clinical module.

B. Formative Evaluation

Student competency-based rating forms are used by the preceptor to evaluate each student's clinical skills and the application of medical knowledge in the clinical setting. These forms are only completed by the clinical faculty member or preceptor. Performance on rotations will be evaluated by the primary clinical faculty member precepting the student. VCOM uses a competency-based evaluation form which includes the osteopathic core competencies. These competencies evaluated include:

a. Medical knowledge;
b. Communication;
c. Physical exam skills;
d. Problem solving and clinical decision making;
e. Professionalism and ethics;
f. Osteopathic specific competencies; and
g. Additional VCOM values.

Student competency is judged on clinical skill performance. Each skill is rated as to how often the student performs the skill appropriately (i.e. unacceptable, below expectation, meets expectation, above expectation, exceptional).

C. Logging Patient Encounters and Procedures

During the clinical years students need to develop the clinical competencies required for graduation and post-graduate training. These competencies are evaluated in many different ways: by faculty observation during rotations, by examinations, by the COMLEX Level 2 CE examination, and VCOM's OMS 3 summative examinations. In order to develop many of these competencies and

meet the objectives required for graduation, VCOM needs to ensure that each student sees enough patients and an appropriate mix of patients during their clinical years. For these reasons, as well as others discussed below and to meet accreditation standards, VCOM has developed requirements to log patient encounters and procedures.

Each day, students are required to log all patient type/clinical conditions and procedures/skills that they encounter that day into the VLMS application.

- Within the daily log, the clinical discipline chairs have also identified a specific set of patient presentations and procedures that each student is expected to see/do during the course of the rotation that should be logged in VLMS as you experience it. Students should be familiar with this list and should actively work to see these patients or be involved in these procedures. The list serves as a guide for the types of patients the clinical faculty think students should encounter during the rotation. The list does not include every possible diagnosis or even every diagnostic entity students must learn. The list reflects the common and typical clinical entities that the faculty feels VCOM students should experience. The list can be found in VLMS or CANVAS.

- Students must learn more than they will experience during clinical rotations. The log does not reflect the totality of the educational objectives during the rotation. Clinical experience is an important part, but only a part, of your rotation requirement. Students may discover they have not seen some of the presentations/procedures on the list during the rotation; however, they should arrange to see these problems in the fourth year or learn about them in other ways through the other course materials provided. Students need to commit themselves to extensive reading and studying during the clinical years. "Read about patients you see and read about patients you don't see".

One of the competencies students must develop during their clinical training involves documentation. Documentation is an essential and important feature of patient care and learning how and what to document is an important part of medical education. The seriousness and accuracy with which students maintain and update their patient logs are measures of professionalism. Students must review these logs with their preceptor prior to the end of the rotation period, as required by the final preceptor evaluation form. Students are encouraged to periodically review their VLMS entries with their preceptor during the rotation period.

Throughout the year, data is reviewed by Clinical Affairs, the curriculum committees, and administration to ensure the clinical experiences meet the objectives of the rotation and to assess the comparability of experiences at various sites. The logs serve to:

- Demonstrate student exposure to patients with medical problems that support course objectives.
- Demonstrate level of student involvement in the care of patients.
- Demonstrate student exposure to, and participation in, targeted clinical procedures.
- Demonstrate student exposure to patient populations in both inpatient and outpatient settings.
- Demonstrate comparability of experiences at various clinical sites.
- Quantify for students the nature and scope of their clinical education and highlight educational needs for self-directed learning.

Students will receive a report at the end of the OMS 3 year that outlines the patient encounters the student was involved in throughout their rotations. These individual log reports can be shared during interviews/audition rotations/future credentialing to demonstrate the scope of their clinical experiences.

IV. Credits

MED 8050: 4 credit hours
MED 8055: 1 credit hour

V. Course Texts and Reference Materials

A. Required Textbooks

- American Osteopathic Association, & Chila, A. *Foundations of Osteopathic Medicine*, 3rd ed. Baltimore, MD: Lippincott Williams & Wilkins, 2010. ISBN: 978-0781766715
- Kuchera, Michael, Kuchera, William. *Osteopathic Considerations in Systemic Dysfunction*, Revised 2nd ed., Greyden Press, Dayton, OH: 1994. ISBN:978-1570741548 (retail price $55.00)
- Nicholas, Alexander, and Evan Nicholas. *Atlas of Osteopathic Techniques*, 4th ed. Baltimore, MD: Lippincott, Williams & Wilkins, 2023. ISBN: 978-1975127480978-1451193411 (retail price $179.99) – Available in VCOM's eLibrary in LWW Osteopathic Medicine Collection
- Seffinger, Michael. *Foundations of Osteopathic Medicine*, 4th ed. Philadelphia, PA: Wolters Kluwer Health, 2019. ISBN: 978-1496368324 (retail price $142.99) – Available in VCOM's eLibrary in LWW Osteopathic Medicine Collection
- Wing, Edward J., and Fred Schiffman. Benjamin, Ivor, et al. *Cecil Essentials of Medicine*, 10th ed. Philadelphia, PA: Elsevier, 2021. ISBN: 978-0323722711 (retail price $89.99) – Available in VCOM's eLibrary in Clinical Key

VI. Course Grading and Requirements for Successful Completion

A. Requirements

- Attendance according to VCOM and preceptor requirements as defined in the College Catalog and Student Handbook.

- Review of the syllabus topics, learning objectives, and reading assignments:
  - In addition to the learning experience in the clinical site, the clinical curriculum consists of the reading assignments and learning objectives that are included in this syllabus, as well as clinical case modules and Aquifer Radiology cases that are derived from some, but not all, of the learning objectives. A student's success as a physician will depend upon the learning skills they develop during this core rotation, as guided by this syllabus and clinical case modules. National boards, residency in-training examinations, and specialty board examinations require ever increasing sophistication in student's ability to apply and manipulate medical knowledge to the clinical context.

- Completion and submission of 11 clinical case modules:
  - The clinical case modules were developed by VCOM Discipline Chairs and are intended to provide an OMS 3 student with a clinical, patient-centered approach to the learning content of this rotation. The modules should not be approached as rote learning, but should provide structured, clinically focused learning from the evidence base for this rotation. The same module may be included under multiple topics in the syllabus to show its relevance to the topic, but students only need to complete the module once. The clinical case modules must be submitted in Canvas **by no later than 5 PM on the day of your end of rotation exam** at: https://canvas.vcom.edu. **Failure to do so will result in a deduction of 5 points from your end-of-rotation exam score.**
    - HIV and TB
    - Hematological Cancers
    - Seizure Syncope and Vertigo
    - Demyelinating Disorders and Immune Mediated
    - Disorders of Motor System & Nerves

- Disorders of Special Senses
- Common GI Disorders
- Chronic Kidney Disease
- Rheumatologic Disorders
- Outpatient Dyspnea IPF
- Edema and Vascular Disease

