SYLLABUS

CORE-7006: OMS3 Surgery (4 weeks)

11 Credit Hours

(Version 05_17_2017 rev 3)

Clerkship Director

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Course Description

The **general surgery** third year clerkship is necessary to provide the student with a basic understanding of general surgery by supplementing the student’s core knowledge with clinical experience.

The curriculum content will be provided to students via the clinical presentation model on [Blackboard™](#). This clerkship is based on the clinical presentation curriculum with an emphasis on diagnosis and management.

Students will receive exposure to patients in both ambulatory ("outpatient") and inpatient settings. While the clerkship should focus on those clinical presentations usually seen by a general surgeon, the student should avail themselves of the opportunity to work with other surgeons, too: oncological, trauma, cardiovascular, otorhinolaryngological, gynecological, orthopedic, vascular, and urological.

Course Goals

*The goal is simple: exposure to as many surgical patients as possible, participate in as many operations, invasive procedures, and outpatient procedures as possible with as many types of surgical specialists as the student’s time allows.* Do not, however, lose focus on the core competencies (most of which will be garnered by working with a board-certified general surgeon).

While the **Key Clinical Presentations**¹ are, indeed, common, they are *not* the end-all in exposing the student to general surgery. Participating in surgical patient care (pre-operative and post-operative) is emphasized and operative exposure—through observation, assisting, basic suturing skills, etc. --are important for the student to master. Common operations should be observed; uncommon procedures, rare operations, investigative, or research interests at this level are discouraged.

Reviewing as many clinically-relevant radiographs, pertaining to patient care, is *strongly* encouraged.

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¹ See page 10 “Educational Content of your Core Rotation”
Curricular Domain Objectives
The objectives are intended to be a guide for the student’s learning activities and serve as a baseline for assessment of the student’s enhanced knowledge, skills, and professional behavior. Not all of the objectives listed below will be encountered during any single rotation. While each student is expected to further expand his/her knowledge base and to care for all assigned patient cases, he/she is also expected to avail him/herself of the SOMA educational materials provided. Each Objectives category below, maps to the corresponding evaluation categories and competencies on the course Clinical Rotation Evaluation (CRE) and coursework assignments.

Students will refer to individual schemes and review the associated learning objectives and learning activities associated with each. These are found under separate tab on Blackboard9.1.

I. Osteopathic Principles and Practices (OPP)
Graduates must demonstrate knowledge of osteopathic principles and practice (OPP), and they must exhibit and apply knowledge of somatic dysfunction diagnosis and osteopathic manipulative treatment (OMT) in clinical settings.
1. Demonstrate and communicate knowledge of a.) OPP; b.) the basic science, mechanisms of action, and physical findings of somatic dysfunction; and c.) the mechanism of action, indications and contraindications, and basic application of OMT.
2. Perform and document a complete and appropriately focused structural examination in a respectful, logical and organized manner.
3. Apply osteopathic principles and OMT into an appropriate patient care plan.
4. Demonstrate sufficient depth of knowledge and skills to integrate osteopathic principles and practice into all aspects of whole person healthcare.

II. Clinical Skills & Osteopathic Patient Care (CS)
Graduates must demonstrate effective use of motor and cognitive skills in diagnosis, management and prevention of common health problems encountered in patient care within a variety of clinical settings and across the lifespan.
1. Elicit a comprehensive and appropriately focused history and generate a list of a patient’s concerns in a respectful, rational and organized manner.
2. Perform a complete & appropriately focused physical examination in a respectful, rationale and organized manner; and correlate abnormal findings to clinical presentations and disease processes.

3. Perform basic clinical procedures essential for general osteopathic medical practice.

4. Utilize clinical reasoning strategies to accurately diagnose medical conditions originating from common clinical presentations.

5. Determine and implement evidence-based clinical intervention plans and management strategies, while monitoring their effectiveness and adjusting appropriately.

6. Incorporate health education counseling, preventive medicine approaches, and health promotion strategies during patient encounters.

