MED 819: Medical ICU (Roper)

Course Director: Edward Kilb, MD
Email: kilbiii@musc.com

Unit Director: Jason Gunn, MD
Email: jgunn@charlestonpulmonary.com

Course Coordinator: Mary Ann Snell
Telephone #: 843-792-7282
Email: snellma@musc.edu

BLOCK	#	BLOCK	#	BLOCK	#	BLOCK	#	BLOCK	#
Block 1	1	**Block 3**	1	**Block 5**	1	**Block 7**	1	**Block 9**	1
Block 1A		Block 3A		Block 5A		Block 7A		Block 9A	
Block 1B		Block 3B		Block 5B		Block 7B		Block 9B	
Block 2	1	**Block 4**	1	**Block 6**	1	**Block 8**	1	**Block 10**	1
Block 2A		Block 4A		Block 6A		Block 8A		Block 10A	
Block 2B		Block 4B		Block 6B		Block 8B		Block 10B	

COURSE DESCRIPTION:
Fourth-year medical students will work with interdisciplinary critical care teams lead by Pulmonary and Critical Care physicians at a large community medical ICU. Students will be directly involved in assessing, stabilizing, and treating critically ill patients with a variety of complex medical diseases such as sepsis, respiratory failure, shock, renal failure. Students will become familiar with the basics of mechanical ventilation, intravenous fluids, shock and vasoactive medications, procedural indications and end-of-life care issues in the ICU. Students will observe and potentially perform invasive procedures.

Students will participate in a mandatory orientation day to cover essential critical care subject matter. Participation is expected at all simulation-based procedural skills modules unless absence is excused. Students will be expected to work at least 20 shifts. Make-up dates for unexcused absences will take place the final weekend of the rotation and then at the discretion of the unit director. There is no expectation of night call, but it can be offered by the unit director as an integral learning experience or as make-up for unexcused absences. This rotation is recommended for students looking to match in Internal Medicine, Family Medicine, Emergency Medicine and other non-surgical, non-pediatric subspecialties.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Assess a critically ill patient and develop a timely, prioritized, and evidence-based plan for initial stabilization. (PC1, PC3)
2. Apply knowledge to develop evidence-based clinical plans for critically ill patients, including appropriate use of hemodynamic monitoring, application of ventilator modes and settings, and initiation and titration of vasomotor support. (MK4, MK5, PC3, PC6)
3. Be able to obtain Informed Consent for diagnostic and therapeutic tests and procedures including verbalization of risks, benefits and alternatives. (PC3, PC7, ICS1, SBP3)
4. Participate in and potentially perform procedures under direct supervision, including placement of arterial lines and central venous catheters while learning proper sterile technique. (MK8, PC7)
5. Demonstrate skills in the utilization of bedside Point-of-Care ultrasound for diagnosis in appropriate ICU patients. (PC1, MK5)
6. Identify relevant information in the primary medical literature regarding their patients' disease states, and incorporate information from the literature into presentations and documentation. (PL3, CS5)
7. Demonstrate effective and professional interpersonal and communication skills, and model ethical behavior. (CS1, PR1, PR2)
8. Demonstrate empathy and discuss end of life issues with the patient and family including giving bad news. (PC1, PC3, CS1, CS2, CS3, PR3, PR1, PR2)
9. Perform a basic family meeting to discuss goals of care including discussing and obtaining code status. (PC1, PC4, CS1, CS2, CS3, CS4, PR1, PR2, PR3)
10. Work within a multidisciplinary team on daily rounds as an effective team member including mitigating patient risk and early identification of potential medical errors. (PR1, SL4, IP2, IP3, IP4)
11. Understand quality improvement metrics in the ICU and the team's role in reducing hospital acquired infections including VAP, CAUTI, CLASBI, etc. (MK7, PR4, PL4, PL5, PL6, SL3, IP4)
12. Concisely summarize a patient's critical illness and hand off important clinical information efficiently to other team members and consultants. (CS1, CS5, IP1, IP2, IP3, PC6)
13. Demonstrate an understanding of the pharmacology of sedation in the ICU including the prevention and treatment of pain, agitation and delirium (MK2, MK3, MK4, MK5, PC3, PL4)
14. Demonstrate a knowledge of airway management devices including high flow nasal cannula, NIV, BVM, LMA and endotracheal intubation. (MK1, MK4, MK8, PC6, PC7, CS1, CS2, PR3, PL2)
15. Describe the basic aspects of antimicrobial treatment and rational use of anti-infective therapeutic agents, as well as the negative patient complications of antimicrobial overuse. (PC3, PC6, PL3, PL6)
16. Understand the differential diagnosis, evaluation and management for Acute Kidney Injury (AKI) through lab interpretation and radiological studies including the indications for acute dialysis therapy. (MK1, MK3, MK4, MK5, MK7, PC1, PC2, PC3, CS1)

17. Write complete and succinct systems based medical plan with H&Ps and daily progress notes in EPIC. (MK3, MK4, MK5, PC2, PC3, PC6, CS1, CS5, PR1, PR4, PR5)

INSTRUCTIONAL METHODOLOGIES AND ROTATION ACTIVITIES: Students on this rotation will be expected to learn and achieve the educational goals and objectives through the following methodologies and activities:
1. Students will participate in all aspects of care including initial assessment, diagnosis, management and patient/family communication and decision making for critically ill patients.
2. Students will be expected to present their patients on rounds, and patient-centered clinical and educational topics will be discussed
3. Students will receive instruction in ventilator management, central line use, and invasive and non-invasive hemodynamic monitoring.
3. Students will learn about pharmacotherapy in the ICU, including vasopressors, antibiotics, and sedatives, and analgesic medications.
4. Students will have the opportunity to learn about and potentially perform a variety of procedures, including central venous catheter placement, arterial catheter placement, paracentesis, and thoracentesis.
5. Students will learn the principles of bedside point-of-care ultrasonography including thoracic, abdominal and bedside echocardiography.
6. Students will attend and participate in didactic teaching session and simulation modules as part of the curriculum

PATIENT ENCOUNTERS: Students will be expected to work-up patients with conditions from all organ systems, including:
1. Acute hypoxic/hypercarbic respiratory failure due to pneumonia, acute respiratory distress syndrome, COPD, or other processes
2. Shock due to distributive pathophysiology (e.g., septic shock), cardiogenic compromise, obstructive mechanisms, or hypovolemia
3. Acute renal failure including hyperkalemia, pulmonary edema, refractory acidemia and necessitating acute hemodialysis
4. Neurologic conditions such as pain management, coma, encephalopathy, CVA and delirium

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. E*Value Clinical Performance Evaluation
2. Direct observation of patient care skills by the attending physician, fellows, and residents on service.
3. Attending physicians and fellows will provide students with a verbal evaluation at end of rotation.
4. Students will give their attending a mid-point evaluation form for performance assessment.

MED 820: Allergy & Immunology

Course Director: John Ramey, MD
Telephone #: 843-729-2374
Email: rameyjt@musc.edu, johnrameymd@gmail.com

Course Coordinator: Mary Ann Snell
Telephone #: 843-792-7282
Email: snellma@musc.edu

BLOCK	#	BLOCK	#	BLOCK	#	BLOCK	#	BLOCK	#
Block 1	1	**Block 3**	1	**Block 5**	1	**Block 7**	1	**Block 9**	1
Block 1A		Block 3A		Block 5A		Block 7A		Block 9A	
Block 1B		Block 3B		Block 5B		Block 7B		Block 9B	
Block 2	1	**Block 4**	1	**Block 6**	1	**Block 8**	1	**Block 10**	1
Block 2A		Block 4A		Block 6A		Block 8A		Block 10A	
Block 2B		Block 4B		Block 6B		Block 8B		Block 10B	

Does this rotation accept visiting students? ☐ YES ☒ NO

COURSE DESCRIPTION:
Students will see both adult and pediatric patients 5 days a week in outpatient allergy clinics (West Ashley, Mt. Pleasant, N. Charleston, and Moncks Corner). Students will learn about asthma, allergic skin diseases, food allergies, insect allergies, and immune deficiencies. **Please call Dr. Ramey at 843-729-2374 for instructions about the rotation.** If you start on a Monday, please come to 1470 Tobias Gadsden, Unit 204, at 8:30AM. This course is also available as a 2-week rotation. Please contact Dr. Ramey for prior approval.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Diagnose and treat allergic and non-allergic rhinitis, asthma, atopic dermatitis, urticaria, and chronic sinusitis. (MK3, MK4, MK5, MK6, PC1, PC2, PC3)
2. Define indications for skin testing and immunotherapy. (MK5, PC3, PL2)
3. Demonstrate understanding of the economic complexity of running an outpatient office. (SL1, SL2, IP1, IP4)

INSTRUCTIONAL METHODOLOGIES AND ROTATION ACTIVITIES: Students on this rotation will be expected to learn and achieve the educational goals and objectives through the following methodologies and activities:
1. Will be given an allergy and immunology review book to read during the rotation.
2. Direct observation by faculty during direct patient care and review of other clinical and didactic activities (history and physical, progress notes, prescriptions, etc.
3. Students will take an ungraded quiz at the end of the rotation. Dr. Ramey will review the test with the student to help them evaluate knowledge.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Allergic and non-allergic rhinitis
2. Asthma and COPD
3. Atopic dermatitis, contact dermatitis, and urticaria
4. Recurrent infections
5. Food allergy

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. E*Value Clinical Performance Evaluation.
2. Direct observation by physician.
3. Students will give their attending a mid-point evaluation form half way through the rotation for performance assessment.
4. Written examination.
5. Staff interaction and interaction with patients.

Will students be expected to participate in call? ☐ YES ☒ NO

MED 829: Medical ICU (AnMed)

Course Director: Edward Kilb, MD
Email: kilbiii@musc.edu

Unit Director: Nathan Bradford, MD
Email: bradforn@musc.edu

Course Coordinator: Mary Ann Snell
Telephone #: 843-792-7282
Email: snellma@musc.edu

BLOCK	#	BLOCK	#	BLOCK	#	BLOCK	#	BLOCK	#
Block 1	1	**Block 3**	1	**Block 5**	1	**Block 7**	1	**Block 9**	1
Block 1A		Block 3A		Block 5A		Block 7A		Block 9A	
Block 1B		Block 3B		Block 5B		Block 7B		Block 9B	
Block 2	1	**Block 4**	1	**Block 6**	1	**Block 8**	1	**Block 10**	1
Block 2A		Block 4A		Block 6A		Block 8A		Block 10A	
Block 2B		Block 4B		Block 6B		Block 8B		Block 10B	

COURSE DESCRIPTION:
Fourth-year medical students will work with interdisciplinary critical care teams lead by Pulmonary and Critical Care physicians in a large community hospital setting. Students will be directly involved in assessing, stabilizing, and treating critically ill patients with a variety of complex medical diseases such as sepsis, respiratory failure, shock, renal failure. Students will become familiar with the basics of mechanical ventilation, intravenous fluids, shock and vasoactive medications, procedural indications and end-of-life care issues in the ICU. Students will observe and potentially perform invasive procedures.

