I. Rotation Description
During the fourth year of the curriculum, students expand their knowledge of emergent conditions and gain the ability to apply the knowledge in the clinical setting. The curriculum is taught through emergency medicine grand rounds, reading assignments and through the one-on-one student-preceptor experience in caring for patients in the emergency setting. Students are expected to complete their modules and research literature regarding current cases they see in the emergency room.

II. Course Goals and Objectives

A. Goals of the Course
The goal of the Fourth Year Emergency Medicine rotation is to provide learning opportunities that will enable students to develop the knowledge, skills, and attitudes necessary to:

1. Recognize, triage and provide initial management of common urgent and emergent medical/surgical problems in patients of any age or gender.
2. Acquire basic and advanced manual skills in the management of common urgent/emergent medical/surgical problems.
3. Assess patients quickly and efficiently, according to the urgency of the patient's problem.
4. Work as a member an emergency department team.
5. Understand the role of consultants within the framework of an emergency department.
B. Objectives of the Course

1. Understanding of the principles of early intervention, including:
   a. Prehospital emergency care.
   b. Emergency medicine concepts.
   c. Prioritization and triage
   d. Stabilization for transport
   e. Simultaneous triage of multiple trauma patients or patients with serious medical illnesses.
   f. Efficient resource utilization
   g. Access to consultants or information

2. Understanding of the assessment and management of emergency situations, including:
   a. Trauma: primary and secondary assessment of a trauma patient with multiple injuries, by mechanism of injury (blunt vs penetrating trauma), by site of injury (head, eye, chest, spinal cord and bony spine, abdomen, extremity, urogenital system)
   b. Neurologic emergencies: the comatose patient, status epilepticus, spinal cord compression, stroke, syncope
   c. Psychiatric emergencies: acute psychiatric breaks, suicidal patients, situational crisis, psychosis, domestic abuse issues
   d. Burns: classification, outpatient management of first and second degree burns, fluid replacement protocols, indications for hospitalization/consultation
   e. Violent patients
   f. Obstetric and gynecologic emergencies: sexual assault, ectopic pregnancy, miscarriage, preeclampsia and eclampsia, vaginal hemorrhage
   g. Victims of violence
   h. Pediatric emergencies: the injured child, musculoskeletal trauma, acute abdomen, fever and sepsis, metabolic crises, child abuse

3. Identifying those osteopathic clinical skills that provide an advantage in the clinical setting in differential and final diagnosis of cases including:
   a. The osteopathic structural exam
   b. Palpatory and observation skills of structure and function
   c. Advanced musculoskeletal examination skills
   d. Neurologic evaluation skills

4. Providing where appropriate the osteopathic clinical skills in the treatment of:
   a. Somatic dysfunction
   b. Sprains
   c. Muscular strains
   d. Dislocations
   e. Edema reducing techniques

5. Identify in the use of osteopathic principles and concepts the need to:
   a. Assure the patient’s psychosocial needs are met
   b. Assure the whole-person concept is realized in that injury or illness in one system may be related to dysfunction in additional systems.

6. Understanding of the management of critical care situations, including:
   a. Acute respiratory problems and airway obstruction
b. Arrhythmias: asystole, ventricular tachycardia, ventricular fibrillation, bradycardia, supraventricular

c. Cardiac arrest

d. Ischemic heart disease: acute MI (thrombolysis), cardiogenic shock, unstable angina

e. Cardiovascular pharmacology


g. Other cardiovascular crises: aneurysms of thoracic or abdominal aorta, traumatic diaphragmatic injury

h. Acid/bases issues

i. Shock: hypovolemic, restrictive, neurogenic, cardiogenic, septic

j. Infectious disease emergencies (meningitis, toxic shock)

7. Understanding of the interpretation of diagnostics, including:
   a. EKG
   b. Radiographs: cervical spine, chest, abdominal series, pelvis, long bones, basic unenhanced head CT
   c. Monitors (cardiac and pulse oximetry)