- Completion of 2 Aquifer Radiology cases:
  - Aquifer Radiology is a case-based virtual course that provides realistic case scenarios that demonstrate best-practices, helping students develop clinical reasoning skills that bridge the gap from content to practice. Upon completion of the cases, students should have a basic understanding of the principles and applications of medical imaging and be able to interpret common radiological studies in the context of presenting patient conditions. In addition, students should be able to recognize common osteopathic structural and viscersomatic/somatosomatic changes that correlate to specific radiographic findings.
  - In order to receive credit for the radiology cases and meet the requirements for passing the rotation, students must complete the cases, including all associated components of the online program such as the knowledge assessment questions associated with the cases. The same case may be included under multiple topics in the syllabus to show its relevance to the topic, but students only need to complete the case once. Progress will be reviewed by the online administrator to ensure completion of these requirements. Students must successfully complete the cases and knowledge assessment questions **by no later than 5 PM on the day of your end of rotation exam.**
    - Aquifer Radiology Case 5
    - Aquifer Radiology Case 7
  - To get full credit for each case completed, please be sure to click forward to the page at the end of the case that states "Summary of Your Case Session" in the upper left-hand corner.
  - Register for the Aquifer cases at: https://www.aquifer.org

    Your email has been pre-loaded into Aquifer, and you should have received an email about how to set up your account.
    - If you are a first-time user:
      - Click "Sign in" in the top right corner.
      - Enter your institutional email address in the email box. Then click on the "Register" button at the bottom of the page.
      - You will be sent an email with a link to complete registration. Upon receipt of the registration email, click on the link "Click Here". You will then be brought to the profile setup page. An email will be sent to you. Follow the instructions in the email to set up your account.
      - You will be asked to fill in your profile information and set up a password (8 character minimum). Once you have completed your user profile and created a password, you will receive a welcome email with links to useful information and guides. You would also be logged into the Aqueduct learning management system.
      - Once your profile is completed successfully, you will be brought to your institution's Course page.
      - You will also receive a "Thank you for registering with Aquifer" email with links to tools, resources, and Aquifer news.
    - If you are a returning user:
      - Click "Sign in" in the top right corner.
      - Please log in with your institutional email and account password and

click "Sign In".

- Logging patient encounters and procedures in VLMS:
  - **Students are required to log daily** - Students are **required to log all patient type/clinical conditions and procedures/skills that they encounter that day** into the VLMS application at: https://vlms.app/login.html
    - Within the daily log, the clinical discipline chairs have also identified a specific set of patient presentations and procedures that each student is expected to see/do during the course of the rotation that should be logged in VLMS as you experience it. Students should be familiar with this list and should actively work to see these patients or be involved in these procedures. The list serves as a guide for the types of patients the clinical faculty think students should encounter during the rotation. The list does not include every possible diagnosis or even every diagnostic entity students must learn. The list reflects the common and typical clinical entities that the faculty feels VCOM students should experience. The list can be found in VLMS or CANVAS.

  - Students should log only an encounter with or exposure to a real patient.
    - Simulated patients, case presentations, videos, grand rounds, written clinical vignettes, etc. should not be logged even though they are all important ways to learn clinical medicine. Many of these educational experiences, along with self-directed reading, are necessary preparation for COMLEX Level 2 and postgraduate training. This log, however, focuses on a unique and critical component of clinical training, namely, involvement with "real" patients.
    - Longitudinal care of a patient that results in a new diagnosis or secondary diagnosis should be entered as a new entry instead of editing the original entry.
    - Multiple encounters with the same patient that do not result in a new diagnosis or procedure should not be logged. However, if multiple encounters result in a new diagnosis or a new procedure is performed, these should be entered as a new entry.
    - Student involvement with patients can occur in various ways with different levels of student responsibility. The most "meaningful" learning experience involves the student in the initial history and physical exam and participation in diagnostic decision making and management. A less involved but still meaningful encounter can be seeing a patient presented by someone else at the bedside. Although the level of responsibility in this latter case is less, students should log the diagnoses seen in these clinical encounters. Patient experiences in the operating or delivery room should also be logged.

  - All students must review these logs with their preceptors prior to the end of the rotation period, as required by the final preceptor evaluation form. Students are encouraged to periodically review their VLMS entries with their preceptor during the rotation period. These reviews should stimulate discussions about cases and learning objectives, as well as identify curriculum areas the student may still need to complete.

  - Failure to log daily results in the following:
    - First notification: Email warning outlining consequences
    - Second notification: Meeting with the Associate Dean
    - Third notification: Behavioral contract
    - Fourth notification: Students will receive an IP "In-Progress" grade for the rotation until logging for the rotation is completed.
    - Fifth notification: Referral to PESB/Honor Code (whichever is most

appropriate), which could lead to sanctions and/or permanent record in the student file or MSPE.

- Rotation evaluations:
  - Student Site Evaluation: Students must complete and submit at the end of rotation. See the VCOM website at: https://intranet.vcom.edu/clinical to access the evaluation form.
  - Third-Year Preceptor Evaluation: It is the student's responsibility to ensure that all clinical evaluation forms are completed and submitted online or turned into the Site Coordinator or the Clinical Affairs Office at the completion of each rotation. Students should inform the Clinical Affairs Office of any difficulty in obtaining an evaluation by the preceptor at the end of that rotation. See the VCOM website at: https://www.vcom.edu/academics/clinical-education-third-year/forms to access the evaluation form.
  - Mid-Rotation Evaluation: The mid-rotation evaluation form is not required but highly recommended. See the VCOM website at: https://www.vcom.edu/academics/clinical-education-third-year/forms to access the mid-rotation evaluation form.

- Successful completion of the end-of-rotation written exam:
  The content of the end-of-rotation exams will be based upon the learning objectives and reading assignments, including OMM, in this syllabus, the clinical case modules, and the Aquifer Radiology cases and their associated references.

B. Grading

Students must pass both the "module" and "rotation" portions of the course. All rotations have a clinical rotation grade and clinical modules/exam grade. Failure to submit all of the case module files using the Canvas link provided above and the Aquifer Radiology cases **by no later than 5 PM on the day of your end of rotation exam** will result in a **deduction of 5 points from your end-of-rotation exam score**. **VLMS logs are due no later than 5 PM on the day of your end of rotation exam.**

Clinical Grading Scale and GPAs						
OMS 3 End-of-Rotation Exam Grades			**OMS 3 AND OMS 4 Clinical Rotation Grades**		**Other Grades**	
A	90-100	4.0	H	Honors	IP	In Progress
B+	85-89	3.5	HP	High Pass	INC	Incomplete
B	80-84	3.0	P	Pass	CP	Conditional Pass
C+	75-79	2.5	F	Fail	R	Repeat
C	70-74	2.0			Au	Audit
F	<70	0.0				

C. Remediation

Students who fail a clinical rotation, fail an end-of-rotation exam twice, or who have more than one first attempt failure on end-of-rotation exams within an academic year (even if the student has successfully remediated the prior end-of-rotation exam on the second attempt) will be referred to the Promotion Board. If a student fails the professionalism and ethics portion of the evaluation he or she may be removed from the rotation and referred to the Professional and Ethical Standards Board. No grade will be changed unless the Office of Clinical Affairs certifies to the Registrar, in writing, that an error occurred or that the remediation results in a grade change.