Students will participate in a mandatory orientation day to cover essential critical care subject matter. Participation is expected at all simulation-based procedural skills modules unless absence is excused. Students will be expected to work at least 20 shifts. Make-up dates for unexcused absences will take place the final weekend of the rotation and then at the discretion of the unit director. There is no expectation of night call, but it can be offered by the unit director as an integral learning experience or as make-up for unexcused absences. **This rotation is solely available to students completing clinical rotations at MUSC AnMed Health Clinical Campus.**

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Assess a critically ill patient and develop a timely, prioritized, and evidence-based plan for initial stabilization. (PC1, PC3)
2. Apply knowledge to develop evidence-based clinical plans for critically ill patients, including appropriate use of hemodynamic monitoring, application of ventilator modes and settings, and initiation and titration of vasomotor support. (MK4, MK5, PC3, PC6)
3. Participate in obtaining Informed Consent for diagnostic and therapeutic tests and procedures including verbalization of risks, benefits and alternatives. (PC3, PC7, ICS1, SBP3)
4. Participate in and potentially perform procedures under direct supervision, including placement of arterial lines and central venous catheters while learning proper sterile technique. (MK8, PC7)
5. Identify relevant information in the primary medical literature regarding their patients' disease states, and incorporate information from the literature into presentations and documentation. (PL3, CS5)
6. Demonstrate effective and professional interpersonal and communication skills, and model ethical behavior. (CS1, PR1, PR2)
7. Demonstrate empathy and discuss end of life issues with the patient and family including giving bad news. (PC1, PC3, CS1, CS2, CS3, PR3, PR1, PR2)
8. Perform a basic family meeting to discuss goals of care including discussing and obtaining code status. (PC1, PC4, CS1, CS2, CS3, CS4, PR1, PR2, PR3)
9. Work within a multidisciplinary team on daily rounds as an effective team member including mitigating patient risk and early identification of potential medical errors. (PR1, SL4, IP2, IP3, IP4)
10. Understand quality improvement metrics in the ICU and the team's role in reducing hospital acquired infections including VAP, CAUTI, CLASBI, etc. (MK7, PR4, PL4, PL5, PL6, SL3, IP4)
11. Concisely summarize a patient's critical illness and hand off important clinical information efficiently to other team members and consultants. (CS1, CS5, IP1, IP2, IP3, PC6)
12. Demonstrate an understanding of the pharmacology of sedation in the ICU including the prevention and treatment of pain, agitation and delirium (MK2, MK3, MK4, MK5, PC3, PL4)
13. Demonstrate a knowledge of airway management devices including high flow nasal cannula, NIV, BVM, LMA and endotracheal intubation. (MK1, MK4, MK8, PC6, PC7, CS1, CS2, PR3, PL2)
14. Describe the basic aspects of antimicrobial treatment and rational use of anti-infective therapeutic agents, as well as the negative patient complications of antimicrobial overuse. (PC3, PC6, PL3, PL6)
15. Understand the differential diagnosis, evaluation and management for Acute Kidney Injury (AKI) through lab interpretation and radiological studies including the indications for acute dialysis therapy. (MK1, MK3, MK4, MK5, MK7, PC1, PC2, PC3, CS1)
16. Write complete and succinct systems based medical plan with H&Ps and daily progress notes in EPIC. (MK3, MK4, MK5, PC2, PC3, PC6, CS1, CS5, PR1, PR4, PR5)

INSTRUCTIONAL METHODOLOGIES AND ROTATION ACTIVITIES: Students on this rotation will be expected to learn and achieve the educational goals and objectives through the following methodologies and activities:
1. Students will participate in all aspects of care including initial assessment, diagnosis, management and patient/family communication and decision making for critically ill patients.
2. Students will be expected to present their patients on rounds, and patient-centered clinical and educational topics will be discussed
3. Students will receive instruction in ventilator management, central line use, and invasive and non-invasive hemodynamic monitoring.
3. Students will learn about pharmacotherapy in the ICU, including vasopressors, antibiotics, and sedatives, and analgesic medications.
4. Students will have the opportunity to learn about and potentially perform a variety of procedures, including central venous catheter placement, arterial catheter placement, paracentesis, and thoracentesis.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with conditions from all organ systems, including:
1. Acute hypoxic/hypercarbic respiratory failure due to pneumonia, acute respiratory distress syndrome, COPD, or other processes
2. Shock due to distributive pathophysiology (e.g., septic shock), cardiogenic compromise, obstructive mechanisms, or hypovolemia
3. Acute renal failure including hyperkalemia, pulmonary edema, refractory acidemia and necessitating acute hemodialysis
4. Neurologic conditions such as pain management, coma, encephalopathy, CVA and delirium

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. E*Value Clinical Performance Evaluation
2. Direct observation of patient care skills by the attending physician, fellows, and residents on service.
3. Attending physicians and fellows will provide students with a verbal evaluation at end of rotation.
4. Students will give their attending a mid-point evaluation form for performance assessment.

MED 832: A Month in the Research NEXUS

Course Director: Carol Wagner, MD
Email: wagnercl@musc.edu

Course Coordinator: Carissa Hasseler
Telephone #: 843-792-8446
Email: hasseler@musc.edu

BLOCK	#	BLOCK	#	BLOCK	#	BLOCK	#	BLOCK	#
Block 1	0	**Block 3**	5	**Block 5**	0	**Block 7**	0	**Block 9**	0
Block 1A		Block 3A		Block 5A		Block 7A		Block 9A	
Block 1B		Block 3B		Block 5B		Block 7B		Block 9B	
Block 2	0	**Block 4**	0	**Block 6**	0	**Block 8**	0	**Block 10**	0
Block 2A		Block 4A		Block 6A		Block 8A		Block 10A	
Block 2B		Block 4B		Block 6B		Block 8B		Block 10B	

Does this rotation accept visiting students? ☐ YES ☒ NO

COURSE DESCRIPTION:
This course is for MD/PhD students, other pre-doctoral trainees, and post-doctoral fellowship students ONLY. The objective of this elective is to help students write a translational research proposal in the format of a NRSA F32, R21, or mini-grant that expands on their current research interests. The course consists of research topic specialist lectures, literature review, completion of a mini-course covering basics of human subject regulations, active discussion about designing various clinical and translational research studies, development of a translational study including sample size calculation and power analysis, how to set up a study database, and how to statistically analyze data. Completion of this course will provide students with an excellent foundation in translational research, a relevant addition to a basic science base. Each student works with a mentor and obtains the assistance necessary to fully develop the clinical and/or translational study. At the end of the course, each student will formally present his/her proposal to members of the SCTR Research Nexus rotation course, his/her mentor, and selected other individuals.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Develop a clinical investigation protocol based on the student's dissertation and/or research interest.
2. Apply appropriate statistical approaches in developing a clinical protocol.
3. Demonstrate understanding of the basics of the informed consent process, IRB review, good clinical practice, strategies for patient recruitment/retention, standard operating procedures, study audits, adverse events/reporting, clinical trial budgets, and research misconduct.
4. Employ effective strategies for managing research teams.
5. Demonstrate understanding of the importance of preliminary data, rationale for methodology, and experimental design in the context of the presented research study.

INSTRUCTIONAL METHODOLOGIES AND ROTATION ACTIVITIES: Students on this rotation will be expected to learn and achieve the educational goals and objectives through the following methodologies and activities:
1. Lectures from various research topic specialists across campus.
2. Attend IRB and Scientific Review Committee meetings.
3. Literature review.
4. Rounds/discussions.
5. Participate in a mock review.
6. Attend a R21, F32 or mini-grant and Biostatistics - Power/Sample Size Consults.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
Not applicable

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods.
1. E*Value Research Evaluation.
2. Clinical/translational proposal.
3. Participation in discussions.
4. Interpersonal/communication skills.
5. Presentation of a final proposal.
6. Written proposal to be scored by two reviewers.
7. Final course satisfaction REDCap survey.
8. A mid-point evaluation will be completed halfway through the rotation in order for the student to be assessed on their performance.

9. Grading components - proposal 60%, participation in class 40%.

Will students be expected to participate in call? ☐ YES ☒ NO

MED 835: Palliative Care

Course Director: Jennifer Dulin, MD
Email: dulinj@musc.edu

Course Coordinator: Mary Ann Snell
Telephone #: 843-792-7282
Email: snellma@musc.edu

BLOCK	#	BLOCK	#	BLOCK	#	BLOCK	#	BLOCK	#
Block 1		**Block 3**		**Block 5**		**Block 7**		**Block 9**	
Block 1A	0	Block 3A	2	Block 5A	2	Block 7A	2	Block 9A	2
Block 1B	0	Block 3B	2	Block 5B	2	Block 7B	2	Block 9B	2
Block 2		**Block 4**		**Block 6**		**Block 8**		**Block 10**	
Block 2A	2	Block 4A	2	Block 6A	2	Block 8A	2	Block 10A	2
Block 2B	2	Block 4B	2	Block 6B	2	Block 8B	2	Block 10B	2

Does this rotation accept visiting students? ☐ YES ☒ NO

COURSE DESCRIPTION:
This course is designed to expose 4th-year medical students to Palliative Care. Palliative Care as defined by the Center to Advance Palliative Care is specialized medical care for patients with serious illness. It focuses on providing relief from the symptoms and stress of a serious illness—whatever the diagnosis. The goal is to improve quality of life for both the patient and the family. Students will learn how to approach and support those patients with serious illness who have emotional, spiritual and symptomatic needs, including the dying patient and their families via the inpatient Palliative Care consultation team. Students will receive an email with details of the rotation prior to their start date. Students will be provided reading material and regular didactic sessions concerning basic topics in Palliative Care. This rotation will take place at MUSC.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Manage symptoms experienced by patients with serious illness and the dying patient. (MK6, PC3)
2. Demonstrate empathy to the patient and family. (CS1, CS3, PR1, PR2)
3. Discuss end of life issues with the patient and family. (PC1, PC3, CS1, CS2, CS3, PR3)
4. Perform an appropriate history and physical for patients with serious illness and the dying patient. (MK7, MK8, PC1, PC3, CS1)
5. Understand the difference between Palliative Care and Hospice and when referral is appropriate to both. (SL1, SL2, IP1)
6. Participate in a family meeting to discuss goals of care. (PC1, PC4, CS1, CS2, CS3, CS4, PR1, PR2, PR3)
7. Write a palliative care consultation note. (PC1, PC2, PC3, CS5)
8. Work within the interdisciplinary team as an effective team member. (PR1, SL4, IP2, IP3, IP4)