8. Understanding of environmental exposures, including:
   a. Bites and stings
   b. Human, dog and cat bites
   c. Poisonous plants
   d. Inhalations
   e. Hypersensitivity/anaphylaxis

9. Understanding of toxicologic emergencies, including:
   a. General approach to the poisoned patient
   b. Access to poison control data bases
   c. Basic decontamination procedures
   d. Consultation/definitive management

10. Understanding of disease prevention, including immunization (active and passive), antibiotic prophylaxis

11. Basic fracture/dislocation management:
   a. Simple dislocations of fingers and toes
   b. Radial head dislocation
   c. Anterior glenohumeral dislocation
   d. Patellar dislocation
   e. Simple undisplaced fractures of fingers and toes, metacarpals, metatarsals, radius, ulna, humerus, rib
   f. Compression fractures of thoracic and lumbar vertebrae
   g. Undisplaced pubic rami pelvic fracture

12. Identifying and appropriately applying the careful and judicial use of osteopathic manipulation in the department setting.

13. The competence required to achieve the following certifications:
   a. Basic cardiac life support (BCLS)
   b. Advanced cardiac life support (ACLS)
c. Pediatric advanced life support (PALS)
d. Advanced life support in obstetrics (ALSO)

14. Proficiency in the following techniques:
   a. Acute MI protocol.
   b. Peripheral IV access
   c. Lumbar puncture
   d. Simple laceration repair
   e. Simple splinting of fractures
   f. Local blocks
   g. Cast/splinting
   h. Optimizing airway patency
   i. Bag-mask-valve ventilation

15. Understanding of the following procedures and techniques:
   a. Intraosseous infusion
   b. Central lines with ultrasound guidance
   c. Procedural Sedation
   d. Complex lacerations
   e. Endotracheal intubation
   f. Regional blocks
   g. Defibrillation/cardioversion
   h. Pericardiocentesis
   i. External cardiac pacing

III. Rotation Design

A. Educational Modules
   Educational modules using SAEM cases are used in the Emergency Medicine 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. never or infrequently, some of the time but less than half the time, greater than half the time, or the majority of the time, etc.).
C. Logging Patient Encounters and Procedures
Students are required to maintain a log to identify the procedures performed and the number of essential patient encounters in the CREDO application. 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 CREDO entries with their preceptor during the rotation period.

