COM 4 Course Catalog 2023-2024

DEPT	COURSE #	COURSE TITLE
ANES	ANES 860	General Anesthesiology
	ANES 862	Medical-Surgical ICU
	ANES 865	Pain Management
	ANES 866	Cardiovascular ICU
DERM	DERM 863	Dermatology
	DERM 866	Pediatric Dermatology
EMED	EMED 843	Wilderness Medicine *(2wks, block 9A only)*
	EMED 852	Emergency Medicine Externship
	EMED 854	Emergency Ultrasound
FAMILY MEDICINE	FAMMD 849	Geriatrics & Long-Term Care
	FAMMD 850	Family Medicine Preceptor
	FAMMD 857	Primary Care Sports Medicine
	FAMMD 862	Clin Med Spirituality & Health *(2wks)*
	FAMMD 865	Family Medicine Inpatient Externship
	FAMMD 879	FM Inpt/Outpt (Tidelands Hospital)
	FAMMD 896	Complex Wound Care *(2wks)*
MSTP students only	MDCOR 832	A Month in the Research NEXUS
INTERNAL MEDICINE	MED 817	Medical Abdominal ICU
	MED 820	Allergy & Immunology
	MED 835	Palliative Care *(2wks)*
	MED 836	Medical ICU (MUSC)
	MED 842	Gastroenterology Hepatology AME
	MED 844	Developing Clinical Skills Teaching *(by application only, longitudinal - see description)*
	MED 848	Medical ICU (VA)
	MED 851	Nephrology AME
	MED 855	Cardiology AME
	MED 858	Gastroenterology Luminal AME
	MED 859	Hematology/Oncology AME
	MED 861	Infectious Disease AME
	MED 862	Endocrinology AME
	MED 864	Internal Medicine Externship AME
	MED 865	Pulmonary Medicine AME
	MED 868	Rheumatology & Immunology AME
	MED 871	Congestive Heart Failure / Transplant
	MED 891	Medicine Hospitalist Consults AME
NEUROLOGY	NEURO 841	Neurovascular (Stroke) Outpatient
	NEURO 845	Neuro-Ophthalmology
	NEURO 851	General Pediatric Neurology
	NEURO 854	Vascular Neurology (Stroke)
	NEURO 859	General Adult Neurology Externship
NSGY	NSGY 852	General Neurosurgery Externship ASE
	NSGY 860	Neuroscience ICU
OBGYN	OBGYN 853	GYN Oncology Externship ASE
	OBGYN 861	Maternal/Fetal Medicine Externship
	OBGYN 872	Reproductive Infectious Disease
	OBGYN 873	Labor & Delivery Night Float Externship
	OBGYN 879	Benign Gynecology ASE
OPHTH	OPHTH 854	General Ophthalmology
	OPHTH 890	Neuro-Ophthalmology
OSURG	OSURG 850	Orthopaedic Surgery Externship ASE
	OSURG 864	Office-Based Orthopaedics
OTOL	OTOL 850	Otolaryngology Primary Care ASE
	OTOL 851	Otolaryngology Externship ASE
	OTOL 860	Head & Neck Surgical Oncology Externship ASE