- **Failure of an End-of-Rotation Exam**
  Students must pass each end of rotation exam with a C (70%) or better to receive a passing grade for the clinical medical knowledge module. Students who fail an end of rotation exam but

pass the clinical rotation evaluation component have a second opportunity to pass the exam within 28 days of notification. If the student passes the remediation exam, the remediated exam grade will be the grade recorded on the transcript and be GPA accountable.

If the student fails the end of rotation exam a second time, the student will receive an "F" grade for the rotation and will be brought before the Promotion Board. If the student is allowed to repeat the rotation, all components of the rotation must be repeated, and the repeated rotation must be with a different preceptor than the one from the original rotation that the student failed. Once repeated, the transcript will show both the initial clinical medical knowledge module course and the initial clinical rotation competency evaluation course, as well as the repeated clinical medical knowledge module course and the repeated clinical rotation competency evaluation course. The repeated courses will have the letter "R" at the end of the course number to reflect that they are repeated. Both the grade earned for the initial courses and the repeated courses will be recorded on the transcript, but only the repeated courses will be GPA accountable, regardless of whether the initial or repeated course grade is higher.

In addition, students who fail more than one first attempt failure of end-of-rotation exams within a semester (i.e. failed the first attempt end-of-rotation exam for pediatrics and failed the first attempt end-of-rotation exam for surgery within the first semester), even if the student has successfully remediated the prior end-of-rotation exam on the second attempt, will be placed on academic probation (at a minimum through their OMS 3 year) by the Campus Dean.

- **Failure of a Rotation**
  If a student fails the clinical rotation evaluation the student will receive an "F" grade for the rotation and will be brought before the Promotion Board. If the student is allowed to repeat the rotation, all components of the rotation must be repeated, and the repeated rotation must be with a different preceptor than the one from the original rotation that the student failed. Once repeated, the transcript will show both the initial clinical medical knowledge module course and the initial clinical rotation competency evaluation course, as well as the repeated clinical medical knowledge module course and the repeated clinical rotation competency evaluation course. The repeated courses will have the letter "R" at the end of the course number to reflect that they are repeated. Both the grade earned for the initial courses and the repeated courses will be recorded on the transcript, but only the repeated courses will be GPA accountable, regardless of whether the initial or repeated course grade is higher.

- **Failure to Make Academic Progress**
  In general, students should show a progression of improvement in clinical performance throughout rotations. Repeated poor or failing performance in a specific competency area on the evaluation form across more than one rotation may also be a reason for a required remediation at the discretion of the Associate Dean for Clinical Affairs in consultation with the clinical chair, the preceptor, and the Promotion Board. Those students who receive a mere "Pass" on multiple rotations will be counseled about overall performance and may be required to complete an additional rotation at the end of the year. Any additional curriculum or required remediation will be based on the performance measure. Those students who continually score in the "unsatisfactory" category or repeated "performs some of the time, but needs improvement" consistently and do not improve over time or who fail one or more rotations may be deemed as not making academic progress and, as a result, may be referred to the Promotion Board and be required to complete additional curriculum. Multiple rotation failures may result in dismissal.

  Poor ratings on the clinical rotation evaluation in the professional and ethical areas of the assessment are addressed by the Associate Dean for Clinical Affairs. The Associate Dean may

design a remediation appropriate to correct the behavior or if needed, may refer the student to the Professional and Ethical Standards Board. In the case of repeated concerns in a professional and/or ethical area, the Associate Dean for Clinical Affairs may refer the student to the Campus Dean for a referral to the Professional and Ethical Standards Board or Promotion Board. The Campus Dean will act upon this referral depending on the severity and the area of the performance measure. Poor ratings in this area will include comments as to the exact nature of the rating.

VII. Academic Expectations

Grading policies, academic progress, and graduation requirements may be found in the College Catalog and Student Handbook.

A. Attendance

Attendance for all clinical rotation days is mandatory. The clinical site will determine the assigned days and hours to be worked within the rotation period. Students are required to attend any orientation the clinical site sets as mandatory prior to any rotation or the clinical year. The orientation sessions vary by site and are required to maintain assignment to the site. Although the clinical site determines the assigned days and hours to be worked, VCOM has established the following guidelines:

- 4-week rotations may not be less than 20, eight-hour days for a total of a minimum of 160 hours and often average 180 hours or greater.
    - Students may be required to work up to 24 days in a 4-week period or 25 days in a 1-month rotation, including call and weekends at the discretion of the clinical site.
    - If the clinical site requires longer daily hours or shift work, the student may complete the required hours in less than 20 days with the following specifications:
        - Students should not work greater than an average of 12 out of every 14 days.
        - Student should not work more than 12 hours daily, exclusive of on-call assignments.
        - If on-call hours are required, the student should not be on duty for greater than 30 continuous hours.
        - Students may be required to work weekends but in general should have 2 weekends per month free and an average of 2 of 7 days per week free.

It should be noted that preceptors will have final determination of the distribution of hours, which may vary from this policy but should not in general be less than 160 hours for a 4-week rotation. The institution's DSME and assigned clinical faculty determine clinical duty hours. Students are responsible to the assigned clinical faculty and are expected to comply with the general rules and regulations established by the assigned clinical faculty, and/or the core hospital(s), or facility associated with the rotation.

The average student clinical day begins at 7 am and ends at 7 pm. Students are expected to work if their assigned clinical faculty is working. Some rotations assign students to shifts and in such cases the student may be required to work evening or night hours. If on-call hours are required, the student must take the call; however, the student should not be on duty for greater than 30 continuous hours. Students may be required to work weekends, but in general should have two weekends per month free and two of seven days per week free. Student holidays are determined by the clinical site and follow those of other students and/or residents from the clinical site. Students must be prompt and on time for the clinical rotation.

Students are expected to arrive on time for all clinical rotations. If a student is late, he or she must notify the site coordinator and the preceptor prior to or at the time they are scheduled to arrive. Students must have a reason for being late such as illness or vehicle issues and it is not anticipated that this would occur more than one occasion AND it is important the student call in prior to being late.

Repeated tardiness is considered as unprofessional behavior and is a reason for dismissal from a rotation. Students with repeated tardiness will be referred to the PESB. Tardiness is defined as more than 5 minutes after the scheduled time the preceptor designates as the expected arrival time.