INSTRUCTIONAL METHODOLOGIES AND ROTATION ACTIVITIES: Students on this rotation will be expected to learn and achieve the educational goals and objectives through the following methodologies and activities:
1. Inpatient experience (90% of time): Palliative Care Consultation Service, and Palliative Care Interdisciplinary Team Meeting.
2. Structured learning and discussion (10% of time): read select references in Pain & Palliative Care and attend teaching sessions throughout the month to cover basic principles of palliative care.
3. Pre- and post-test: students will be asked to complete a palliative care knowledge test before and upon completion of their rotation.
4. Debriefing: Students will have the opportunity to debrief about their experience on our service and to process emotions that may have come up when involved with end of life care.
5. Multidisciplinary Rounding: students will have the opportunity to round with team social worker and/or chaplain as well as volunteers in order to garner appreciation for full spectrum of Palliative Care and interdependent functioning of team.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Caring for the dying patient and their family.
2. Patients and families with complex medical and psychosocial needs.
3. Patients with uncontrolled pain related to serious illness.
4. Patients with non-pain symptoms (nausea, constipation, dyspnea).
5. Family meeting to discuss goals of care.

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. E*Value Clinical Performance Evaluation.
2. Direct observation of patient care skills by the attending physician, fellows, and residents on service.
3. Students will give their attending a mid-point evaluation form half way through the rotation for performance assessment.
4. Attending physicians and fellows will provide students with a verbal evaluation at the end of the rotation.

Will students be expected to participate in call? ☐ YES ☒ NO

MED 836: Medical ICU

Course/Unit Director: Edward Kilb, MD
Email: kilbiii@musc.edu

Course Coordinator: Mary Ann Snell
Telephone #: 843-792-7282
Email: snellma@musc.edu

BLOCK	#	BLOCK	#	BLOCK	#	BLOCK	#	BLOCK	#
Block 1	3	**Block 3**	3	**Block 5**	3	**Block 7**	3	**Block 9**	3
Block 1A		Block 3A		Block 5A		Block 7A		Block 9A	
Block 1B		Block 3B		Block 5B		Block 7B		Block 9B	
Block 2	3	**Block 4**	3	**Block 6**	3	**Block 8**	3	**Block 10**	3
Block 2A		Block 4A		Block 6A		Block 8A		Block 10A	
Block 2B		Block 4B		Block 6B		Block 8B		Block 10B	

COURSE DESCRIPTION:
Fourth-year medical students will work with interdisciplinary critical care teams lead by Pulmonary and Critical Care physicians with house staff coverage by Pulmonary fellows and Internal medicine residents. Students will be directly involved in assessing, stabilizing, and treating critically ill patients with a variety of complex medical diseases such as sepsis, respiratory failure, shock, renal failure. Students will become familiar with the basics of mechanical ventilation, intravenous fluids, shock and vasoactive medications, procedural indications and end-of-life care issues in the ICU. Students will observe and potentially perform invasive procedures.

Students will participate in a mandatory orientation day to cover essential critical care subject matter. Participation is expected at all simulation-based procedural skills modules unless absence is excused. Students will be expected to work at least 20 shifts. Make-up dates for unexcused absences will take place the final weekend of the rotation and then at the discretion of the unit director. There is no expectation of night call, but it can be offered by the unit director as an integral learning experience or as make-up for unexcused absences. This rotation is beneficial to students looking to match in Internal Medicine, Family Medicine, Emergency Medicine and other non-surgical, non-pediatric subspecialties

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Assess a critically ill patient and develop a timely, prioritized, and evidence-based plan for initial stabilization. (PC1, PC3)
2. Apply knowledge to develop evidence-based clinical plans for critically ill patients, including appropriate use of hemodynamic monitoring, application of ventilator modes and settings, and initiation and titration of vasomotor support. (MK4, MK5, PC3, PC6)
3. Be able to obtain Informed Consent for diagnostic and therapeutic tests and procedures including verbalization of risks, benefits and alternatives. (PC3, PC7, ICS1, SBP3)
4. Participate in and potentially perform procedures under direct supervision, including placement of arterial lines and central venous catheters while learning proper sterile technique. (MK8, PC7)
5. Demonstrate skills in the utilization of bedside Point-of-Care ultrasound for diagnosis in appropriate ICU patients. (PC1, MK5)
6. Identify relevant information in the primary medical literature regarding their patients' disease states, and incorporate information from the literature into presentations and documentation. (PL3, CS5)
7. Demonstrate effective and professional interpersonal and communication skills, and model ethical behavior. (CS1, PR1, PR2)
8. Demonstrate empathy and discuss end of life issues with the patient and family including giving bad news. (PC1, PC3, CS1, CS2, CS3, PR3, PR1, PR2)
9. Perform a basic family meeting to discuss goals of care including discussing and obtaining code status. (PC1, PC4, CS1, CS2, CS3, CS4, PR1, PR2, PR3)
10. Work within a multidisciplinary team on daily rounds as an effective team member including mitigating patient risk and early identification of potential medical errors. (PR1, SL4, IP2, IP3, IP4)
11. Understand quality improvement metrics in the ICU and the team's role in reducing hospital acquired infections including VAP, CAUTI, CLASBI, etc. (MK7, PR4, PL4, PL5, PL6, SL3, IP4)
12. Concisely summarize a patient's critical illness and hand off important clinical information efficiently to other team members and consultants. (CS1, CS5, IP1, IP2, IP3, PC6)
13. Demonstrate an understanding of the pharmacology of sedation in the ICU including the prevention and treatment of pain, agitation and delirium (MK2, MK3, MK4, MK5, PC3, PL4)
14. Demonstrate a knowledge of airway management devices including high flow nasal cannula, NIV, BVM, LMA and endotracheal intubation. (MK1, MK4, MK8, PC6, PC7, CS1, CS2, PR3, PL2)
15. Describe the basic aspects of antimicrobial treatment and rational use of anti-infective therapeutic agents, as well as the negative patient complications of antimicrobial overuse. (PC3, PC6, PL3, PL6)
16. Understand the differential diagnosis, evaluation and management for Acute Kidney Injury (AKI) through lab interpretation and radiological studies including the indications for acute dialysis therapy. (MK1, MK3, MK4, MK5, MK7, PC1, PC2, PC3, CS1)

17. Write complete and succinct systems based medical plan with H&Ps and daily progress notes in EPIC. (MK3, MK4, MK5, PC2, PC3, PC6, CS1, CS5, PR1, PR4, PR5)

INSTRUCTIONAL METHODOLOGIES AND ROTATION ACTIVITIES: Students on this rotation will be expected to learn and achieve the educational goals and objectives through the following methodologies and activities:
1. Students will participate in all aspects of care including initial assessment, diagnosis, management and patient/family communication and decision making for critically ill patients.
2. Students will be expected to present their patients on rounds, and patient-centered clinical and educational topics will be discussed
3. Students will receive instruction in ventilator management, central line use, and invasive and non-invasive hemodynamic monitoring.
3. Students will learn about pharmacotherapy in the ICU, including vasopressors, antibiotics, and sedatives, and analgesic medications.
4. Students will have the opportunity to learn about and potentially perform a variety of procedures, including central venous catheter placement, arterial catheter placement, paracentesis, and thoracentesis.
5. Students will learn the principles of bedside point-of-care ultrasonography including thoracic, abdominal and bedside echocardiography.
6. Students will attend and participate in didactic teaching session and simulation modules as part of the curriculum

PATIENT ENCOUNTERS: Students will be expected to work-up patients with conditions from all organ systems, including:
1. Acute hypoxic/hypercarbic respiratory failure due to pneumonia, acute respiratory distress syndrome, COPD, or other processes
2. Shock due to distributive pathophysiology (e.g., septic shock), cardiogenic compromise, obstructive mechanisms, or hypovolemia
3. Acute renal failure including hyperkalemia, pulmonary edema, refractory acidemia and necessitating acute hemodialysis
4. Neurologic conditions such as pain management, coma, encephalopathy, CVA and delirium

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. E*Value Clinical Performance Evaluation
2. Direct observation of patient care skills by the attending physician, fellows, and residents on service.
3. Attending physicians and fellows will provide students with a verbal evaluation at end of rotation.
4. Students will give their attending a mid-point evaluation form for performance assessment.

MED 842: Gastroenterology Hepatology AME

Course Director: Heather Simpson, MD
Email: simpsoh@musc.edu

Course Coordinator: Mary Ann Snell
Telephone #: 843-792-7282
Email: snellma@musc.edu

BLOCK	#	BLOCK	#	BLOCK	#	BLOCK	#	BLOCK	#
Block 1	2	**Block 3**	2	**Block 5**	2	**Block 7**	2	**Block 9**	2
Block 1A		Block 3A		Block 5A		Block 7A		Block 9A	
Block 1B		Block 3B		Block 5B		Block 7B		Block 9B	
Block 2	2	**Block 4**	2	**Block 6**	2	**Block 8**	2	**Block 10**	2
Block 2A		Block 4A		Block 6A		Block 8A		Block 10A	
Block 2B		Block 4B		Block 6B		Block 8B		Block 10B	

Does this rotation accept visiting students? ☒ YES ☐ NO

COURSE DESCRIPTION:
This is a combined inpatient consultation and outpatient clinical rotation designed to expose fourth-year medical students to the field of Hepatology. Students will be exposed to patients with acute and chronic liver disease and learn diagnostic approaches and medical management of these patients. Students will also observe endoscopic procedures and understand their role in the care of patients with liver and GI diseases.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Assess patients with liver disease and develop appropriate differential diagnoses and clinical assessments and plans. (MK4, MK5, MK6, PC1, PC2, PC3)
2. Define and describe pathophysiology and management of complications resulting from cirrhosis and portal hypertension. (MK1, MK2, MK3, PC2)
3. Define and describe when referral for liver transplant evaluation is appropriate by assessing severity of liver disease and short term prognosis in patients with cirrhosis. (MK4, MK5, PC1, PC3, PC4, PL3)
4. Observe and actively participate in the comprehensive evaluation required for patients undergoing liver transplantation evaluation, and the selection process that occurs in determining a patient's potential candidacy. (MK4, PC1, PC4, PC5, PC6, CS1, SL1, IP2)
5. Describe the mechanism of action and common side effects, and toxicities of immunosuppressive agents used after liver transplant. (MK4, PC2, PC3)