III. Medical Knowledge (MK)
Graduates must demonstrate knowledge and application of osteopathic, biomedical, clinical, epidemiological, biomechanical, social and behavioral sciences in the context of patient-centered care.

1. Recognize and explain normal structure and function across the lifespan.

2. Identify and explain the molecular, biochemical and cellular mechanisms that support normal structure and function.

3. Distinguish between the mechanisms of disease pathogenesis, describe their impact on the body, and relate them to patient signs and symptoms.

4. Explain and apply principles of contemporary therapeutics, including osteopathic, surgical, pharmacologic, molecular, biologic, behavioral and contemporary/alternative.

5. Interpret diagnostic studies and correlate abnormal findings to disease states.

6. Describe the epidemiology of common disease states within a defined population, and the systematic approaches useful in reducing the incidence and prevalence of those disease states.

IV. Professionalism (P)
Graduates must demonstrate through knowledge, behavior and attitudes, a commitment to the highest standards of competence, ethics, integrity, and accountability to patients, society and the osteopathic profession.

1. Demonstrate respect, altruism, compassion, interest, integrity, honesty, accountability and trustworthiness in all interactions with patients, their families, faculty, staff, peers and colleagues.

2. Apply ethical decision making in all aspects of professional practice.
3. Demonstrate awareness, sensitivity and responsiveness to culture, socio-economic status, religion, age, gender, sexual orientation, and mental/physical disabilities of patients, their families, faculty, staff, peers and colleagues.

4. Demonstrate professional work behaviors such as punctuality, appropriate appearance, accepting responsibility for errors, and maintaining professional boundaries.

5. Demonstrate a commitment to continuous professional development, learning, and internal & external assessment.

V. **Interpersonal and Communication Skills (ICS)**
Graduates must demonstrate the knowledge, behaviors and attitudes that facilitate accurate and efficient information gathering, empathetic rapport building, and effective information giving in interactions with patients, their families and colleagues of the inter-professional health care team.

1. Document and record patient information in an accurate, organized, and confidential manner appropriate to the clinical situation and present relevant aspects of a patient’s case in a logical, articulate fashion both orally and in writing.

2. Work effectively and collaboratively with patients, their families and colleagues of the inter-professional healthcare team in providing whole person healthcare.

3. Demonstrate effective and appropriate active listening, verbal, non-verbal, and written and electronic communication skills when dealing with patients, their families, faculty, staff, peers and colleagues of the inter-professional health care team.

VI. **Practice-Based Learning and Improvement (PBL)**
Graduates must demonstrate the ability to apply scientific theory and methodology and exhibit the critical thinking skills essential for integrating evidence-based principles and practice into patient care.

1. Apply fundamental biostatistical and epidemiologic concepts to practice-based learning and improvement.

2. Conduct a systematic review of literature on basic and clinical science research and critically synthesize the results for relevance and validity.

3. Describe the clinical significance of and apply strategies for integrating best medical evidence into clinical practice.

4. Identify, describe and apply systematic methods relating to continuous evaluation of osteopathic clinical practice patterns, practice-base improvements, and the reduction of medical errors.
5. Integrate technology into the practice of medicine and the delivery of healthcare services.

VII. **Systems-Based Practice (SBP)**
Graduates must demonstrate awareness of and responsiveness to the larger context and systems of health care, and effectively identify system resources to advocate for and maximize the health of the individual and the community or population at large.

1. Demonstrate knowledge of health delivery systems that affect the practice of an osteopathic physician and how delivery systems influence the utilization of resources and access to health care.

2. Demonstrate knowledge of how patient care and professional practices affect other health care professionals, health care organizations, and society.

3. Demonstrate the ability to work effectively in a variety of health care systems (with an emphasis on community health care) and provide quality patient care while advocating for the best interests of patients.

4. Demonstrate the ability to implement safe, effective, timely, patient-centered and equitable systems of care in a team-oriented environment.