The Office of Clinical Affairs requires that the medical student complete and submit an Excused Absence Clinical Rotations Approval form for any time "away" from clinical rotations. Forms are available at: https://www.vcom.edu/academics/clinical-education-third-year/forms. The student must have this form signed by their preceptor and others designated on the form to obtain an excused absence and must be provided to the DSME and the Office of Clinical Affairs through the site coordinator. The form must be completed prior to the beginning of the leave. If an emergency does not allow the student to submit this prior to the absence, the "Excused Absence Clinical Rotations Approval" form must be submitted as soon as the student is physically able to complete the form. In addition to completion of the form, students must contact the Department of Clinical Affairs, the Site Coordinator, and the preceptor's office by 8:30 AM on the day they will be absent due to an illness or emergency. No excused absence will be granted after the fact, except in emergencies as verified by the Associate Dean for Clinical Affairs.

Regardless of an excused absence, students must still complete a minimum of 160 hours for a 4-week rotation in order to pass the rotation. Any time missed must be remediated during the course of the rotation for credit to be issued. Students may remediate up to four missed days or 48 hours missed during any rotation period by working on normal days off. OMS 3 students who have any unexcused absences will be referred to the PESB.

B. Prohibited Use of External Accelerators

At times, there may be lectures on VCOMTV where completion will be documented as part of passing the course (these will be clearly indicated in the course syllabus). For these lectures, the use of an external accelerator is prohibited, as VCOMTV is unable to track completion through these programs. If a student uses an external accelerator for these assignments, they will be required to re-watch the lecture(s) in VCOMTV within the required timeline. Failure to document a student's completion of these assignments within the required timeline due to use of an external accelerator may result in failure of the course.

VIII. Professionalism and Ethics

It is advised that students review and adhere to all behavioral policies including attendance, plagiarism, dress code, and other aspects of professionalism. Behavioral policies may be found in the College Catalog and Student Handbook.

A. VCOM Honor Code

The VCOM Honor Code is based on the fundamental belief that every student is worthy of trust and that trusting a student is an integral component in making them worthy of trust. Consistent with honor code policy, by beginning this exam, I certify that I have neither given nor received any unauthorized assistance on this assignment, where "unauthorized assistance" is as defined by the Honor Code Committee. By beginning and submitting this exam, I am confirming adherence to the VCOM Honor Code. A full description of the VCOM Honor Code can be found in the College Catalog and Student Handbook.

IX. Syllabus and Rotation Schedule

Please use this syllabus as a guide, paying particular attention to the learning objectives as an outline of what you are expected to know for each topic/module. Refer to the rotation calendar for specific dates of exams.

The faculty of the course will make every effort to adhere to the syllabus and rotation schedule; however, the Office of Clinical Affairs reserves the right to make changes to the syllabus; including changes to

examinations, quizzes, modules, homework or other assignments; and/or the schedule with as much advance notice as possible. These changes will be communicated to the students in writing via Canvas or email.

X. Internal Medicine II Clinical Curriculum

In addition to the topics below with reading references and learning objectives, students must also complete the assigned clinical cases and the assigned Aquifer Radiology cases. The content of the end-of-rotation exams will be based upon the learning objectives and reading assignments, including OMM, in this syllabus, the clinical case modules, and the Aquifer Radiology cases and their associated references.
The clinical case modules must be submitted in Canvas at: https://canvas.vcom.edu

1. HIV & AIDS

Topics Included: Diagnosis, management and complications
Reading Reference:

- Cecil's Essentials of Medicine, 10th ed.
  - Ch. 103 Human Immunodeficiency Virus Infection
  - CDC HIV/AIDS Screening Recommendations

Online Case: Aquifer Radiology Case 10
Module: HIV and TB
Learning Objectives:

a. Identify risk factors for HIV utilizing the microbiology, epidemiology, and pathophysiology.
b. Apply current CDC testing guidelines.
c. Interpret HIV testing results.
d. Recognize acute retroviral syndrome.
e. Relate the clinical course of HIV/AIDS infection to testing results.
f. Describe the relationship between the CD4+ lymphocyte count and risk of opportunistic infection.
g. Recognize appropriate clinical scenarios of when and when not to initiate rapid start anti-retroviral therapy.
h. Predict prevention strategies for HIV/AIDS.
i. Diagnose opportunistic infections and malignancies associated with AIDS utilizing clinical history and diagnostic studies.
j. Distinguish complications of HIV/AIDS including metabolic, infectious and immune-mediated.
k. Distinguish clinical situations to prescribe prophylactic anti-HIV medications, e.g. PrEP, PEP.
l. Distinguish clinical situations to begin prophylaxis for opportunistic infections associated with AIDS.
m. Infer appropriate treatment of HIV/AIDS and opportunistic infections.
n. Outline clinical and imaging strategies to distinguish cerebral lymphoma from toxoplasmosis.

2. Tuberculosis

Topics Included: Diagnosis and management, screening, Multidrug resistant TB, Extremely drug-resistant TB
Reading Reference: Cecil Essentials of Medicine, 10th ed., Ch. 94: Infectious of the Lower Respiratory Tract
Module: HIV and TB
Learning Objectives:

a. Recognize epidemiology of tuberculosis and the different mycobacterium species associated with it.
b. Distinguish the following in relation to MTB: granuloma formation, caseation, Gohn complex, Pott's disease).
c. Recall the principles of treatment of active and latent tuberculosis.
d. Differentiate chest x-ray findings in various presentations of TB.

e. Diagnose latent TB utilizing history, physical exam and diagnostic testing.
f. Relate the indications for performing a purified protein derivative (PPD) test or IGRA and how results should be interpreted given a range of clinical scenarios and patient histories.
g. Define multi-drug resistant tuberculosis.
h. Define extensively drug resistant tuberculosis.
i. Identify risk factors for multi-drug resistant tuberculosis.
j. Identify prevention and isolation strategies for the patient with active tuberculosis.
k. Identify prevention strategies for multi-drug resistant tuberculosis.
l. Correlate increased incidence of immune suppressing diseases such as HIV with multi-drug resistant tuberculosis.
m. Recognize various presentations of tuberculosis.
n. Identify common side effects associated with tuberculosis therapy.

3. Oncology I: Hematological Cancers

Topics Included: Leukemias (chronic myelogenous leukemia, acute myeloid leukemia, acute lymphoblastic leukemia, chronic lymphocytic leukemia), lymphomas (Hogkin and Non-Hodgkin), multiple myelomas, MGUS, myelodysplastic syndrome

Reading Reference:

- Cecil's Essentials, 10th ed.
  - Ch. 46 Hematopoiesis and Hematopoietic Failure
  - Ch. 47 Clonal Disorders of the Hematopoietic Stem Cell
  - Ch. 50 Disorders of Lymphocytes

Module: Hematological Cancers

Learning Objectives:

a. Create a differential diagnosis for anemia in adult patient.
b. Identify risk factors and typical epidemiology for hematological malignancies.
c. Classify hematological disorders using the World Health Organization Classification
d. Diagnose Hodgkin lymphoma utilizing clinical presentation, including classic B symptoms, physical examination, and laboratory data.
e. Recognize the bimodal epidemiology in presentation of Hodgkin lymphoma.
f. Predict staging and prognosis of hematological malignancies.
g. Identify first line treatments and complications of common hematologic malignancies.
h. Identify common organisms associated with febrile neutropenia.
i. Devise the evaluation and management of fever in a neutropenic patient.
j. Devise treatment and prevention strategies for tumor lysis syndrome.
k. Identify risk factors for leukostasis and initial treatment.
l. Recognize the lab and x-ray findings that are diagnostic of plasma cell disorders (MGUS, multiple myeloma)
m. Identify the common adult leukemias and their typical CBC findings.
n. Differentiate AML from ALL.