INSTRUCTIONAL METHODOLOGIES AND ROTATION ACTIVITIES: Students on this rotation will be expected to learn and achieve the educational goals and objectives through the following methodologies and activities:
1. In Hepatology clinic, students will be responsible for creating a clinical plan for the patients.
2. Students will round with the Liver Attending on the inpatient Liver Service and hospital Liver Consults.
3. Students will observe outpatient endoscopy, to learn the management of patients with esophageal varices.
4. Students will attend the following Hepatology (and Gastroenterology) didactic conferences: GI Fellows Conference, Liver Biopsy Conference, Liver Imaging and Tumor Board, and Liver Transplant Selection Committee.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Complications of cirrhosis/portal hypertension: ascites, varices, hepatic encephalopathy, and spontaneous bacterial peritonitis
2. Complications that arise after liver transplant
3. Chronic hepatitis C (outpatient management and treatment)
4. Alcoholic liver disease (including patients with alcoholic hepatitis)
5. Patients with chronic hepatitis of unclear etiology (outpatient evaluation including the role of liver biopsy)

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. E*Value Clinical Performance Evaluation.
2. Direct observation of patient care skills by the attending physician, fellows, and residents on service.
3. Students will give their attending a mid-point evaluation form half way through the rotation for performance assessment.
4. Attending physicians will provide students with a verbal evaluation at the end of the rotation.

Will students be expected to participate in call? ☐ YES ☒ NO

MED 846: Complex Wound Care

Course Director: Diane Whitworth, BSH, RN, CWOCN
Email: whitword@musc.edu

Course Coordinator: Mary Ann Snell
Telephone #: 843-792-7282
Email: snellma@musc.edu

BLOCK	#	BLOCK	#	BLOCK	#	BLOCK	#	BLOCK	#
Block 1		**Block 3**		**Block 5**		**Block 7**		**Block 9**	
Block 1A	0	Block 3A	1	Block 5A	1	Block 7A	1	Block 9A	1
Block 1B	1	Block 3B	1	Block 5B	1	Block 7B	1	Block 9B	1
Block 2		**Block 4**		**Block 6**		**Block 8**		**Block 10**	
Block 2A	1	Block 4A	0	Block 6A	0	Block 8A	1	Block 10A	1
Block 2B	1	Block 4B	1	Block 6B	1	Block 8B	1	Block 10B	1

Does this rotation accept visiting students? ☐ YES ☒ NO

COURSE DESCRIPTION:
Students will work with the Wound, Ostomy, and Continence Nursing Team on a daily basis. The rotation will function as a consult service, with the student seeing patients with the team. The student will assist in patient teaching and will also work with the primary team to optimize wound care recommendations.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Demonstrate comprehensive understanding of the physiology of wound healing and factors that affect repair. (MK1, MK2, MK3)
2. Identify wounds that require specialty nursing care. (PC1,PC3, PC4)
3. Identify various advanced wound care products and appropriate application. (MK5, MK7, MK8, PL3, PL6, SL2)
4. Demonstrate proper techniques for patient and family teaching. (PC5, CS1, CS3, PR3, PD6)
5. Demonstrate familiarity with proper wound assessment and documentation. (MK5, PC2)
6. Collaborate with interdisciplinary health care professionals in the care of patients and families. (CS4, IP1, IP2, IP3, IP4, PL4, SL4)

INSTRUCTIONAL METHODOLOGIES AND ROTATION ACTIVITIES: Students on this rotation will be expected to learn and achieve the educational goals and objectives through the following methodologies and activities:
1. Direct patient care, including wound assessment, dressing selection and application, and patient and family education.
2. Rounds throughout ART and the main hospital, as well as outpatient clinics on campus.
3. Lectures/conferences pertaining to wound care
4. Reading materials/resources on wound care best practices and the appropriate use of advance wound care products

PATIENT ENCOUNTERS: Students will be expected to work-up patients with conditions from all organ systems, including:
1. A variety of conditions, including fecal and urinary diversions, fistulae, surgical wounds, pressure injuries, refractory wounds, arterial/ischemic wounds, venous ulcers, and diabetic/neuropathic ulcers
2. Negative Pressure Wound Therapy (NPWT) dressing application and trouble-shooting
3. Patients pending fecal or urinary diversion surgery

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. E*Value Clinical Performance Evaluation.
2. Direct observation of student performance.
3. Students will receive feedback about performance at the midpoint of the course.

Will students be expected to participate in call? ☐ YES ☒ NO

MED 848: VA Medical ICU

Course/Unit Director: Edward Kilb, MD
Email: kilbiii@musc.edu

Course Coordinator: Mary Ann Snell
Telephone #: 843-792-7282
Email: snellma@musc.edu

BLOCK	#	BLOCK	#	BLOCK	#	BLOCK	#	BLOCK	#
Block 1	1	**Block 3**	1	**Block 5**	1	**Block 7**	1	**Block 9**	1
Block 1A		Block 3A		Block 5A		Block 7A		Block 9A	
Block 1B		Block 3B		Block 5B		Block 7B		Block 9B	
Block 2	1	**Block 4**	1	**Block 6**	1	**Block 8**	1	**Block 10**	1
Block 2A		Block 4A		Block 6A		Block 8A		Block 10A	
Block 2B		Block 4B		Block 6B		Block 8B		Block 10B	

COURSE DESCRIPTION:
Fourth-year medical students will work in this combined Medical ICU and Cardiac Care Unit with the interdisciplinary critical care team lead by Pulmonary and Critical Care and Cardiology physicians and house staff coverage by Pulmonary fellows and Internal medicine residents. Students will be directly involved in assessing, stabilizing, and treating critically ill patients with a variety of complex medical diseases such as sepsis, respiratory failure, shock, acute coronary syndrome, arrhythmia, renal failure. Students will become familiar with the basics of mechanical ventilation, intravenous fluids, shock and vasoactive medications, cardiac interventions, procedural indications and end-of-life care issues in the ICU. Students will observe and potentially perform invasive procedures.

Students will participate in a mandatory orientation day to cover essential critical care subject matter. Participation is expected at all simulation-based procedural skills modules unless absence is excused. Students will be expected to work at least 20 shifts. Make-up dates for unexcused absences will take place the final weekend of the rotation and then at the discretion of the unit director. There is no expectation of night call, but it can be offered by the unit director as an integral learning experience or as make-up for unexcused absences. This rotation is beneficial to students looking to match in Internal Medicine, Family Medicine, Emergency Medicine and other non-surgical, non-pediatric subspecialties

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Assess a critically ill patient and develop a timely, prioritized, and evidence-based plan for initial stabilization. (PC1, PC3)
2. Apply knowledge to develop evidence-based clinical plans for critically ill patients, including appropriate use of hemodynamic monitoring, application of ventilator modes and settings, and initiation and titration of vasomotor support. (MK4, MK5, PC3, PC6)
3. Be able to obtain Informed Consent for diagnostic and therapeutic tests and procedures including verbalization of risks, benefits and alternatives. (PC3, PC7, ICS1, SBP3)
4. Participate in and potentially perform procedures under direct supervision, including placement of arterial lines and central venous catheters while learning proper sterile technique. (MK8, PC7)
5. Demonstrate skills in the utilization of bedside Point-of-Care ultrasound for diagnosis in appropriate ICU patients. (PC1, MK5)
6. Identify relevant information in the primary medical literature regarding their patients' disease states, and incorporate information from the literature into presentations and documentation. (PL3, CS5)
7. Demonstrate effective and professional interpersonal and communication skills, and model ethical behavior. (CS1, PR1, PR2)
8. Demonstrate empathy and discuss end of life issues with the patient and family including giving bad news. (PC1, PC3, CS1, CS2, CS3, PR3, PR1, PR2)
9. Perform a basic family meeting to discuss goals of care including discussing and obtaining code status. (PC1, PC4, CS1, CS2, CS3, CS4, PR1, PR2, PR3)
10. Work within a multidisciplinary team on daily rounds as an effective team member including mitigating patient risk and early identification of potential medical errors. (PR1, SL4, IP2, IP3, IP4)
11. Understand quality improvement metrics in the ICU and the team's role in reducing hospital acquired infections including VAP, CAUTI, CLASBI, etc. (MK7, PR4, PL4, PL5, PL6, SL3, IP4)
12. Concisely summarize a patient's critical illness and hand off important clinical information efficiently to other team members and consultants. (CS1, CS5, IP1, IP2, IP3, PC6)
13. Demonstrate an understanding of the pharmacology of sedation in the ICU including the prevention and treatment of pain, agitation and delirium (MK2, MK3, MK4, MK5, PC3, PL4)
14. Demonstrate a knowledge of airway management devices including high flow nasal cannula, NIV, BVM, LMA and endotracheal intubation. (MK1, MK4, MK8, PC6, PC7, CS1, CS2, PR3, PL2)
15. Describe the basic aspects of antimicrobial treatment and rational use of anti-infective therapeutic agents, as well as the negative patient complications of antimicrobial overuse. (PC3, PC6, PL3, PL6)
16. Write complete and succinct systems based medical plan with H&Ps and daily progress notes in EPIC. (MK3, MK4, MK5, PC2, PC3, PC6, CS1, CS5, PR1, PR4, PR5)

INSTRUCTIONAL METHODOLOGIES AND ROTATION ACTIVITIES: Students on this rotation will be expected to learn and achieve the educational goals and objectives through the following methodologies and activities:
1. Students will participate in all aspects of care including initial assessment, diagnosis, management and patient/family communication and decision making for critically ill patients.
2. Students will be expected to present their patients on rounds, and patient-centered clinical and educational topics will be discussed
3. Students will receive instruction in ventilator management, central line use, and invasive and non-invasive hemodynamic monitoring.
3. Students will learn about pharmacotherapy in the ICU, including vasopressors, antibiotics, and sedatives, and analgesic medications.
4. Students will have the opportunity to learn about and potentially perform a variety of procedures, including central venous catheter placement, arterial catheter placement, paracentesis, and thoracentesis.
5. Students will learn the principles of bedside point-of-care ultrasonography including thoracic, abdominal and bedside echocardiography.
6. Students will attend and participate in didactic teaching session and simulation modules as part of the curriculum

PATIENT ENCOUNTERS: Students will be expected to work-up patients with conditions from all organ systems, including:
1. Acute hypoxic/hypercarbic respiratory failure due to pneumonia, acute respiratory distress syndrome, COPD, or other processes
2. Shock due to distributive pathophysiology (e.g., septic shock), cardiogenic compromise, obstructive mechanisms, or hypovolemia
3. Acute renal failure including hyperkalemia, pulmonary edema, refractory acidemia and necessitating acute hemodialysis
4. Neurologic conditions such as pain management, coma, encephalopathy, CVA and delirium
5. Acute cardiovascular compromise including coronary artery disease, congestive heart failure, arrhythmias, valvular dysfunction

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. E*Value Clinical Performance Evaluation
2. Direct observation of patient care skills by the attending physician, fellows, and residents on service.
3. Attending physicians and fellows will provide students with a verbal evaluation at end of rotation.
4. Students will give their attending a mid-point evaluation form for performance assessment.