**Specific Osteopathic Objectives include:**

**Objectives for osteopathic considerations in the surgical patient:** See associated material in OPP V-VIII

**Post trauma considerations**
1. Describe common areas of myofascial strain with motor vehicle accidents.
2. Discuss the rationale, physiologic response, and anticipated clinical benefit for listed Osteopathic procedures for a trauma patient:
   - Abdominal diaphragm redoming
   - Rib raising
   - OA Decompression
   - Thoracic inlet release
3. Describe the anatomy, physiology, and pathophysiology of autonomic nervous system associated with stress.
4. Describe special considerations for use of Osteopathic procedures.
5. Describe contraindications for listed Osteopathic procedures.

**Post-surgical considerations - Neck**
1. Describe compartment anatomy of the neck.
2. Describe autonomic innervation of neck structures.
3. Describe lymphatic drainage of the neck.
4. Discuss the rationale, physiologic response, and anticipated clinical benefit for listed Osteopathic procedures on neck surgery patients:
   - Thoracic inlet release
   - Light thoracic pump
   - OA decompression
5. Describe special considerations for use of Osteopathic procedures.

**Post-surgical considerations – Chest**
1. Describe major anatomy, physiology, and pathophysiology of the surgical chest.
2. Describe autonomic innervation of chest structures.
3. Describe lymphatic drainage of the chest.
4. Discuss the rationale, physiologic response, and anticipated clinical benefit for listed Osteopathic procedures on chest surgery patients:
   - Pectoralis SCS
   - Abdominal diaphragm redoming
   - Rib raising
   - Rib SCS
5. Describe special considerations for use of Osteopathic procedures.

**Post-surgical considerations- Spine**
1. Describe common surgical procedures performed on the spine.
2. Describe significant anatomic structures affected in surgery of the spine.
3. Describe autonomic innervation of paraspinal structures.
4. Describe lymphatic drainage of the spine.
4. Discuss the rationale, physiologic response, and anticipated clinical benefit for listed Osteopathic procedures on spine surgery patients:
   - Psoas SCS
   - Indirect MFR
   - Paraspinal Soft Tissue
   - Sternal BLT
5. Describe special considerations for use of Osteopathic procedures.

**Post-surgical considerations- Abdominal**
1. Describe major anatomy, physiology, and pathophysiology of the surgical abdomen.
2. Describe autonomic innervation of abdomen structures.
3. Describe lymphatic drainage of the abdomen.
4. Discuss the rationale, physiologic response, and anticipated clinical benefit for listed Osteopathic procedures on abdominal surgery patients:
   - Lumbar para-spinal soft tissue
-Pedal pump
-OA Decompression
5. Describe special considerations for use of Osteopathic procedures.

**Post-surgical considerations- Upper Extremity**
1. Describe major anatomy, physiology, and pathophysiology of the surgical upper extremity.
2. Describe autonomic innervation of upper extremity.
3. Describe lymphatic drainage of the upper extremity.
4. Discuss the rationale, physiologic response, and anticipated clinical benefit for listed Osteopathic procedures on upper extremity surgery patients:
   -Thoracic inlet release
   -Pectoralis stretch
   -Effleurage
5. Describe special considerations for use of Osteopathic procedures.

**Wound Care - Lower Extremity**
1. Describe major anatomy, physiology, and pathophysiology of the surgical upper extremity.
2. Describe autonomic innervation of upper extremity.
3. Describe lymphatic drainage of the upper extremity.
4. Discuss the rationale, physiologic response, and anticipated clinical benefit for listed Osteopathic procedures on upper extremity surgery patients:
   -SI joint release
   -Pedal Pump or LE effleurage
   -Thoracic inlet release
   -Abdominal diaphragm release
   -Knee SCS
5. Describe special considerations for use of Osteopathic procedures.