4. Oncology II: Solid Tumor Cancers

Topics Included: Non-surgical management including diagnosis and screening of brain, bladder, renal, liver (hepatocellular carcinoma) cancer

Reading References:

- Cecil Essentials of Medicine, 10th ed.
  - Ch. 58 Gastrointestinal Cancers
  - Ch. 59 Genitourinary Cancers
  - Ch. 121 Central Nervous System Tumors
- AccessMedicine
  - Case Files Neurology: Metastatic Brain Tumor
  - Case Files Surgery: Liver Tumor (Focal)

Online Case: Aquifer Radiology Case 10

Learning Objectives:

a. Identify risk factors for GU cancers, liver cancer, and brain cancer.
b. Recognize common presentations for individuals presenting with solid tumor cancers.
c. Distinguish diagnostic testing and procedures utilized for diagnosis of solid tumors.
d. Predict general treatment for solid tumor cancers.
e. Recognize common complications of CNS tumors, e.g. hemorrhage and herniation.
f. Recognize the appropriate management of CNS emergencies.
g. Determine the best management of CNS tumors – surgery, radiation, chemotherapy, and targeted agents.
h. Relate genetic mutations in diagnosis and management of brain tumors.
i. Predict general prognosis for patients with solid tumor cancers.
j. Recognize laboratory abnormalities associated with renal and bladder cancer.
k. Identify common radiologic findings of renal and bladder cancers.
l. Classify the genetic disease and syndrome associated with renal cancer.
m. Explain the concept behind MR spectroscopy of the brain and its application.
n. Describe the features of mass effect on brain CT and MRI scans.

5. **Neurology I: Seizure and Epilepsy**

Topics Included: Differential diagnosis of seizure, focal seizures, generalized seizures, syncope and Vertigo, dizziness

Reading References:

- Cecil Essentials of Medicine, 10th ed.
  - Ch. 115 Dizziness and Vertigo
  - Ch. 120 Epilepsy
- Clinical Problem Solvers – Dx Schema: Syncope

Module: Seizure Syncope and Vertigo

Learning Objectives:

a. Classify seizures by clinical signs and symptoms.
b. Define the differential diagnosis of seizure.
c. Distinguish the diagnostic approach for the first seizure in an adult, including the importance of the history, examination, and testing.
d. Recognize the different types of therapy and arguments for and against treatment of the first seizure.
e. Distinguish general treatment for seizures and status epilepticus.
f. Categorize syncope based on etiology: neurally mediated, orthostatic, and cardiac syncope.
g. Identify the common causes and epidemiology of syncope and dizziness.
h. Identify the important aspects of the history and physical exam in a patient with syncope.
i. Distinguish the differential diagnosis and diagnostic workup for a patient with syncope or complaint of dizziness.
j. Evaluate and predict treatment of a patient with syncope or dizziness.
k. Diagnose the following disorders utilizing clinical history, physical exam findings and lab or imaging data: Benign paroxysmal positional vertigo, Vestibular neuronitis, Labrynthitis.
l. Identify treatments for chronic dizziness such as vestibular rehabilitation.

6. **Neurology II: Demyelinating Disorders & Immune Mediated**

Topics Included: Multiple sclerosis, transverse myelitis, PML, ADEM, Guillain-Barre syndrome, myasthenia gravis, Lambert-Eaton myasthenic syndrome

Reading References:

- Cecil Essentials of Medicine, 10th ed.
  - Ch. 122 Demyelinating and Inflammatory Disorders
  - Ch. 123 Neuromuscular Junction Disease

- Ch. 125 Neuromuscular Diseases: Disorders of the Motor Neuron and Plexus and Peripheral Nerve Disease

Module: Demyelinating Disorders and Immune Mediated

Learning Objectives:

a. Recognize the clinical history characteristic for the diagnoses above.
b. Apply antibody testing in diagnosis of the above immune mediated diseases.
c. Correlate findings on cerebral spinal fluid analysis and multiple resonance imaging to the diagnosis of multiple sclerosis.
d. Recall the diagnostic criteria for multiple sclerosis.
e. Recognize common treatments for relapsing episodes of multiple sclerosis.
f. Formulate a plan for symptom management for multiple sclerosis.
g. Compare and contrast the immune-mediated etiology of multiple sclerosis (MS).
h. Recall the immune-mediated etiology, symptoms and diagnosis of GBS.
i. Identify the complications that cause the increased morbidity/mortality in GBS patients.
j. Recall the immune-mediated etiology, symptoms and diagnosis of myasthenia gravis (MG).
k. Recall the immune-mediated etiology, symptoms, and diagnosis of Lambert Eaton myasthenic syndrome.
l. Compare underlying pathophysiology in the development of the above demyelinating disorders.
m. Formulate the appropriate work-up to distinguish these disorders.
n. Diagnose demyelinating disorders based on history, physical examination, and testing results.

7. **Neurology III: Disorders of Motor System & Nerves**

Topics Included: Charcot-Marie Tooth, ALS, peripheral neuropathy, Wilson's disease, Huntington's disease, tremor, Parkinson's disease, Shy-Drager syndrome (multi-system atrophy)

Reading References:

- Cecil Essentials of Medicine, 10th ed.
  - Ch. 116 Disorders of the Motor System
  - Ch. 123 Neuromuscular Diseases: Disorders of the motor Neuron and Plexus and Peripheral Nerve Disease

Module: Disorders of Motor System & Nerves

Learning Objectives:

a. Identify other common disorders that should be included in the differential diagnosis of central and peripheral demyelinating disorders.
b. Recall the underlying pathophysiology responsible for development of the disorders below.
   i. Charcot-Marie-Tooth disorder
   ii. Radiculopathy
   iii. Peripheral neuropathy
   iv. Amyotrophic lateral sclerosis
   v. Parkinson disease
   vi. Benign essential tremor
c. Recognize clinical manifestations and physical examination findings for the above disorders.
d. Distinguish lower motor neuron syndrome versus upper motor neuron syndrome.
e. Interpret cerebral spinal fluid analysis to aid in diagnosis of specific motor neuron disorders.
f. Predict appropriate therapy for above neuropathies.
g. Diagnose disorders associated with peripheral nerves, including neuropathy, hereditary neuropathies and acquired peripheral neuropathies.
h. Relate complications and prognosis to underlying disease pathophysiology.
i. Recognize the etiologies and diagnostic work-up for the above disorders.
j. Identify pharmacologic and non-pharmacologic treatments for the above disorders.
k. Distinguish drug-induced Parkinsonism from Parkinson disease.
l. Distinguish Shy Drager syndrome and Parkinson disease.