DEPT	COURSE #	COURSE TITLE
PATHOLOGY	PATHO 853	Laboratory Medicine
	PATHO 856	Forensic & Medical Autopsy Pathology
	PATHO 860	Cytopathology *(2wks)*
	PATHO 862	Surgical Pathology
	PATHO 865	Dermatopathology
	PATHO 871	Hematopathology & Medicine *(2wks)*
PEDIATRICS	PEDS 821	Pediatric Emergency Medicine
	PEDS 823	Pediatric Cardiology
	PEDS 824	Pediatric Gastroenterology & Nutrition *(2wks)*
	PEDS 825	Pediatric Cardiac ICU
	PEDS 840	Developmental-Behavioral Pediatrics
	PEDS 852	Pediatric Nephrology
	PEDS 855	Genomics in Medical Practice *(2wks)*
	PEDS 863	Pediatric Hospitalist Medicine (Inpt Wards) Externship
	PEDS 864	Pediatric Cardiology Externship
	PEDS 868	Primary Care Pediatrics
	PEDS 870	Pediatric Hematology/Oncology Externship
	PEDS 871	Clinical Genetics & Counseling
	PEDS 876	Pediatric ICU
	PEDS 879	Pediatric Infectious Disease
	PEDS 890	Child Abuse and Neglect *(2wks or 4wks)*
PMR	PMR 851	Physical Medicine & Rehab
PSYCHIATRY	PSYCH 858	Geriatric Psychiatry
	PSYCH 860	Interventional Psychiatry
	PSYCH 870	Forensic Psychiatry
	PSYCH 871	Psychosomatic Med Consults
	PSYCH 874	Child/Adolescent Psychiatry Externship
	PSYCH 877	Adult Inpatient Psychiatry Externship (MUSC)
	PSYCH 888	Adult Inpatient Psychiatry Externship (VA)
RADIOLOGY	RAD 851	Diagnostic Radiology *(2wk option in specific blocks)*
	RAD 854	Pediatric Radiology *(2wk option in specific blocks)*
	RAD 856	Interventional Radiology *(2wk option in specific blocks)*
	RAD 857	Neuroradiology *(2wk option in specific blocks)*
	RAD 861	Breast Radiology *(2wks)*
	RAD 862	Muscoloskeletal Imaging *(2wk option in specific blocks)*
	RAD 865	Radiologic & Pathologic Correlation
	RAD 874	Diagnostic Radiology FLX
	RAD 888	Advanced Clinical Radiology
RDONC	RDONC 800	Radiation Oncology
SURGERY	SURG 830	Adult Cardiac Surgery Externship ASE
	SURG 832	Night Emergency Surgery ASE
	SURG 833	General Thoracic Surgery ASE
	SURG 834	Pediatric Surgery Externship ASE
	SURG 835	Plastic Surgery Externship ASE
	SURG 837	Surgical Oncology Externship ASE
	SURG 838	Transplant Surgery Externship ASE
	SURG 839	Trauma & Acute Care Surgery Externship ASE
	SURG 840	Peripheral Vascular Surgery Externship ASE
	SURG 846	Surgical-Trauma ICU
	SURG 853	Burn Surgery Externship ASE
	SURG 873	GI Surgery Externship ASE
UROL	UROL 851	Urology ASE
	UROL 853	Urology Externship ASE

Academic Year 2023-2024

List of courses that satisfy specific 4th-year curriculum requirements

Externships	
EMED 852	Emergency Medicine Externship
FAMMD 865	Family Medicine Inpatient Externship
MED 864	Internal Medicine Externship AME
NEURO 859	General Adult Neurology Externship
NSGY 852	General Neurosurgery Externship ASE
OBGYN 853	GYN Oncology Externship ASE
OBGYN 861	Maternal/Fetal Medicine Externship
OBGYN 873	Labor & Delivery Night Float Externship
OSURG 850	Orthopaedic Surgery Externship ASE
OTOL 851	Otolaryngology Externship ASE
OTOL 860	Head & Neck Surgical Oncology Externship ASE
PEDS 863	Pediatric Hospitalist Med (Inpt Wards) Externship
PEDS 864	Pediatric Cardiology Externship
PEDS 870	Pediatric Hematology/Oncology Externship
PSYCH 874	Child/Adolescent Psychiatry Externship
PSYCH 877	Adult Inpatient Psychiatry Externship (MUSC)
PSYCH 888	Adult Inpatient Psychiatry Externship (VA)
SURG 830	Adult Cardiac Surgery Externship ASE
SURG 834	Pediatric Surgery Externship ASE
SURG 835	Plastic Surgery Externship ASE
SURG 837	Surgical Oncology Externship ASE
SURG 838	Transplant Surgery Externship ASE
SURG 839	Trauma & Acute Care Surgery Externship ASE
SURG 840	Peripheral Vascular Surgery Externship ASE
SURG 853	Burn Surgery Externship ASE
SURG 873	GI Surgery Externship ASE
UROL 853	Urology Externship ASE

Critical Care Electives (ICU)	
ANES 862	Medical-Surgical ICU
ANES 866	Cardiovascular ICU
MED 817	Medical-Abdominal ICU
MED 836	Medical ICU (MUSC)
MED 848	Medical ICU (VA)
NSGY 860	Neuroscience ICU
PEDS 825	Pediatric Cardiac ICU
PEDS 876	Pediatric ICU
SURG 846	Surgical-Trauma ICU

Advanced Medicine Electives (AME)	
MED 842	Gastroenterology Hepatology AME
MED 851	Nephrology AME
MED 855	Cardiology AME
MED 858	Gastroenterology Luminal AME
MED 859	Hematology/Oncology AME
MED 861	Infectious Disease AME
MED 862	Endocrinology AME
MED 864	Internal Medicine Externship AME
MED 865	Pulmonary Medicine AME
MED 868	Rheumatology & Immunology AME
MED 891	Medicine Hospitalist Consults AME