**Post-op ileus**
1. Describe major anatomy, physiology, and pathophysiology of the surgical abdomen.
2. Describe autonomic innervation of abdomen structures.
3. Discuss the rationale, physiologic response, and anticipated clinical benefit for listed Osteopathic procedures on post-operative ileus:
   -OA decompression
   -Sacral rocking
   -Pedal pump
4. Describe special considerations for use of Osteopathic procedures.
5. Describe contraindications for listed Osteopathic procedures.
How to Succeed in Your Surgical Rotation

**Approach to Study**
1. Obtain a basic surgical textbook (see above)

2. If possible, read about each surgical procedure BEFORE assisting in the case.

3. Review the pertinent *regional* anatomy

4. Keep a case-log of EACH and EVERY procedure you observe, assist on, or participate in.

5. Participation in night-call is encouraged at the 4th year level. **Night call for 3rd year students is not especially encouraged.** Third-year medical students will make better use of their time, during the day, by exposing themselves, to selective ELECTIVE operations, and spending after-hours, reading the suggested references and/or articles. While it is true, most of the best cases occur after midnight, such fortitude is reserved for the more experienced—and, at the third-year level, holding a retractor, while falling asleep, is not educational.

6. For those of you rotating in larger facilities where interns and residents are also based, please take every opportunity to learn from them as well as their attending physicians.

   Please keep a record of each and every procedure you observe, assist on, or participate in. You should include (a) the patient’s ID number, (b) the attending senior surgeon, (c) date, (d) the name of the operation performed, and (e) your involvement [i.e., observation vs. assisting].

   The logs must be completed and entered in the E*value system\(^1\) by the end of the rotation. Entries not completed by this time will result in an automatic drop in your FINAL course grade (e.g., high pass to pass).

**Educational Content of Your Surgical Rotation**

The student will be expected to have a base-line exposure to common, basic, surgical problems and diseases. The list of schemes, with associated required readings, can be found on the Blackboard® site as managed by ATSU ([https://mycourses9.atsu.edu/](https://mycourses9.atsu.edu/)).

At a **minimum**, the student **must**\(^2\) be exposed to the following:

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\(^1\) [https://www.e-value.net/login.cfm](https://www.e-value.net/login.cfm)

\(^2\) All surgical rotations may not include ALL of these operative exposures. We understand this. However, these operations represent a core rotation for a medical student. If this benchmark is not met, you should speak with your RDME, Clerkship Director, or attending surgeon to see how you can gain more exposure to other general surgical cases.
a. Biliary colic (cholecystectomy)
b. Appendicitis (appendectomy)
c. Hematochezia (colonoscopy)
d. Hematemesis, Barrett’s esophagitis, GERD (upper endoscopy)
e. Phlebosclerosis (central line insertion)
f. Small bowel obstruction (adhesiolysis)
g. Pneumothorax (chest tube insertion)
h. Colon cancer, colon polyps, colitis (colonoscopy)
i. Anal fissure, fistula, and/or hemorrhoids (hemorrhoidectomy and/or lateral internal anal sphincterotomy)
j. Hernia (inguinal or incisional) (repair)

Grading

Grade Format
All of the courses in OMS III and OMS IV are “honors”, “high pass”, “pass”, “low pass”, and “fail” per the following point scale:

- \( >4.75 \) = Honors
- \( 4.0-4.75 \) = High Pass
- \( 3.0-3.9 \) = Pass
- \( 2.1-2.9 \) = Low Pass
- \( <2.0 \) = Fail

In order to pass this course, you will need to complete the following:

Clinical Rotation Evaluation (CRE) = 40% of overall Grade
Students will need to receive a passing score on the Clinical Rotation Evaluation (CRE) for each four-week course section (rotation) of the course.

CRE = 0 - 5 points
- \( >4.75 \) = Honors
- \( 4.0-4.75 \) = High Pass
- \( 3.0-3.9 \) = Pass
- \( 2.1-2.9 \) = Low Pass
- \( <2.0 \) = Fail

Subject or Course Exam (COMAT) = 40% of overall grade
At or near the end of the rotation, you will be required to take and pass a subject or course exam (COMAT). The content of the exam is based on clinical presentations most frequently seen on rotation. Most, if not all of these presentations were addressed in the OMS I and OMS II courses. Many of the presentations are covered in the rotation syllabus. You must receive a passing score.
on the COMAT Exam linked to this course to pass the course; and the score is worth 40% of the overall grade.