8. **Neurology IV: Disorders of Special Senses**
Topics Included: Uveitis, hearing loss, glossopharyngeal neuralgia, trigeminal neuralgia, Bell's palsy
Reading References:
- Cecil Essentials of Medicine, 10th ed.
  - Ch. 113 Headache, Neck and Back Pain, and Cranial Neuralgias
  - Ch. 114 Disorders of Vision and Hearing
- AccessMedicine Case Files Neurology: Facial Paralysis
- AccessMedicine Case Files Family Medicine: Migraine and Other Headache Syndromes

Module: Disorders of Special Senses
Learning Objectives:
a. Recall uveitis and ocular manifestations of autoimmune disease:
   i. sarcoidosis
   ii. rheumatoid arthritis
   iii. systemic lupus erythematosus
b. Differentiate the types of hearing loss, including conductive, sensorineural, mixed, or central.
c. Distinguish the most common cases of hearing loss for each type.
d. Identify the history, risk factors, and physical examination findings related to the causes of hearing loss.
e. Recognize the diagnostic evaluation of hearing loss, including audiogram and imaging.
f. Identify prevention methods and treatment for hearing loss.
g. Recognize the clinical presentation, physical examination findings, and laboratory data associated with Bell's palsy.
h. Recall the differential diagnosis of unilateral facial palsy and neuralgia, including glossopharyngeal and trigeminal neuralgia.
i. Identify infectious agents associated with facial nerve palsy.
j. Recognize the complications and treatment of Bell's palsy.

9. **Gastroenterology I: Upper GI Disorders**
Topics Included: GERD, achalasia, Barrett esophagus, eosinophilic esophagitis, Schatzki rings, diffuse esophageal spasm, esophagitis, H. Pylori gastritis and PUD, gastroparesis and Zollinger–Ellison (ZE) Syndrome
Reading Reference:
- Cecil Essentials of Medicine, 10th ed.
  - Ch. 31 Common Clinical Manifestations of Gastrointestinal Disease: Abdominal Pain
  - Ch. 36 Esophageal Disorders
  - Ch. 37 Diseases of the Stomach and Duodenum
- Osteopathic Considerations in Systemic Dysfunction (Rev 2nd ed.), pp.79-93

Online Case: Aquifer Radiology Case 5
Module: Common GI Disorders
Learning Objectives:
a. Identify the etiology of Barrett's esophagitis and role of H. pylori in peptic ulcer disease, including methods of testing for Barrett's and H. pylori.
b. Apply patient education on lifestyle changes at home and the use of H-2 blockers and PPI including side effects.
c. Identify the common etiologies of esophageal disorders, diseases of the stomach, and duodenum including risk factors, clinical presentations, diagnostic modalities, and treatments.
d. Recall evidence-based treatment strategies for H. pylori gastritis.
e. Recognize the differences between ulcer and non-ulcer (functional) dyspepsia.
f. Develop patient education on appropriateness of follow-up and testing for eradication in patients with H. pylori gastritis.
g. Identify common signs and symptoms of gastric emptying disorders.
h. Recall the laboratory testing for diagnosing ZE syndrome.

i. Recognize the pathophysiology of a viscerosomatic reflex of the GI tract.
j. Understand the role of viscerosomatic reflexes in typical GI pain patterns.
k. Understand the autonomic innervation to the GI tract and its role in GI pathophysiology.
l. Identify lymphatic dysfunctions associated with upper GI pathophysiology.
m. Discern the use of lymphatic manipulative techniques in the treatment of GI dysfunctions.
n. Recognize the appropriate use of OMT in improving autonomic dysregulation innervation of the GI tract.
o. Identify methods to incorporate holistic care in the management of a patient with Upper GI disorders.
p. Demonstrate how to effectively utilize the ACR AC website to select appropriate imaging.
q. Compare and contrast the terms "abdominal radiographs," "KUB," "upright" and "supine" abdominal radiographs, and "acute abdominal series."
r. List contraindications to administering intravenous contrast.
s. List two risks of administering enteric contrast.
t. Explain when pretreatment protocols should be used in patients with known IV contrast reactions.
u. List common indications for a modified barium swallow, an esophagram, an upper GI series, a small bowel follow through, and a barium enema.
v. Describe which portions of the GI tract are studied during a modified swallow, an esophagram, an upper GI series, and a small bowel follow through and a contrast enema.
w. Identify pneumoperitoneum on supine and upright radiographs.
x. List the options for enteric contrast in fluoroscopic studies.
y. Describe features of normal anatomy on abdominal radiographs.

10. Gastroenterology II: Lower GI Disorders

Topics Included: Crohn's, ulcerative colitis IBS, diverticulitis, celiac, mesenteric ischemia

Reading Reference:

- Cecil Essentials of Medicine, 10th ed.
  - Ch. 33 Common Manifestations of Gastrointestinal Disease, Malabsorption
  - Ch. 38 Inflammatory Bowel Diseases
  - Ch. 98 Infectious Diarrhea
- Osteopathic Considerations in Systemic Dysfunction (Rev 2nd ed.), pp.79-93

Online Case: Aquifer Radiology Case 5

Module: Common GI Disorders

Learning Objectives:

a. Identify symptoms and signs indicative of an acute/surgical abdomen.
b. Differentiate the most important and likely causes of a patient's abdominal pain.
c. Recognize specific history, physical exam, and laboratory findings that distinguish between the various causes of abdominal pain.
d. Relate a basic management plan for diverticulitis.
e. Define irritable bowel syndrome and relate its management.
f. Differentiate infectious and non-infectious diarrhea utilizing history and clinical presentation.
g. Utilize common diagnostic tests for diarrhea to determine a diagnosis of malabsorption versus other causes of diarrhea.
h. Recognize clinical presentation including signs associated with malabsorptive syndromes.
i. Differentiate ulcerative colitis from Crohn's disease including extraintestinal manifestations associated with inflammatory bowel disease.
j. Understand basic management and treatment options of inflammatory bowel disease in acute exacerbation of inflammatory bowel disease and chronic inflammatory bowel disease based on disease severity.
k. Recognize clinical presentation including signs associated with malabsorptive syndromes.
l. Recognize the pathophysiology of a viscerosomatic reflex of the GI tract.

m. Understand the role of viscerosomatic reflexes in typical GI pain patterns.
n. Understand the autonomic innervation to the GI tract and its role in GI pathophysiology.
o. Identify lymphatic dysfunctions associated with upper GI pathophysiology.
p. Discern the use of lymphatic manipulative techniques in the treatment of GI dysfunctions.
q. Recognize the appropriate use of OMT in improving autonomic dysregulation innervation of the GI tract.
r. Identify colonic wall thickening on radiographs and list the possible diagnoses.
s. List imaging options for evaluating inflammatory bowel disease.
t. Identify colonic wall thickening on radiographs and list the possible diagnoses.
u. List imaging options for evaluating inflammatory bowel disease.
v. Describe why and when oral, rectal, and intravenous contrast is given for abdominal CT scans.
w. Compare and contrast clinical and radiographic features of small bowel obstruction and ileum.
x. Describe typical patient preparation for a double contrast barium enema.