Advanced Surgery Electives (ASE)	
NSGY 852	General Neurosurgery Externship ASE
OBGYN 853	GYN Oncology Externship ASE
OBGYN 879	Benign Gynecology ASE
OSURG 850	Orthopaedic Surgery Externship ASE
OTOL 850	Otolaryngology Primary Care ASE
OTOL 851	Otolaryngology Externship ASE
OTOL 860	Head & Neck Surgical Oncology Externship ASE
SURG 830	Adult Cardiac Surgery Externship ASE
SURG 832	Night Emergency Surgery ASE
SURG 833	General Thoracic Surgery ASE
SURG 834	Pediatric Surgery Externship ASE
SURG 835	Plastic Surgery Externship ASE
SURG 837	Surgical Oncology Externship ASE
SURG 838	Transplant Surgery Externship ASE
SURG 839	Trauma & Acute Care Surgery Externship ASE
SURG 840	Peripheral Vascular Surgery Externship ASE
SURG 853	Burn Surgery Externship ASE
SURG 873	GI Surgery Externship ASE
UROL 853	Urology Externship ASE

ANES 860: General Anesthesiology

Course Director: Burke Gallagher, MD
Email: gallagbu@musc.edu

Course Coordinator: Kimberly Bartlett
Telephone #: 843-792-4365
Email: bartletk@musc.edu

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Block 1	3	**Block 3**	3	**Block 5**	3	**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**	3	**Block 6**	3	**Block 8**	4	**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:
The course is an introduction to general anesthesia management, emphasizing the anesthetic subspecialties of pediatric, neurosurgical, cardiothoracic, obstetrical anesthesia, and pain management. The student will acquire a working knowledge of commonly used anesthetic agents, techniques and airway management. Students are expected to behave as senior students, helping with set-up and prepared for all cases with a plan. Only students seeking a residency in Anesthesia will be approved to schedule a rotation prior to January.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Discuss cardiovascular and pulmonary physiology as applied in a variety of clinical settings and disease processes and discuss clinically applicable pharmacokinetics and pharmacodynamics across various pharmacologic therapies. (MK5, PC1, PC2)
2. Start an intravenous line and have been guided through the process of intubations, place LMAs (laryngeal mask airways), start an arterial line. (PC7, MK4, PC6)
3. Discuss the treatment of acute pain through various modalities, including oral, intravenous, neuraxial, and regional techniques, as well the ethics involved in the treatment of pain. (MK8, PC3, SL2)
4. Communicate basic Advanced Cardiac Life Support principles with particular attention placed on airway management and understand the basics of Difficult Airway Management as demonstrated in a simulation course. (MK1, PR2, 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. Participation in weekly assignments in the operating rooms and a 5-10 minute oral presentation on one of the patients.
2. Attendance at Tuesday morning grand rounds, Tuesday afternoon simulation sessions (led by attending anesthesiologist), Wednesday afternoon resident lectures, Thursday afternoon medical student lectures (led by an anesthesia resident).
3. Completion of assigned reading chapters each week associated with required lectures.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with potential multiple conditions:
1. Patients with cardiovascular disease undergoing surgery
2. Patients undergoing labor epidural or c-section
3. Patients undergoing surgery related to trauma
4. Pediatric patients

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Clinical Performance Evaluation.
2. Direct observation of clinical skills performance by residents and attendings each day and discussion of didactic/reading topics, with application to daily clinical cases.
3. An oral presentation on a patient, including medical problems, type of surgery, anesthesia, and other interesting issues.
4. A mid-point evaluation form will be completed half way through the rotation in order for the student to be assessed on their performance.

Will students be expected to participate in call? ☒ YES ☐ NO
Students are expected to take call when their assigned resident is on call, with the exception of Friday-Monday night call.

ANES 862: Medical-Surgical ICU

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

Unit Director: Jeff McMurray, MD
Email: mcmurraj@musc.edu

Course Coordinator: Kimberly Bartlett
Telephone #: 843-792-4365
Email: bartletk@musc.edu

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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 both Pulmonary Critical Care and Anesthesia Critical Care physicians to learn about evaluation and management of acute care illness in both medical and surgical patient populations. Students will be directly involved in assessing, stabilizing, and treating critically ill patients with a variety of complex diseases with a focus in but not limited to Heme/Onc and GI. With supervision and guidance, students will be primarily responsible for their patients and will gain experience in developing clinical plans for critically ill patients. Students will become familiar with the basics of mechanical ventilation, intravenous fluids, shock and vasoactive medications, surgical emergencies, 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 18 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 with an interest in Anesthesiology, Emergency Medicine, Family Medicine, Internal Medicine, Surgery.

