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
Goals: 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.

Objectives: Upon completion of this rotation, students will demonstrate:

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, preclampsia 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
c. 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. Procedure Log
   Students are required to maintain a log to identify the procedures performed, and the number of essential patient encounters.

IV. Credits
   4 credit hours

V. Course Texts
An Introduction to Clinical Emergency Medicine by Mahadevan and Garmel, 2nd ed. Chapter 1: Approach to the emergency department
Chapter 3: Cardiopulmonary and cerebral resuscitation
Chapter 4: Cardiac dysrhythmias
Chapter 5: Septic Shock
Chapter 6: Shock
Chapter 10: Abdominal pain
Chapter 11: Abnormal behavior
Chapter 13: Allergic reactions and anaphylactic syndromes
Chapter 14: Altered mental status
Chapter 17: Chest pain
Chapter 21: Diabetes – related emergencies
Chapter 23: Dizziness and vertigo
Chapter 27: Fever in Adults
Chapter 29: Gastrointestinal bleeding
Chapter 30: Headache
Chapter 34: Pelvic pain p.
Chapter 37: Seizures
Chapter 38: Shortness of Breath
Chapter 40: Syncope
Chapter 41: Toxicologic emergencies
Chapter 42: Urinary – related complaints
Chapter 43: Vaginal bleeding

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.
   - Procedure Log:
     o Please submit completed procedure logs electronically on the VCOM Portal by the last day of the rotation.
     o During the rotation, keep track of the number of each procedures you perform or witness.
   - Rotation Evaluations:
     o 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.
     o 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/evaluation-forms to access the 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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B. Remediation
Students who fail one or more rotations or more than one post-rotation exam will be reviewed and referred to the Promotion 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. A student may appeal to the Campus Dean for consideration only after the Promotion Board has met and only if new and meaningful information exists for the appeal. 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.

- **Failure to Make Academic Progress**
  Any additional curriculum or required remediation will be based on the performance measure. In general, rotations should show a progression of improvement in performance.

  Students who receive a mere "pass" on a rotation may be counseled about overall performance. Pass level performance is anticipated from time to time on one entry but not on the overall evaluation. Students who receive several rotations at the overall performance level of "pass" may be required to perform additional curriculum to improve 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 may be deemed as not making academic progress and, as a result, may be required to complete additional curriculum or may be referred to the Promotion Board.

  In addition, repeated performance of a specific competency area where many items performed in a specific category or across categories are rated as never, or seldom, will be a reason for remediation at the discretion of the Associate Dean for Clinical Affairs in consultation with the clinical chair, the preceptor, and/or the Promotion Board.

  Poor ratings on the clinical rotation evaluation in the professional and ethical areas of the assessment of a student are addressed by the Associate Dean for Clinical Affairs and may result in a remediation appropriate to correct the behavior or referral to the Professionalism and Ethics Board. In the case of repeated concerns in a professional and/or ethical area, or in the case the Associate Dean for Clinical Affairs deems this to be concern in professional and ethical behaviors, the Associate Dean 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.
• **Failure of a Rotation**
  All rotations on which a student receives a failing rotation grade must be repeated. The grade earned on the repeated clinical rotation will be recorded on the transcript. The prior U (Unsatisfactory - Fail) grade will also remain on the transcript. Students who fail a clinical rotation are referred to the Promotion Board who may require the student to complete additional curriculum, repeat an academic year, or be dismissed from VCOM. Failing of a rotation will result in academic probation.

• **Failure of Multiple Rotations or Repeat Rotations**
  Students who have a repeat failure or fail more than one rotation will always come before the Promotion Board.

VII. **Academic Expectations**
Grading policies, academic progress, and graduation requirements may be found in the *College Catalog and Student Handbook* at: [www.vcom.vt.edu/catalog/](http://www.vcom.vt.edu/catalog/).

A. **Attendance**
Attendance for all clinical rotations is mandatory. Students are required to work a minimum of 20 days in a four week rotation period but should not work greater than 12 out of every 14 days or more than 12 hours daily exclusive of call assignments. Students may be required to work up to 24 days in a 4 week period or 25 days in a one month rotation including call and weekends at the discretion of the clinical faculty member providing the educational experience. For those rotations consisting of shift work such as Emergency Medicine or Hospitalist services, students should work a minimum of 160 and up to 200 hours for the month as required by the clinical site.

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.

Students must complete an Excused Absence Clinical Rotations Approval form. Forms are available from the Office of Clinical Affairs or from the Frequently Requested Forms web page at: [www.vcom.edu/clinical/rotationforms.html](http://www.vcom.edu/clinical/rotationforms.html). The Office of Clinical Affairs requires that the medical student complete and submit this form for any time "away" from clinical rotations. The student must have this form signed by their preceptor and others designated on the form to obtain an excused absence. 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 by 8:00 AM of the day they will be absent due to an illness or emergency and contact the Site Coordinator and preceptor(s). 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 complete a minimum of 160 hours.

OMS 4 students who have any unexcused absences will be referred to the Promotion Board and/or Professional and Ethics Standards Board as determined by the Associate Dean. Clinical site coordinators and preceptors document attendance on the student’s rotation evaluation form. This information is reviewed by the Director of 3rd Year Clinical Rotations and the Associate Dean for Clinical Affairs.

A student is 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 a reason for a referral to the Promotion Board and/or Professional and Ethics Standards Board.
Board as determined by the Associate Dean. Any time missed must be remediated during the course of the month 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.

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: www.vcom.vt.edu/catalog/.

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: www.vcom.vt.edu/catalog/.