11. Nephrology II: Chronic Kidney Disease and Lower Urinary Tract Diseases
Topics Included: Complications of CKD, indications for dialysis, stages of CKD
Reading Reference: Cecil Essentials of Medicine, 10th ed., Ch. 30: Chronic Kidney Disease
Online Case: Aquifer Radiology Case 7
Module: Chronic Kidney Disease
Learning Objectives:
a. Identify the most common causes of chronic kidney disease (CKD).
b. Distinguish etiologies of chronic kidney disease utilizing clinical history and diagnostic testing.
c. Relate the pathophysiology and clinical signs of uremia.
d. Recognize the indications for dialysis.
e. Relate the pathophysiology of hyperkalemia, hypocalcemia, and hyperphosphatemia in the setting of CKD.
f. Identify indications for angiotensin converting enzyme (ACE) inhibitors and angiotensin receptor blockers (ARBs) in the management of CKD.
g. Distinguish treatment with phosphate binders and calcium replacement in CKD.
h. Identify the staging of CKD based on glomerular filtration rate (GFR).
i. Differentiate which patients with known or suspected nephroureterolithiasis should be imaged by ultrasound or CT.
j. Describe the imaging findings of nephroureterolithiasis on CT and ultrasound.
k. Describe when imaging may be indicated in patients with pyelonephritis.
l. Explain what is contrast-induced nephropathy (CIN).
m. List risk factors for CIN.
n. List the options for the imaging workup of suspected renovascular hypertension.
o. Describe the imaging workup of painless hematuria.
p. Compare and contrast the typical appearances of simple renal cysts versus solid masses on US and CT.
q. List the imaging findings in patients with nephroureterolithiasis that may indicate intervention is needed.
r. Discuss strategies for the treatment of renal artery stenosis.

12. **Rheumatology I**

Topics Included: SLE, dermatomyositis, Sjogren's, fibromyalgia, polymyalgia rheumatica

Reading Reference:

- Cecil's Essentials of Medicine, 10th ed.
  - Ch. 26 Glomerular Diseases
    - Lupus Nephritis
  - Ch. 78 Approach to the Patient with Rheumatic Disease
  - Ch. 81 Systemic Lupus Erythematosus
  - Ch. 86 Non-articular Soft Tissue Disorders
    - Fibromyalgia Syndrome
  - Ch. 87 Rheumatic Manifestations of Systemic Disorders; Sjogren's Syndrome

Module: Rheumatologic Disorders

Learning Objectives:

a. Formulate an approach to patients with possible rheumatologic disease.
b. Identify the typical clinical presentation for the following:
   i. Systemic lupus erythematosus (SLE)
   ii. Dermatomyositis
   iii. Sjogren's
   iv. Fibromyalgia
   v. Polymyalgia rheumatica
c. Identify the associated laboratory and diagnostic criteria for the following:
   i. Systemic lupus erythematosus (SLE)
   ii. Dermatomyositis
   iii. Sjogren's
   iv. Fibromyalgia
   v. Polymyalgia rheumatica
d. Classify the types or glomerulonephritis seen in SLE.
e. Recognize treatment strategies for the following:
   i. Systemic lupus erythematosus (SLE)
   ii. Dermatomyositis
   iii. Sjogren's
   iv. Fibromyalgia
   v. Polymyalgia rheumatica
f. Briefly describe the goals of Osteopathic Manipulative Medicine (OMM) in the treatment of arthritis
g. Describe the facilitated segments model for pain and spinal cord levels involved in upper and lower extremity arthritic conditions.
h. Identify pertinent indications and contraindications for OMM in arthritic patients.
i. Identify OMM treatment approaches to the care of patients with arthritic conditions.
j. Identify methods to incorporate holistic care in the management of a patient with arthritis.
k. Discuss the rationale for lymphatic treatments in arthritic patients.
l. Discuss the rationale for cranial treatments in arthritic patients.

13. **Rheumatology II**

Topics Included: RA, Scleroderma, CREST, psoriatic arthritis, reactive arthritis

Reading Reference:

- Cecil's Essentials of Medicine
  - Ch. 79 Rheumatoid Arthritis
  - Ch. 80 Spondyloarthritis
  - Ch. 20 Systemic Sclerosis
- Osteopathic Considerations in Systemic Dysfunction (Rev 2nd ed.), pp.159-167

Module: Rheumatologic Disorders

Learning Objectives:

a. Identify extra-articular manifestations of rheumatoid arthritis.
b. Formulate treatment for a patient with rheumatoid arthritis.
c. Compare and contrast the risk factors, epidemiology, pathophysiology, clinical presentations and diagnostic criteria for the following immune-mediated disorders:
    i. Rheumatoid arthritis
    ii. Systemic sclerosis
        a) Limited cutaneous systemic sclerosis (CREST)
        b) Diffuse cutaneous systemic sclerosis.
        c) Systemic sclerosis (Scleroderma)
    iii. Psoriatic arthritis
d. Compare and contrast the rationale for approach to treatment of rheumatoid arthritis and psoriatic arthritis based on clinical presentation and laboratory diagnosis.
e. Identify the articular and extra-articular clinical patterns of psoriatic arthritis.
f. Briefly describe the goals of Osteopathic Manipulative Medicine (OMM) in the treatment of arthritis.
g. Describe the facilitated segments model for pain and spinal cord levels involved in upper and lower extremity arthritic conditions.
h. Identify pertinent indications and contraindications for OMM in arthritic patients.
i. Identify OMM treatment approaches to the care of patients with arthritic conditions.
j. Identify methods to incorporate holistic care in the management of a patient with arthritis.
k. Discuss the rationale for lymphatic treatments in arthritic patients.
l. Discuss the rationale for cranial treatments in arthritic patients.

14. Vasculitis

Topics Included: Granulomatous with polyangitis, microscopic polyangitis, Churg-Strauss syndrome, polyarteritis nodosa, secondary vasculitis, Takayasu's arteritis

Reading References: Cecil's Essentials of Medicine, 10th ed., Ch. 83: Systemic Vasculitis

Module: Rheumatologic Disorders

Learning Objectives:

a. Identify common clinical features of vasculitis.
b. Categorize vasculitides by vessel size.
c. Correlate pathophysiology to the clinical presentation of the above vasculitides.
d. Recognize etiologies of secondary vasculitis.
e. Recognize common physical exam findings for the above vasculitides.
f. Select the appropriate rheumatologic laboratory study to diagnose vasculitis.
g. Predict treatment plans for the vasculitides.
h. Recognize complications of vasculitides.
i. Predict prognosis of patients with vasculitides.