MED 851: Nephrology AME

Course Director: Ruth Campbell, MD
Email: campberc@musc.edu

Course Coordinator: Mary Ann Snell
Telephone #: 843-792-7282
Email: snellma@musc.edu

BLOCK	#	BLOCK	#	BLOCK	#	BLOCK	#	BLOCK	#
Block 1	4	**Block 3**	4	**Block 5**	4	**Block 7**	4	**Block 9**	4
Block 1A		Block 3A		Block 5A		Block 7A		Block 9A	
Block 1B		Block 3B		Block 5B		Block 7B		Block 9B	
Block 2	4	**Block 4**	4	**Block 6**	4	**Block 8**	4	**Block 10**	4
Block 2A		Block 4A		Block 6A		Block 8A		Block 10A	
Block 2B		Block 4B		Block 6B		Block 8B		Block 10B	

Does this rotation accept visiting students? ☒ YES ☐ NO

COURSE DESCRIPTION:
Students rotating on the Nephrology Consult Service will care for patients with Acute Kidney Injury (AKI), electrolyte abnormalities, CKD, kidney transplants, and End Stage Renal Disease in the hospital with an emphasis on evaluating, diagnosing, and treating of AKI. Students will also be expected to attend at least one ambulatory clinic per week to understand and participate in the care of the patient with Chronic Kidney Disease (CKD). Students will learn about outpatient dialysis at the DCI dialysis units, under faculty supervision. Students will rotate at the VA Clinic weekly. **Active VA login/codes are required BEFORE start of rotation.**

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Complete an evaluation for Acute Kidney Injury (AKI), interpret lab, radiological studies and synthesize a differential diagnosis. (MK1, MK3, MK4, MK5, MK7, MK8, PC1, PC2, PC3, PC 4, PC 5, CS1, CS2, CS3, CS 4, PD1, PD 6)
2. Describe the steps involved in urine microscopy and interpretation of urine microscopy in patients with AKI. (MK5, PC7)
3. Define and describe the indications for dialysis therapy and the mechanics of different modes of dialysis. (MK5, MK6, PC1, PC2, PC3, PC 4, PC 5, CS1, CS2, CS 3, CS 4, PR2, PL2, PD1, PD 6)
4. Evaluate and treat hypo/hypernatremia, hypo/hyperkalemia, acidosis and alkalosis. (MK1, MK2, MK3, MK4, MK5, MK 6, MK7, MK8, PC1, PC2, PC3, PC6, CS1, CS2, CS3, CS4, PD1, PD 6)
5. Define and describe the treatment and public health significance of Chronic Kidney Disease and hypertension. (MK1, MK2, MK3 MK4, MK5, MK6, MK7, MK 8, PC1, PC2, PC3, PC4, PC5, PC6, CS1, CS2, CS 3, CS 4, PL6, SL1, PD1, PD 6)
6. Write complete and succinct consult and follow up notes in EPIC. (MK3, MK4, MK5, PC2, PC3, PC6, CS1, CS5, PR1, PR4, PR5, PD1, PD 6)
7. Describe the basic evaluation of patients for renal transplantion. (MK1, MK3, MK4, MK5, MK7, MK8, PC3, PC 4, PC 5, PC 6, CS1, CS2, PD1, PD 6)
8. Evaluate AKI and transplant complications in renal transplant patients. (MK1, MK3, MK4, MK5, MK7, MK8, PC1, PC2, PC3, CS1, CS2, CS3, CS4, PD1, PD 6)

INSTRUCTIONAL METHODOLOGIES AND ROTATION ACTIVITIES: Students on this rotation will be expected to learn and achieve the educational goals and objectives through the following methodologies and activities:
1. Students will evaluate patients both in hospital and in clinic and present patients orally to the attending physician to attain feedback on presenting cohesively and on ability to synthesize information and provide a well thought out plan. Students will also write an initial consult note and follow up notes in the electronic medical record under the student tab (EPIC).
2. Students are expected to continue independent scholarly activity by reading journal articles and/or books pertinent to their patients.
3. The nephrology faculty and fellows on service will be actively involved in team-based teaching during the rounds.
4. The faculty and fellows on service dedicate time outside patient care activities to provide didactic sessions involving, but not restricted to, AKI, CKD, renal transplant, electrolyte and acid base problems, and dialysis.
5. Students will complete modules and attend conferences, which cover physician handoffs, consultative medicine, and palliative care.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Acute Kidney Injury and Acute Glomerulonephritis
2. Electrolyte Disorders: hyponatremia, hypernatremia, hyperkalemia
3. Proteinuria with and without nephrotic syndrome
4. Acid-Base Disturbances
5. Chronic kidney disease
6. End stage renal disease: management of medical problems associated with ESRD.
7. Renal transplantation

<u>EVALUATION / FEEDBACK METHODS</u>: Students will be evaluated using the following methods:
1. E*Value Clinical Performance Evaluation.
2. Completion of Urinalysis Laboratory Module.
3. Graded history and physical with assessment and plan.
4. Students will be evaluated and feedback will be given by the attending half way through the rotation for performance assessment.
5. Students will receive formative feedback via completion of online modules, which include assessment questions/quizzes.

Will students be expected to participate in call? ☐ YES ☒ NO

MED 855: Cardiology AME

Course Director: Valerian Fernandes, MD
Email: fernandv@musc.edu

Course Coordinator: Mary Ann Snell
Telephone #: 843-792-7282
Email: snellma@musc.edu

BLOCK	#	BLOCK	#	BLOCK	#	BLOCK	#	BLOCK	#
Block 1	4	**Block 3**	4	**Block 5**	4	**Block 7**	4	**Block 9**	4
Block 1A		Block 3A		Block 5A		Block 7A		Block 9A	
Block 1B		Block 3B		Block 5B		Block 7B		Block 9B	
Block 2	4	**Block 4**	4	**Block 6**	4	**Block 8**	4	**Block 10**	4
Block 2A		Block 4A		Block 6A		Block 8A		Block 10A	
Block 2B		Block 4B		Block 6B		Block 8B		Block 10B	

Does this rotation accept visiting students? ☒ YES ☐ NO

COURSE DESCRIPTION:
This is an inpatient consultation service rotation designed to expose 4th-year medical students to the field of cardiology. The student will be exposed to patients with cardiac diseases, learn the diagnostic approach, as well as medical management of these patients. Two students will be assigned to the ART and two students will be assigned to the VA; **active VA logins and codes are required before starting rotation.**

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Take a good cardiac history and demonstrate understanding of cardiac risk factors. (MK3, MK4, PC1, CS1)
2. Perform and accurately document a complete cardiovascular examination. (PC1, CS5)
3. Explain use of lab tests, EKGs, ECHO, stress testing and cardiac invasive procedures in working up cardiac disorders. (MK5, PC2)
4. Describe basic cardiac, coronary and electrophysiological anatomy, and basic cardiac hemodynamics. (MK1, MK2, MK6, PC2)
5. Present new cases confidently, follow-up cases assigned and work efficiently as a team member. (MK3, PC2, CS5, IP2)

INSTRUCTIONAL METHODOLOGIES AND ROTATION ACTIVITIES: Students on this rotation will be expected to learn and achieve the educational goals and objectives through the following methodologies and activities:
1. When on the consult service students will practice reviewing charts, obtaining medical history, performing physical examination, reviewing laboratory data, discussing gathered material with fellow and attending, and writing up consult report.
2. Students should attend all Cardiology conferences and didactic sessions that the division offers. (7:30-8:30 am, M, W-F)
3. Students will complete online modules and attend conferences that cover physician handoffs, consultative medicine, and palliative care.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Coronary artery disease
2. Congestive heart failure
3. Arrhythmia
4. Valvular heart disease
5. Risk Factor Modification (EM, HTN, Hyperlipidemia, Smoking)

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. E*Value Clinical Performance Evaluation.
2. Direct observation of patient care skills by the attending physician, fellows, and residents on service.
3. Students will give their attending a mid-point evaluation form for performance assessment.
4. Attending physicians and fellows will provide students with verbal evaluation at the end of the rotation as well as a formal electronic evaluation.
5. Students will receive formative feedback via the completion of online modules that include assessment questions/quizzes.