IV. Credits
4 credit hours

V. Course Texts
A. Required Textbooks
  - Chapter 12: Sudden Cardiac Death
  - Chapter 13: Basic Cardiopulmonary Resuscitation in Adults
  - Chapter 25: Approach to the Patient in Shock
  - Chapter 26: Fluid and Blood Resuscitation
  - Chapter 27: Anaphylaxis, Acute Allergic Reactions, and Angioedema
  - Chapter 22: Cardiac Rhythm Disturbances
  - Chapter 36: Defibrillation and Cardioversion
  - Chapter 30: Tracheal Intubation and Mechanical Ventilation
  - Chapter 35: Cardiac Pacing
  - Chapter 36: Defibrillation and Cardioversion
  - Chapter 52: Chest Pain: Cardiac or Not
  - Chapter 53: Acute Coronary Syndromes: Acute Myocardial Infarction and Unstable Angina
  - Chapter 54: Cardiogenic Shock
  - Chapter 56: Syncope
  - Chapter 57: Congestive Heart Failure and Acute Pulmonary Edema
  - Chapter 65: Respiratory Distress
  - Chapter 68: Community-Acquired Pneumonia, Aspiration Pneumonia, and Noninfectious Pulmonary Infiltrates
  - Chapter 71: Spontaneous and Iatrogenic Pneumothorax
  - Chapter 72: Acute Asthma in Adults
  - Chapter 73: Chronic Obstructive Pulmonary Disease
  - Chapter 74: Acute Abdominal Pain
  - Chapter 78: Upper Gastrointestinal Bleeding
  - Chapter 79: Lower Gastrointestinal Bleeding
  - Chapter 94: Urinary Tract Infections and Hematuria
  - Chapter 99: Vaginal Bleeding in the Nonpregnant Patient
  - Chapter 100: Abdominal and Pelvic Pain in the Nonpregnant Female
  - Chapter 101: Ectopic Pregnancy and Emergencies in the First 20 Weeks of Pregnancy
  - Chapter 104: Maternal Emergencies After 20 Weeks of Pregnancy and in the Postpartum Period
  - Chapter 107: Pelvic Inflammatory Disease
  - Chapter 146: Septic Shock
  - Chapter 159: Headache and Facial Pain
  - Chapter 161: Stroke, Transient Ischemic Attack, and Cervical Artery Dissection
  - Chapter 162: Altered Mental Status and Coma
  - Chapter 164: Vertigo and Dizziness
  - Chapter 165: Seizures and Status Epilepticus in Adults
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.
- Completion of all Clinical Modules in the required curriculum.
- Logging Patient Encounters and Procedures in CREDO:
  - Students are required to log all patient encounters and procedures into the CREDO application. 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 CREDO 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. CREDO can be accessed at: https://credo.education/
- Rotation Evaluations:
  - Student Site Evaluation: Students must complete and submit at the end of rotation. See the VCOM website at: http://intranet.vcom.vt.edu/clinical/Login/index.cfm?fuseaction=LoginInfo&LoginPage=ViewStudentSchedule to access the evaluation form. (LINK Does not work for me)
  - Fourth-Year Preceptor Evaluation: It is the student's responsibility to ensure that all clinical evaluation forms are completed and submitted online or turned in to 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: www.vcom.edu/academics/clinical-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: www.vcom.edu/academics/clinical-forms to access the mid-rotation evaluation form.

B. Grading
The clinical rotation grade uses the Honors, High Pass, Pass, Fail system; these grades are not calculated in the GPA. The rotation modules are assigned an exam grade.

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<th>Clinical Grading Scale and GPAs</th>
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<td>OMS 4Clinical Rotation Grades</td>
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B. Remediation

Students who fail one or more rotations 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 Professionalism and Ethics 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 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. In this case, the “F” grade remains the permanent grade for the initial rotation and the student will receive a new grade for the repeated rotation. The grade will be recorded in a manner that designates that it is a repeated rotation (eg. R-pass).

- **Failure to Make Academic Progress**
  Repeated poor 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. In general, rotations should show a progression of improvement in clinical performance. Those students who receive a mere “Pass” on multiple rotations and/or maintain a “CP” on one or more rotations after final grades are received, 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. In general, rotations should show a progression of improvement in performance. 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 Professionalism and Ethics 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 Behavioral Board or Promotion Board hearing. 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. Repeated poor a 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 and the preceptor, and the Promotion Board. In general, rotations should show a progression of improvement in clinical performance.

VII. **Academic Expectations**

Grading policies, academic progress, and graduation requirements may be found in the College Catalog and Student Handbook at: [http://www.vcom.edu/handbooks/catalog/index.html](http://www.vcom.edu/handbooks/catalog/index.html)

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 12 out of every 14 days
    - Students 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 2 of 7 days per week free.

- 2 week rotations may not be less than 10, eight hour days for a total of a minimum of 80 hours and often average 100 hours or greater.
  - If the clinical site requires longer daily hours or shift work, the student may complete the required hours in less than 10 days with the following specifications:
    - Students should not work greater than 12 out of every 14 days.
    - Students should not work more than 12 hours daily, exclusive of on-call assignments, and may not complete the 2 week rotation in less than 1 week.
    - 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 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 or less than 80 hours for a 2 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 to 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 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: www.vcom.edu/academics/clinical-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 of 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 and 80 hours for a 2 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 and OMS 4 students who have any unexcused absences will be referred to the PESB.

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 at: http://www.vcom.edu/handbooks/catalog/index.html

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 at: http://www.vcom.edu/handbooks/catalog/index.html