15. Perioperative Medicine

Topics Included: Pre-operative clearance, perioperative management of anticoagulation, diabetes, hypertension

Reading References:

- Cecil Essentials of Medicine, 10th ed., Ch. 22: Preoperative and Postoperative Care
- AccessMedicine
    - Case Files Anesthesiology: Preoperative Evaluation
    - Case Files Surgery: Venous Thromboembolism

Learning Objectives:

a. Estimate functional status of a patient.
b. Identify clinical markers utilized to estimate cardiac risk in preoperative patients.

c. Select appropriate cardiac testing for a preoperative patient.
d. Predict which patient medications should be stopped or continued in a preoperative patient.
e. Predict which patients should receive bridging therapy for antithrombotic medications.
f. Stratify the individual's thromboembolic risk either as high risk, moderate risk, or low risk.
g. Recognize risk factors, diagnostic approach, and treatment strategies for venous thromboembolism in postoperative patient.

16. Pulmonology

Topics Included: Interstitial lung disease, sarcoidosis, fibrosis, aspergillosis, pulmonary hypertension

Reading Reference:

- Cecil Essentials of Medicine, 10th ed.
  - Ch. 14 General Approach to Patients with Respiratory Disorders
  - Ch. 17 Interstitial Lung Diseases
  - Ch. 18 Pulmonary Vascular Diseases

Module: Outpatient Dyspnea IPF

Learning Objectives:

a. Differentiate diffuse parenchymal lung diseases utilizing history and clinical examination.
b. Identify clinical presentation for interstitial and pulmonary vascular lung diseases.
c. Identify key history points for patients with pulmonary diseases including exposure and medication history.
d. Compare and contrast various interstitial lung diseases.
e. Identify common epidemiology for sarcoidosis.
f. Distinguish sarcoidosis utilizing clinical presentation and diagnostic testing.
g. Identify standard treatment therapies for interstitial lung diseases.
h. Categorize pulmonary hypertension utilizing the World Health Organization Classification
i. Identify common clinical presentation and diagnostic testing for pulmonary hypertension.
j. Identify standard treatment regimens for pulmonary hypertension.

17. Edema and Vascular Disease

Topics Included: Differential diagnosis, peripheral edema, generalized, localized, and treatment, Lymphedema, peripheral vascular disease

Reading Reference:

- Cecil Essentials of Medicine, 10th ed.
  - Ch. 3 Evaluation of the Patient with Cardiovascular Disease
  - Ch. 12 Vascular Diseases and Hypertension
- DynaMed – Venous Insufficiency
- https://www.aafp.org/afp/2013/0715/p102.html
- https://www.clinicalkey.com/#!/content/playContent/1-s2.0-S0263931910000220

Module: Edema and Vascular Disease

Learning Objectives:

a. Classify edema based on etiology.
b. Develop a differential diagnosis for localized, peripheral, and generalized edema.
c. Diagnose lymphedema based on clinical history and physical examination.
d. Formulate a diagnostic work up for a patient with edema.
e. Recognize the treatment of the common types of edema.
f. Identify the epidemiology and clinical presentation of peripheral arterial disease and chronic venous insufficiency.
g. Recognize the etiology and pathophysiology of peripheral arterial disease and chronic venous insufficiency.
h. Identify the pharmacologic and non-pharmacologic treatment strategies for peripheral arterial disease and chronic venous insufficiency.
i. Define risk factors and the clinical presentation for varicose veins.

j. Identify the diagnostic work-up and various treatment modalities for varicose veins.

18. **Lymphadenopathy**
Topics Included: Differential diagnosis of all causes, diagnostic evaluation, treatment of non-cancerous causes
Reading Reference: Cecil's Essentials, 10th ed. Ch. 50: Disorders of Lymphocytes
Module: Hematological Cancers
Learning Objectives:
a. Define features of benign vs. pathologic lymphadenopathy.
b. Create a differential diagnosis for lymphadenopathy in adult patient based on clinical features and location of the lymphadenopathy.
c. Classify causes of adenopathy
d. Compare and contrast anatomy and lymphadenopathy location.
e. Diagnose lymphadenopathy etiologies utilizing clinical presentation such as age, associated symptoms, duration, recent exposures, medications and physical exam findings.
f. Devise a diagnostic workup for a patient with lymphadenopathy.
g. Interpret results of a diagnostic workup for a patient with lymphadenopathy.
h. Identify the various types of biopsies and indications for each.

19. **The Aging Patient**
Topic Included: Geriatric polypharmacy, Pressure ulcers, geriatric skin disorders, urinary incontinence
Reading Reference:
- Cecil's Essentials, 10th ed. Ch. 126: The Aging Patient
- DynaMed – Pressure Injury of the Skin and Soft Tissue
- Osteopathic Considerations in Systemic Dysfunction (Rev 2nd ed.), pp.95-106

Access Medicine:
- Case Files Geriatrics: Urinary Incontinence and Urinary Tract Infection
- Case Files Geriatrics: Medication-Related Problems (MRP's)

Learning Objectives:
a. Define pressure ulcers.
b. Identify common locations of pressure ulcers.
c. Distinguish stages of pressure ulcers.
d. Identify steps in typical pressure ulcer healing.
e. Identify the pathogenesis and risk factors for pressure ulcers.
f. Recognize treatment strategies for pressure ulcers.
g. Distinguish pressure ulcers preventions strategies.
h. Recognize physiologic and environmental changes in the elderly that increase medication risks.
i. Identify strategies for de-prescribing high risk medications.
j. Identify medications, including anticholinergic, psychoactive, anticoagulant, analgesic, hypoglycemic, and cardiovascular drugs that should be avoided or used with caution in older adults
k. Define epidemiology and risk factors for urinary incontinence in the elderly.
l. Identify key elements in the history and physical examination for urinary incontinence.
m. Recognize pharmacologic and non-pharmacologic treatments for urinary incontinence based on incontinence subtypes.
n. Identify indications and contraindications for chronic Foley catheter use for urinary incontinence.
o. List common risk factors for constipation including medical, mechanical, and structural factors.
p. List red flags indicating a more serious diagnosis in constipated patients.
q. Describe the pathophysiology of impaction and diarrhea in constipation.
r. Discuss the roles of spinal cord facilitation, motility, and somatic dysfunctions in constipation.

s. Identify the proper steps in working up constipation.
t. Define the role of diet and activity in constipation.
u. Define dehydration.
v. Identify the steps in cyclical laxative abuse.
w. List the various treatment options for constipation.
x. Describe the goals of Osteopathic Manipulative Medicine (OMM) in the treatment of constipation.
y. Discuss OMM treatment approaches to the care of patients with constipation.
z. Demonstrate proficiency in the evaluation and appropriate direct and/or indirect osteopathic treatment for somatic dysfunctions found commonly in the geriatric patient.