Will students be expected to participate in call? ☐ YES ☒ NO

MED 858: Gastroenterology Luminal AME

Course Director: Pooja Elias, MD
Email: eliasps@musc.edu

Course Coordinator: Mary Ann Snell
Telephone #: 843-792-7282
Email: snellma@musc.edu

BLOCK	#	BLOCK	#	BLOCK	#	BLOCK	#	BLOCK	#
Block 1	2	**Block 3**	2	**Block 5**	2	**Block 7**	2	**Block 9**	2
Block 1A		Block 3A		Block 5A		Block 7A		Block 9A	
Block 1B		Block 3B		Block 5B		Block 7B		Block 9B	
Block 2	2	**Block 4**	2	**Block 6**	2	**Block 8**	2	**Block 10**	2
Block 2A		Block 4A		Block 6A		Block 8A		Block 10A	
Block 2B		Block 4B		Block 6B		Block 8B		Block 10B	

Does this rotation accept visiting students? ☒ YES ☐ NO

COURSE DESCRIPTION:
This is a predominantly inpatient consultation rotation designed to expose fourth-year medical students to the field of Gastroenterology. There are self-directed opportunities to participate in the outpatient clinical setting. Students will be exposed to patients with digestive diseases and learn diagnostic approaches and medical management of these patients. Students will also observe endoscopic procedures and understand their role in the care of these patients. Students will rotate at the VA Clinic weekly. **Active VA login/codes are required BEFORE start of rotation.**

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Identify typical clinical presentations of various etiologies of abdominal pain (peptic ulcer disease, cholecystitis, pancreatitis, bowel obstruction). (MK1, MK2, MK3, MK4)
2. Define and describe the diagnosis and treatment of esophageal disorders such as GERD, dysphagia, Barrett's esophagus. (MK4, MK5, PC2, PC3)
3. Define and describe the basic causes of diarrhea and outline an appropriate diagnostic work-up for both acute and chronic diarrhea. (MK4, MK5, PC1, PC2)
4. Define and describe the role of endoscopy for both screening and therapeutic purposes. (MK5, PC3, PC4, CS4)
5. Demonstrate professional demeanor, ethical behavior, and effective communication skills in interactions with patients. (PC1, CS1, CS2, PR1, PR2)

INSTRUCTIONAL METHODOLOGIES AND ROTATION ACTIVITIES: Students on this rotation will be expected to learn and achieve the educational goals and objectives through the following methodologies and activities:
1. Bedside teaching during daily team rounds (inpatient consultation service) or in clinic (outpatient service).
2. Formal didactic GI Divisional conferences held on a weekly basis.
3. Informal didactic sessions throughout the rotation focusing on topics/cases proposed by the student/housestaff.
4. Observation of endoscopic procedures such as EGD, colonoscopy, ERCP, EUS, small bowel capsule study, and motility studies.
5. Directed reading on general and selected topics in Gastroenterology.
6. Students will complete online modules, attend conferences that cover physician handoffs, consultative medicine, & palliative care.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Cholecystitis/Peptic ulcer disease/Pancreatitis
2. Inflammatory bowel disease/Irritable bowel syndrome
3. Diarrhea: acute vs chronic
4. Dysphagia/GERD
5. Bowel obstruction

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. E*Value Clinical Performance Evaluation.
2. Direct observation of patient care skills by the attending physician, fellows, and residents on service.
3. Students will give their attending a mid-point evaluation form half way through the elective for performance assessment.
4. Attending physicians and fellows will provide students verbal evaluation at end of rotation.
5. Students will receive formative feedback via the completion of online modules that include assessment questions/quizzes.

Will students be expected to participate in call? ☐ YES ☒ NO

MED 859: Hematology/Oncology AME

Course Director: Todd Gourdin, MD, Ming Lim, MD
Email: gourdith@musc.edu; limm@musc.edu

Course Coordinator: Mary Ann Snell
Telephone #: 843-792-7282
Email: snellma@musc.edu

BLOCK	#	BLOCK	#	BLOCK	#	BLOCK	#	BLOCK	#
Block 1	2	**Block 3**	2	**Block 5**	2	**Block 7**	2	**Block 9**	2
Block 1A		Block 3A		Block 5A		Block 7A		Block 9A	
Block 1B		Block 3B		Block 5B		Block 7B		Block 9B	
Block 2	2	**Block 4**	2	**Block 6**	2	**Block 8**	2	**Block 10**	2
Block 2A		Block 4A		Block 6A		Block 8A		Block 10A	
Block 2B		Block 4B		Block 6B		Block 8B		Block 10B	

Does this rotation accept visiting students? ☒ YES ☐ NO

COURSE DESCRIPTION:
This course introduces the student to the general approach to diagnosis and management of common oncologic and hematologic disorders. The student will have the opportunity to see new and existing inpatients and/or outpatients, acquire the skills needed to take appropriate histories and perform physical exams, and formulate assessments and management plans. The rotation includes 2 weeks with oncology consults/clinic and 2 weeks with hematology consults/clinic. However, the entire 4 weeks may be spent on one discipline in lieu of the usual 2 weeks on each at the discretion of the course directors.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
Hematology-specific:
1. Discuss, diagnose, and treat common congenital and acquired bleeding disorders, and common thrombotic disorders including venous thromboembolism (VTE) and heparin-induced thrombocytopenia (HIT). (MK3, MK5, PC1, PC2, PC3)
2. Provide safe and effective anti-thrombotic therapy using heparin, low molecular weight heparin, warfarin, direct thrombin inhibitors, and direct oral anticoagulants. (MK5, MK8, PC5, PC6)
3. Interpret peripheral blood smears and clinical lab tests to diagnose common disorders of red blood cells, platelets, and white blood cells. (MK1, MK3, MK4, MK6, PC1, PC2, PC3)
Oncology-specific:
1. Apply knowledge of the pathophysiology, epidemiology, and natural history of neoplastic diseases to the diagnosis and staging of common patient conditions in oncology. (MK1, MK2, MK3, PC1, PC2)
2. Assist in the development of treatment plans for patients with newly diagnosed malignancies. (MK5, MK6, PC3, PC4, PC6, CS4)
3. Recognize and understand preliminary treatment of common complications of chemotherapy. (MK5, PC6)
Common to both:
1. Demonstrate effective and professional interpersonal and communication skills, and model ethical behavior. (CS1, PR1, PR2)
2. Demonstrate proper techniques to obtain medical history and perform physical exam in the consultative and outpatient setting. (PC1, CS1)
3. Present and document patient data gathered from interviews, examinations, and records in standardized format. (CS1, CS5)

INSTRUCTIONAL METHODOLOGIES AND ROTATION ACTIVITIES: Students on this rotation will be expected to learn and achieve the educational goals and objectives through the following methodologies and activities:
1. Attend up to 2 half-day clinics per week (subject to availability) and complete outpatient evaluation of at least one new patient and one follow-up patient in each clinic.
2. Attend afternoon rounds with Oncology or Hematology Consult Service. Perform at least 3 new consult evaluations per week and follow-up evaluations of these patients.
3. Review peripheral blood smears during the Hematology consult service rounds in the Hematology lab.
4. Participation in formal division conferences, including core curriculum lectures, grand rounds, tumor boards, and Journal Club.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
Hematology: 1. Cytopenias (anemia, leukopenia and thrombocytopenia)
2. Acquired coagulation disorders (liver disease, chronic kidney disease)
3. Congenital and acquired bleeding disorders, VTE, and HIT
Oncology: 1. Newly diagnosed solid tumors - commonly encountered in the inpatient and outpatient setting such as lung cancer, colon cancer, prostate cancer, etc.
2. Common problems associated with chemotherapy (neutropenic fever, tumor lysis syndrome, severe diarrhea, etc)

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. E*Value Clinical Performance Evaluation.

2. Direct observation of patient care skills by the attending physician, fellows, and residents on service.
3. Students will give their attending a mid-point evaluation form half way through the rotation for performance assessment.
4. Attending physicians and fellows will provide students with verbal evaluations at the end of the rotation.
5. Pre-rotation hematology test will assist in identifying areas that are well understood and those that could improve with further study.

Will students be expected to participate in call? ☐ YES ☒ NO

MED 861: Infectious Disease AME

Course Director: Heather Hughes, MD
Email: hughehea@musc.edu

Course Coordinator: Mary Ann Snell
Telephone #: 843-792-7282
Email: snellma@musc.edu

BLOCK	#	BLOCK	#	BLOCK	#	BLOCK	#	BLOCK	#
Block 1	4	**Block 3**	4	**Block 5**	4	**Block 7**	4	**Block 9**	4
Block 1A		Block 3A		Block 5A		Block 7A		Block 9A	
Block 1B		Block 3B		Block 5B		Block 7B		Block 9B	
Block 2	4	**Block 4**	4	**Block 6**	4	**Block 8**	4	**Block 10**	4
Block 2A		Block 4A		Block 6A		Block 8A		Block 10A	
Block 2B		Block 4B		Block 6B		Block 8B		Block 10B	

Does this rotation accept visiting students? ☒ YES ☐ NO

COURSE DESCRIPTION:
This is an outpatient clinical and inpatient consultation service rotation designed to expose the 4th-year medical student to the field of Infectious Disease. The student will be directly involved with assessment, diagnosis and diagnostic approach, as well as medical management of patients with complex infections. With supervision and guidance from fellows and faculty, the student will develop treatment plans and gain an understanding of common infections and their treatment with antimicrobials. The student will also be familiarized with the basic outpatient care of the patient living with HIV.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Diagnose and assess common community and hospital acquired infections and develop a timely evidenced based plan of care for the patient. (MK4, MK8, PC1, PC2, PC3)
2. Describe the basic aspects of antimicrobial treatment and rational use of anti-infective therapeutic agents, as well as the negative patient and societal complications of antimicrobial overuse. (PC3, PC6, PL3, PL6)
4. Develop a basic knowledge of HIV diagnosis, management, and health maintenance as well as an understanding of the role of appropriate HIV care in addressing population health through decreased transmission and in addressing racial and ethnic health disparities. (MK4, PC6, SL4, PL6)
5. Provide non-judgmental and compassionate care to patients with stigmatizing infections and develop a therapeutic relationship built on trust and honesty. (PC3, PR1, PR2, CS3, CS3)
6. Provide appropriate consultative care and communicate with other members of the patient's care team in a clear and effective manner. (PC5, CS4, IP3)

INSTRUCTIONAL METHODOLOGIES AND ROTATION ACTIVITIES: Students on this rotation will be expected to learn and achieve the educational goals and objectives through the following methodologies and activities:
1. Students will participate in clinical care both for inpatient and outpatients which will involve assessment, diagnosis and management of patients with infectious diseases. A minimum of 2 weeks of consultation rounds with the Infectious Disease attending and fellow at MUHA, ART, or VA will provide extensive exposure to the diagnosis and treatment of infectious diseases, with up to an additional two weeks spent in the Infectious Diseases clinics.
2. Clinical experience is supplemented and extended by case conferences including both HIV and non-HIV conferences, grand rounds, and journal clubs.
3. Small group teaching sessions geared towards medical students in their clinical years will cover core infectious disease topics.
3. An infectious disease textbook is provided to each student during the rotation to supplement clinical and didactic teaching.

PATIENT ENCOUNTERS: Students will be expected to assess, diagnose and create a treatment plan for patients with these specified conditions: HIV/AIDS, post-surgical and traumatic wound infections, prosthetic joint infections, osteomyelitis, bacteremia, and complicated skin and soft tissue infections.

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. E*Value Clinical Performance Evaluation.
2. Direct observation of patient care skills by the attending physician, fellows, and residents on service.
3. Students will give their attending a mid-point evaluation form half way through the rotation for performance assessment.
4. Attending physicians and fellows will provide students with verbal evaluation at the end of the rotation.