There is a very strong probability that some clinical presentations covered in the COMAT may not be addressed directly in the syllabus. There is a possibility that some of the clinical presentations covered in the COMAT may not have been observed during the rotation.

**COMAT = 0 – 5 points (to convert the standard score to a 5-point scale, use rubric)**

- >1.0 D above national mean = Honors: 110+
- 0.1-0.99 SD above national mean = High Pass: 101 – 109
- National mean to 0.99 SD below national mean = Pass: 91 – 100
- 1.0 below to 1.5 SD below national mean = Low Pass: 90 – 85
- more than 1.5 SD below national mean = Fail: 84 or lower

**End of Rotation Exam = 20% of overall grade**

Multiple Choice Examination based on textbook readings will make up 20% of the overall grade. Exam will be graded as follows:

- >4.75 = Honors
- 4.0-4.75 = High Pass
- 3.0-3.9 = Pass
- 2.1-2.9 = Low Pass
- < 2.0 = Fail

At any time during the rotation, (preferably, during the last week of the core rotation in surgery) the student may take the on-line (Blackboard™) 100 question, multiple-choice examination. This examination is generated by the Clerkship Director and made available to you via Blackboard. It may require the use of Respondus¹ Monitor™ or the Lock-Down Browser™2. As such, it must be taken on a Windows-10™ compatible device.

NO EXCEPTIONS. Do NOT take any of the examinations on your iPhone, iPad, or Droid-compatible device. Please use a WIRED-Ethernet desktop computer.

This examination must be taken via a wired internet connection. IF YOUR LAPTOP DOES NOT ALLOW FOR A WIRED CONNECTION, YOU MUST TAKE THE EXAMINATION ON A COMPUTER WITH A WIRED CONNECTION. NO EXCEPTIONS.

Should a student fail the on-line Blackboard multiple choice surgery exam (this is NOT the COMAT—that’s a separate exam), one re-take will be allowed. You must notify the course director of your failure so he/she may reset the examination in BlackBoard™ and allow you to

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retake the examination. *If you fail the examination twice, the average score, of your two attempts, will be entered into the calculation for your final grade for the surgery rotation. If you fail the examination once and are successful on your 2nd try, and that re-take score is higher than the highest Low Pass score, you will receive the highest Low Pass score. SCORES ARE NOT ROUNDED UP.*

**This Course-Director-generated examination must be completed by the end of the rotation.** If it is not completed within this time, you will receive a score of 0 and fail this exam.

**Failures and Remediation**

Students are required to repeat failed clinical rotations with a preceptor other than the initial preceptor. If the student fails a subject exam (COMAT®), the student must retake the subject exam as specified in the SOMA Catalog and rotation manual. A failing grade on the CRE will result in a failure in the course.

**Course Requirements and Expectations**

**Student Evaluation of Rotation (SER)**

Submission of the Student Evaluation of Rotation (SER) is REQUIRED for completion of the course. The grade for the clerkship course will not be submitted to the registrar until the evaluation is received.

**Clinical Documentation (Case Log) Requirements (PxDx)**

Logging of every clinical interaction via the E*Value electronic log system is a course requirement and a professional responsibility of every student on every rotation in OMS III and OMS IV. Log information will be used to evaluate the volume and variety of student experiences. 100% of encounters must be logged. Failure to log clinical interactions will result in lowering course grade one level, and may adversely affect the student’s professionalism score for the rotation. Failure to log may also be commented upon in the Medical Student Performance Evaluation (MSPE) formerly known as the Dean’s Letter.

Course Director will review all logs, and determine if logging is 100% AND adequate in volume and variety. In the event the course director does not feel that the student has sufficient logs, the Course Director will note a failure for logs and the students overall grade will be lowered one level (i.e. the CRE, COMAT and Weekly Assignments averaged to be a “High Pass”, inadequate logs reduce the overall grade to a “Pass”). Periodic audits of clinical activity compared to logs could result in serious concerns about adherence to professional responsibilities. Completion of logging 100% of patient interactions is **NOT** optional. Concerns about professionalism will be considered for referral to the Student Performance Committee.
Professionalism and Academic Honesty

An essential aspect of the SOMA curriculum is the development of professional behaviors among students. SOMA considers breeches in professional conduct and/or academic honesty as serious academic deficiencies. The ATSU University Handbook ([Click HERE for ATSU Student Handbook!](#)) has important information with respect to professionalism including a Code of Academic Conduct and Code of Behavioral Standards. The course director expects professional behavior and academic honesty at all times during this course.