Will students be expected to participate in call? ☐ YES ☒ NO

MED 862: Endocrinology AME

Course Director: Nicoleta D. Sora, MD
Email: sora@musc.edu

Course Coordinator: Mary Ann Snell
Telephone #: 843-792-7282
Email: snellma@musc.edu

BLOCK	#	BLOCK	#	BLOCK	#	BLOCK	#	BLOCK	#
Block 1	2	**Block 3**	2	**Block 5**	2	**Block 7**	2	**Block 9**	2
Block 1A		Block 3A		Block 5A		Block 7A		Block 9A	
Block 1B		Block 3B		Block 5B		Block 7B		Block 9B	
Block 2	2	**Block 4**	2	**Block 6**	2	**Block 8**	2	**Block 10**	2
Block 2A		Block 4A		Block 6A		Block 8A		Block 10A	
Block 2B		Block 4B		Block 6B		Block 8B		Block 10B	

Does this rotation accept visiting students? ☒ YES ☐ NO

COURSE DESCRIPTION:
During this course, fourth-year medical students will see patients with endocrine disorders. Students will be able to establish a diagnostic and treatment plan. Students will rotate at the VA Clinic weekly. **Active VA login/codes are required BEFORE start of rotation.**

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to:
1. Define and describe pathophysiology of common endocrine disorders. (MK3, MK4)
2. Evaluate, with supervision, endocrine disorders commonly seen in primary care. (MK5, MK8, PC1, PC2)
3. Define and describe treatment strategies for these diseases. (MK6, PC3, PC4, PC5)
4. Describe the importance of laboratory investigation in evaluations. (MK5, MK8, PC3)
5. Discuss the importance of endocrine research in this field. (PL2, PL3, PL4, PL5)

INSTRUCTIONAL METHODOLOGIES AND ROTATION ACTIVITIES: Students on this rotation will be expected to learn and achieve the educational goals and objectives through the following methodologies and activities:
1. Student will see patients in attending clinics.
2. Student will work with inpatient consultation team and will see patients in inpatient setting.
3. Student will participate in weekly grand rounds and journal club.
4. Students will complete online modules and attend conferences which cover physician handoffs, consultative medicine, and palliative care.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Diabetes Mellitus (Type I and II)
2. Diseases of the Thyroid
3. Diseases of the Adrenal Gland
4. Osteoporosis

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. E*Value Clinical Performance Evaluation.
2. Direct observation of patient care skills by the attending physician, fellows, and residents on service.
3. The students will give their attending a mid-point evaluation form half way through the rotation for performance assessment.
4. Attending physicians will provide students with a verbal evaluation at the end of the rotation.
5. Students will receive formative feedback via the completion of online modules, which include assessment questions and quizzes.

Will students be expected to participate in call? ☐ YES ☒ NO

MED 864: Medicine Externship AME

Course Director: Marc Heincelman, MD
Email: heincelm@musc.edu

Course Coordinator: Mary Ann Snell
Telephone #: 843-792-7282
Email: snellma@musc.edu

BLOCK	#	BLOCK	#	BLOCK	#	BLOCK	#	BLOCK	#
Block 1	5	**Block 3**	5	**Block 5**	5	**Block 7**	5	**Block 9**	5
Block 1A		Block 3A		Block 5A		Block 7A		Block 9A	
Block 1B		Block 3B		Block 5B		Block 7B		Block 9B	
Block 2	5	**Block 4**	5	**Block 6**	5	**Block 8**	5	**Block 10**	5
Block 2A		Block 4A		Block 6A		Block 8A		Block 10A	
Block 2B		Block 4B		Block 6B		Block 8B		Block 10B	

Does this rotation accept visiting students? ☐ YES ☒ NO

COURSE DESCRIPTION:
This externship is designed to give students a broad-based experience in managing acutely ill general medicine patients. The rotation provides an opportunity to develop independent clinical practice skills, with guidance and supervision from a Medicine team of interns, residents, and attending (VA, ART or Main Hospital Medicine teams.) Students will function at the level of an intern, being primarily responsible for their patients' plan of care, communication, and documentation. For students assigned to the VA Hospital, **active VA login/codes are required BEFORE start of rotation.**

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1.Demonstrate skills expected of interns including giving and receiving a handoff, writing inpatient orders for signature, preparing a discharge summary to share, calling a consult, and assisting in obtaining informed consent for a procedure or treatment. (PC4, PC5, PC7, CS1)
2. Demonstrate the ability to perform an efficient yet comprehensive history and physical exam. (MK1, MK6, PC1)
3. Develop differential diagnoses by explicitly prioritizing and weighing pertinent positives and negatives. (MK4, MK5, PC2)
4. Formulate a treatment plan for hospitalized patients at the level of an intern and implement the treatment plan to manage a patient's clinical problem, including placing orders. (MK3, MK4, PC3)
5. Describe indications/need for appropriate subspecialty consultation and formulate a cogent consult question. (MK6, PC2, PC3, PC4)
6. Recognize key clinical information and effectively communicate this to covering providers in the form of patient handoff. (PC3, PC7, CS1, IP3)
7. Develop an appropriate discharge plan and facilitate care coordination to ongoing providers including formulating a concise yet thorough discharge summary. (PC4, SL2, IP4, CS5)

INSTRUCTIONAL METHODOLOGIES AND ROTATION ACTIVITIES: Students on this rotation will be expected to learn and achieve the educational goals and objectives through the following methodologies and activities:
1. Complete an Externship Log documenting level of participation in key entrustable professional activities.
2. The majority of teaching on the General Medicine service is case-based at the time of clinical encounters. Inpatient rounds provide the best opportunities for education at the bedside, including demonstrating history taking or examination skills, modeling communication, or exploring medical knowledge, with emphasis on published clinical evidence supporting clinical decision-making.
3. Attend morning report three days per week. Attendance at Grand Rounds and noon conferences is encouraged.
4. The attending physician or senior resident may also conduct didactic sessions on multiple occasions throughout the month.
5. Students are expected to engage in self-directed learning by accessing the primary medical literature and incorporating evidence from the literature into their presentations, documentation, and the end-of-rotation teaching presentation.

PATIENT ENCOUNTERS: Students will be expected to evaluate, diagnose and treat patients with these specified conditions:
1. Students care for a diverse patient population with respect to age, ethnicity, gender and socioeconomic status.
2. Students will care for patients with a wide variety of clinical syndromes including chest pain, coronary artery disease, CVA, CHF, diabetes mellitus, pneumonia, COPD, asthma, pyelonephritis, acute and chronic renal insufficiency, SLE, vasculitis, dementia and many others.

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. E*Value Clinical Performance Evaluation.
2. Direct observation of patient care skills by the attending physician, fellows, and residents on service.
3. Students will give their attending a mid-point evaluation form halfway through the rotation for performance assessment.
4. The attending physicians and fellows will provide students verbal evaluation at the end of the rotation.
5. Students will prepare and give a 15-minute presentation on a topic of their choosing to their teams and course director or will present a morning report case for all internal medicine students and course director at the end of the rotation.

Will students be expected to participate in call? ☒ YES ☐ NO
During the month-long rotation, students will take 5 overnight (in-house) calls and work an additional 3 nights until 8:00 p.m.

MED 865: Pulmonary Medicine AME

Course Director: Edward Kilb, MD
Email: kilbiii@musc.edu

Course Coordinator: Mary Ann Snell
Telephone #: 843-792-7282, Email: snellma@musc.edu

BLOCK	#	BLOCK	#	BLOCK	#	BLOCK	#	BLOCK	#
Block 1	3	**Block 3**	3	**Block 5**	3	**Block 7**	3	**Block 9**	3
Block 1A		Block 3A		Block 5A		Block 7A		Block 9A	
Block 1B		Block 3B		Block 5B		Block 7B		Block 9B	
Block 2	3	**Block 4**	3	**Block 6**	3	**Block 8**	3	**Block 10**	3
Block 2A		Block 4A		Block 6A		Block 8A		Block 10A	
Block 2B		Block 4B		Block 6B		Block 8B		Block 10B	

Does this rotation accept visiting students? ☒ YES ☐ NO

COURSE DESCRIPTION:
On this rotation, students participate in the care of pulmonary patients on the Pulmonary Consult service. Students are primarily responsible for the patients they evaluate on the Consult service, presenting patients on rounds, documenting assessments and plans in the medical record, and communicating consult recommendations to patients and requesting teams. Students will participate in evaluation of pre-operative patients in pulmonary clinic. Students will learn basic bedside ultrasound, how to interpret pulmonary function tests, and are exposed to and potentially perform common pulmonary procedures. Students will use the primary literature to develop an evidence-based teaching presentation on a topic of their choosing to present to the Consult service and the course director.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Demonstrate proper patient interview and physical examination techniques in the context of consultative medicine. (PC1, CS4)
2. Analyze, synthesize, and integrate pertinent patient data to formulate a comprehensive and logically ordered differential diagnosis when assessing patients on the Pulmonary Consult service. (MK4, MK6, PC1, PC2)
3. Present and document data gathered from patient interviews, physical examinations, and laboratory sources, in standardized format in both initial consult notes and daily progress notes. (PC2, PC3, CS4, CS5)
4. Perform diagnostic and laboratory test interpretation for common studies used in pulmonary medicine (e.g. chest x-rays and pulmonary function tests), and actively consider cost-effectiveness when ordering or recommending diagnostic studies. (MK4, MK5, PC2, PL4, SL2)
5. Apply knowledge of the pathophysiology, epidemiology, and natural history of diseases to the diagnosis and management of common patient conditions in pulmonary medicine. (MK3, MK4, MK6, MK8, PC2, PC3)
6. Demonstrate effective and professional interpersonal and communication skills in interactions with patients and their families, including an awareness of psychosocial factors related to patients' problems. (CS1, PR1, PR2)

INSTRUCTIONAL METHODOLOGIES AND ROTATION ACTIVITIES: Students on this rotation will be expected to learn and achieve the educational goals and objectives through the following methodologies and activities:
1. Students will participate on the Pulmonary Consult service, and evaluate consult patients under attending and fellow supervision.
2. Students will present and discuss patients with the consult attending, fellow, and team.
3. Students will complete selected reading material on topics pertinent to the pulmonary medicine.
4. Attendance at Pulmonary Core Clinical Conferences at noon on Mondays, Tuesdays, and Thursdays.
5. Students will complete online modules, attend conferences that cover physician handoffs, consultative medicine, & palliative care.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Chronic respiratory failure, including very severe COPD with hypoxemia and/or hypercarbia
2. Obstructive lung diseases, including COPD (due to either emphysema and/or chronic bronchitis), asthma, and bronchiectasis
3. Restrictive lung diseases, including interstitial lung disease, pleural effusion, pneumoconiosis, and collagen-vascular diseases
4. Pulmonary malignancies, including non-small cell lung cancer, small cell lung cancer, metastases, and malignant effusions

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. E*Value Clinical Performance Evaluation.
2. Direct observation of patient care skills by the attending physician, fellows, and residents on service.
3. Students will give their attending a mid-point evaluation form half way through the rotation.
4. Attending physicians and fellows will provide students with verbal evaluation at the end of the rotation.
5. Students will receive formative feedback at the completion of online modules including assessment questions/quizzes.
6. Students will prepare and give a 15-minute presentation on a topic of their choosing to their teams/course director at rotation end.

Will students be expected to participate in call? ☐ YES ☒ NO

MED 868: Rheumatology & Immunology AME

Course Director: Faye Hant, DO, MSCR; Diane Kamen, MD, MSCR
Email: hant@musc.edu; kamend@musc.edu

Course Coordinator: Mary Ann Snell
Telephone #: 843-792-7282
Email: snellma@musc.edu

BLOCK	#	BLOCK	#	BLOCK	#	BLOCK	#	BLOCK	#
Block 1	2	**Block 3**	2	**Block 5**	1	**Block 7**	2	**Block 9**	2
Block 1A		Block 3A		Block 5A		Block 7A		Block 9A	
Block 1B		Block 3B		Block 5B		Block 7B		Block 9B	
Block 2	2	**Block 4**	2	**Block 6**	2	**Block 8**	2	**Block 10**	2
Block 2A		Block 4A		Block 6A		Block 8A		Block 10A	
Block 2B		Block 4B		Block 6B		Block 8B		Block 10B	

Does this rotation accept visiting students? ☒ YES ☐ NO

COURSE DESCRIPTION:
This rotation will emphasize the evaluation and management of patients with common musculoskeletal and autoimmune conditions. The majority of the time will be spent in the ambulatory Rheumatology clinics. With supervision and guidance, students may assist and/or perform procedures such as nailfold capillaroscopy, polarized microscopy and arthrocentesis. Limited exposure to complicated inpatient consultations is available. Students will have intense one-on-one contact with multiple Rheumatology faculty members in learning to evaluate patients. Students will rotate at the VA Clinic weekly; **active VA logins and codes are required before starting the rotation.**

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Evaluate patients with joint pain and inflammatory arthritis. (MK3, MK4, PC1, PC2, CS1, CS4)
2. Perform musculoskeletal exam techniques and describe procedures such as arthrocentesis and injections. (MK5, MK8, PC7, CS1)
3. Perform a diagnostic evaluation of patients with suspected autoimmune disease. (MK5, MK6, PC3)
4. Describe commonly utilized therapies in treating patients with a broad range of musculoskeletal diseases. (MK5, MK7, MK8, PC5)
5. Demonstrate effective and professional interpersonal and communication skills, and model ethical behavior. (CS1, CS2, PR1, PR2)

INSTRUCTIONAL METHODOLOGIES AND ROTATION ACTIVITIES: Students on this rotation will be expected to learn and achieve the educational goals and objectives through the following methodologies and activities:
1. The majority of time is spent in ambulatory clinics, where students will have intense one-on-one contact with faculty in the evaluation of ambulatory patients.
3. Instruction on indications and methodology for joint aspiration and injection, including hands on when applicable.
4. Students will attend and participate in all conferences and teaching sessions.
5. Students will learn pharmacotherapy related to rheumatology, including disease-modifying anti-rheumatic drugs (DMARDs), biologics, and other immunosuppressant and anti-inflammatory medications.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Inflammatory arthritis including rheumatoid arthritis (RA), psoriatic arthritis, and others
2. Connective tissue disorders including systemic lupus erythematosus (SLE), systemic sclerosis / scleroderma, Sjogren's syndrome, and others
3. Vasculitis including ANCA-associated vasculitis and giant cell arteritis (GCA)
4. Crystalline arthritis including gout and pseudogout

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. E*Value Clinical Performance Evaluation.
2. Direct observation of patient care skills by the attending physician, fellows, and residents on service.
3. The students will give their attending a mid-point evaluation form half way through the rotation for performance assessment.
4. Documentation of patient encounters is expected and the Electronic Medical Record will be utilized and reviewed with the student by the attending physician.
5. Preparation and presentation of a 10-15 minute talk to the division on an aspect of rheumatology encountered in their clinical experience. Feedback and evaluation will be given by the teaching attending and teaching fellow that month.
6. Participation in the weekly scheduled conferences and teaching sessions.
7. Students will receive formative feedback via completion of online modules that include assessment questions/quizzes.

Will students be expected to participate in call? ☐ YES ☒ NO

MED 871: Congestive Heart Failure/Transplant

Course Director: Adrian Van Bakel, MD
Email: vanbakel@musc.edu

Course Coordinator: Mary Ann Snell
Telephone #: 843-792-7282
Email: snellma@musc.edu

BLOCK	#	BLOCK	#	BLOCK	#	BLOCK	#	BLOCK	#
Block 1	1	**Block 3**	1	**Block 5**	1	**Block 7**	1	**Block 9**	1
Block 1A		Block 3A		Block 5A		Block 7A		Block 9A	
Block 1B		Block 3B		Block 5B		Block 7B		Block 9B	
Block 2	1	**Block 4**	1	**Block 6**	1	**Block 8**	1	**Block 10**	1
Block 2A		Block 4A		Block 6A		Block 8A		Block 10A	
Block 2B		Block 4B		Block 6B		Block 8B		Block 10B	

Does this rotation accept visiting students? ☐ YES ☒ NO

COURSE DESCRIPTION:
The Congestive Heart Failure (CHF)/Transplant Selective is an inpatient rotation designed to give students an in-depth experience assessing and treating complex patients with a primary diagnosis of congestive heart failure. In addition to medical management, students will be exposed to the intricacies of selecting treatment options for advanced heart failure therapy including heart transplantation and left ventricular assist device placement.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Define and describe pathophysiology and clinical features of congestive heart failure. (MK3, MK4, MK6, PC1)
2. Define and describe pharmacological and device therapy of congestive heart failure. (MK5, MK6, PC3, PL2)
3. Identify arrhythmias and describe their therapy in congestive heart failure. (MK4, MK5, PC1, PC3, PL2)
4. Define and describe evaluation for heart transplant including post-transplant care. (MK5, PC3, SL2, IP4)

INSTRUCTIONAL METHODOLOGIES AND ROTATION ACTIVITIES: Students on this rotation will be expected to learn and achieve the educational goals and objectives through the following methodologies and activities:
1. Students will evaluate inpatients under attending and fellow supervision. They will take and record a detailed history and physical of new patients. Cardiovascular examination skills will be imparted to the students at the bedside.
2. Students will be taught cardiovascular hemodynamics and the use of pulmonary artery catheters, right heart catheterizations and how to titrate medications.
3. Students will follow CHF patients who are supported by durable mechanical left ventricular assist devices. They will learn about patient selection, device selection and patient management with respect to long term management of these devices.
4. Students will be exposed to cardiac transplant medicine and learn about patient selection, postoperative and long term transplant care. Additionally, they will learn about the end organ complications, malignancies and infectious disease complications of heart transplant.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Students will encounter patients along the entire continuum of heart failure management, including new onset CHF, acutely decompensated heart failure, severe chronic heart failure, ischemic cardiomyopathy, non-ischemic cardiomyopathy, restrictive cardiomyopathy, and dilated cardiomyopathy. Students will be expected to evaluate and, with housestaff supervision, manage this challenging group of patients.

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. E*Value Clinical Performance Evaluation.
2. Direct observation of patient care skills by the attending physician, fellows, and residents on service.
3. The students will give their attending a mid-point evaluation form half way through the rotation for performance assessment.
4. Attending physicians and fellows will provide students with a verbal evaluation at the end of the rotation.

Will students be expected to participate in call? ☐ YES ☒ NO

MED 891: Medicine Hospitalist Consults AME

Course Director: Marc Heincelman, MD
Email: heincelm@musc.edu

Course Coordinator: Mary Ann Snell
Telephone #: 843-792-7282
Email: snellma@musc.edu

BLOCK	#	BLOCK	#	BLOCK	#	BLOCK	#	BLOCK	#
Block 1	1	**Block 3**	1	**Block 5**	1	**Block 7**	1	**Block 9**	1
Block 1A		Block 3A		Block 5A		Block 7A		Block 9A	
Block 1B		Block 3B		Block 5B		Block 7B		Block 9B	
Block 2	1	**Block 4**	1	**Block 6**	1	**Block 8**	1	**Block 10**	1
Block 2A		Block 4A		Block 6A		Block 8A		Block 10A	
Block 2B		Block 4B		Block 6B		Block 8B		Block 10B	

Does this rotation accept visiting students? ☒ YES ☐ NO

COURSE DESCRIPTION:
This course is designed to expose 4th-year medical students to the common general medicine diseases, particularly post-operative complications that are seen in the inpatient setting on a consultative basis.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Define and apply risk assessment and risk reduction strategies in patients with medical problems undergoing surgery. (MK4, MK7, PC3, PC5, PL3)
2. Demonstrate fundamentals of perioperative cardiovascular, pulmonary, and diabetes management. (MK3, MK4, PC3)
3. Demonstrate basics of perioperative venous thromboembolism prophylaxis, anticoagulation management, and antibiotic prophylaxis management. (MK4, PC3, SL2)
4. Demonstrate understanding of diagnosis and treatment of basic nosocomial infections such as pneumonia and urinary tract infections. (MK3, MK4, PC3, SL2)

INSTRUCTIONAL METHODOLOGIES AND ROTATION ACTIVITIES: Students on this rotation will be expected to learn and achieve the educational goals and objectives through the following methodologies and activities:
1. Students will round with the general medicine/hospitalist consult team at MUSC.
2. Students are expected to independently evaluate patients, follow and write daily notes on their patients, and present findings and plans to the hospitalist attending.
3. The consult team at MUSC consists of an attending hospitalist and potentially a medical resident who will work with and provide feedback to medical students during the rotation.
4. Students are encouraged to come to the department's conferences such as morning report and grand rounds.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Sinus tachycardia
2. Hypertension
3. Pneumonia
4. Urinary tract infections
5. Deep vein thrombosis/pulmonary embolus
6. Diabetes mellitus
7. Anemia

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. E*Value Clinical Performance Evaluation.
2. Direct observation of patient care skills by the attending physician, fellows, and residents on service.
3. Students will give their attending a mid-point evaluation form half way through the elective for performance assessment.
4. Attending physicians will provide students with verbal evaluation at the end of the rotation.

Will students be expected to participate in call? ☐ YES ☒ NO