Academic Adjustments

The University can make accommodations for students with documented disabilities who are otherwise qualified. Students with disabilities are encouraged to contact the Disability Resources Advisor. Requests for accommodations must be made in writing to the Disability Resources Advisor. The contact information for the Disability Resources Advisor is as follows:

Disability Resources Advisor  
5850 E. Still Circle  
Mesa, AZ 85206  
480-245-6248  
krjones@atsu.edu

The Disability Resources Advisor will confer with the student and may request documentation and may refer the student for individual assessment by qualified experts. The ATSU Technical Standards and Accommodations Committee shall review any requests for accommodations. The Committee determines whether there are disabilities as protected by the Americans with Disabilities Act and/or Section 504 of the Rehabilitation Act and then decides if reasonable accommodations can be made without fundamentally altering the essential nature of the school’s program or instruction being pursued.

The Committee makes recommendations for or against accommodations to the Director - Learning & Disability Resources who then will notify the student and the appropriate faculty and staff members who have an educational need to know. Within ten (10) days of receiving the Committee’s determination from the Director - Learning & Disability Resources a student can appeal the decision in writing to the dean of the appropriate school.

Course Director Office Hours

The course director may be contacted by email or phone at any time. It is expected that the course director will answer a student within 24 hours during normal working days, and by Monday if contact is made over the weekend. Email addresses and phone numbers are listed on the first page of this syllabus.
Appendix

AOA Core Competencies

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<tr>
<th>Domain</th>
<th>Competency</th>
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<tbody>
<tr>
<td>1. Osteopathic Philosophy and Osteopathic Manipulative Medicine</td>
<td>Physicians are expected to demonstrate and apply knowledge of accepted standards in Osteopathic Manipulative Treatment (OMIT) appropriate to their specialty, remain dedicated to life-long learning, and to practice habits in osteopathic philosophy and manipulative medicine.</td>
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<tr>
<td>2. Medical Knowledge</td>
<td>Physicians are expected to demonstrate and apply knowledge of accepted standards of clinical medicine in their respective specialty area, remain current with new developments in medicine, and participate in life-long learning activities, including research.</td>
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<td>3. Patient Care</td>
<td>Physicians must demonstrate the ability to effectively treat patients and provide medical care that incorporates the philosophy, patient empathy, awareness of behavioral issues, the incorporation of preventive medicine, and health promotion.</td>
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<td>4. Interpersonal and Communication Skills</td>
<td>Physicians are expected to demonstrate interpersonal and communication skills that enable them to establish and maintain professional relationships with patients, families, and other members of the health care team.</td>
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<td>5. Professionalism</td>
<td>Physicians are expected to uphold the Osteopathic Oath in the conduct of their professional activities that promote advocacy of patient welfare, adherence to ethical principles, collaboration with health professionals, life-long learning, and sensitivity to a diverse patient population. Physicians should be cognizant of their own physical and mental health in order to effectively care for patients.</td>
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<tr>
<td>6. Practice-Based Learning and Improvement</td>
<td>Physicians must demonstrate the ability to critically evaluate their methods of clinical practice, integrate evidence-based medicine into patient care, show an understanding of research methods, and improve patient care practices.</td>
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<tr>
<td>7. Systems-Based Practice</td>
<td>Physicians are expected to demonstrate an understanding of health care delivery systems, provide effective and qualitative patient care within the system, and practice cost-effective medicine.</td>
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Changes to the Syllabus

The syllabus for this course may change at the discretion of the course directors. As a general policy, SOMA course directors alter syllabi only when absolutely necessary.

Students will be notified by the course directors or course facilitator in writing of any changes in course requirements or policies.