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, 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)
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. (CS1, CS2, CS3)
9. Perform a basic family meeting to discuss goals of care including discussing and obtaining code status. (CS1, CS2, CS3)
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, IP3, IP4)
11. Understand quality improvement metrics in the ICU and the team's role in reducing hospital acquired infections including VAP, CAUTI, CLABSI, etc. (PL4, PL6, IP4)
12. Concisely summarize a patient's critical illness and hand off important clinical information efficiently to other team members and consultants. (CS1, CS5, IP3)
13. Demonstrate an understanding of the pharmacology of sedation in the ICU including the prevention and treatment of pain, agitation and delirium (MK3, MK4, MK5)
14. Demonstrate a knowledge of airway management devices including high flow nasal cannula, NIV, BVM, LMA and endotracheal intubation. (MK4, PC7, 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)
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. (MK3, MK4, MK5)
17. Write complete and succinct systems based medical plan with H&Ps and daily progress notes in EPIC. (PC2, PC3, MK5)

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. Acute surgical emergencies
5. Hemorrhagic shock due to gastrointestinal bleeding, retroperitoneal bleed, or intra-peritoneal bleeding.
6. Neurologic conditions such as pain management, coma, encephalopathy, CVA and delirium

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. 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 receive a mid-point evaluation of their performance.

ANES 865: Pain Management

Course Director: Meron Selassie, MD; Martin Burke, MD; and Gabe Hillegass, MD
Email: selassi@musc.edu; burkem@musc.edu; hillegas@musc.edu

Course Coordinator: Kimberly Bartlett
Telephone #: 843-792-4365
Email: bartletk@musc.edu

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Block 2	1	**Block 4**	1	**Block 6**	1	**Block 8**	1	**Block 10**	0
Block 2A		Block 4A		Block 6A		Block 8A		Block 10A	
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Does this rotation accept visiting students? ☐**YES**☒ NO

COURSE DESCRIPTION:
The pain management rotation is an opportunity for the student to learn the fundamentals of pain and pain management. The rotation is intended to provide an overview of the neuroanatomy, physiology, pathology, diagnosis and treatment of pain. Students are exposed to a wide variety of disease processes requiring pain management and these include acute, chronic, and cancer pain in the adult and pediatric populations.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Discuss the types of pain and classification of pain. (MK1, MK2)
2. Demonstrate understanding of pharmacology of local anesthetics, opioids and neuropathic pain medications. (MK5, MK2)
3. Identify the landmarks and techniques for performing, indications, risks, and complications for nerve blocks and neuraxial procedures in pain treatment. (MK7, MK8)
4. Demonstrate knowledge of the psychosocial aspects of chronic pain. (MK6, MK8)
5. Demonstrate understanding of multimodal therapy in delivery of comprehensive pain care. (MK7, MK8)

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. Attendance at Tuesday morning grand rounds, Tuesday afternoon simulation sessions (led by attending anesthesiologist), Wednesday afternoon resident lectures, Thursday afternoon medical student lectures (led by an anesthesia resident) optional.
2. Attendance and participation in clinic visits and discussions of patients.
3. Evaluations of and interaction with the patients.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Acute pain
2. Chronic pain
3. Cancer pain

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Clinical Performance Evaluation.
2. Direct observation of the student's interviewing and examining of the patients.
3. Following each patient interaction, the student will give an oral presentation describing the findings along with a diagnosis and treatment plan.
4. A mid-point evaluation form will be completed half way through the rotation in order for the student to be assessed on their performance.

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

ANES 866: Cardiovascular ICU

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

Unit Director: Hannah Bell, MD
Email: belllau@musc.edu

Course Coordinator: Kimberly Bartlett
Telephone #: 843-792-4365
Email: bartletk@musc.edu

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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 an interdisciplinary care team lead by Critical Care Anesthesiologists to manage critically ill cardiac patients in consultation with cardiovascular surgeons and cardiologists. Students will be directly involved in assessing, stabilizing, and treating critically ill patients with a variety of complex cardiovascular diseases. With supervision and guidance, students will be primarily responsible for their patients and will gain experience in developing clinical plans for critically ill patients. Students will become familiar with the basics of mechanical ventilation, 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 18 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 requirement for night call, but is offered (and encouraged) by the unit director as an integral learning experience or as make-up for unexcused absences. This rotation is recommended for students with interest in anesthesiology, internal/family medicine, emergency medicine and surgical 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. (MK5, PC3, PC6)
3. Develop clinical skills in evaluating and managing acute cardiac illnesses, including acute myocardial infarction, tachy and bradyarrhythmias, advanced heart failure complicated by cardiogenic shock, and severe valvular pathology. (MK4, PC2, PC3)
4. Discuss indications for and risks and benefits of the following therapeutic interventions used in the CCU: invasive hemodynamic monitoring, percutaneous coronary intervention, pacemakers and implantable cardiac defibrillator, intra-aortic balloon pumps, initiation and titration of inotropic medications in cardiogenic shock, and temporary and durable mechanical circulatory assist devices. (MK8, PC3, PL2)
5. Accurately and reliably interpret the following diagnostic testing modalities: ECG, echocardiogram, coronary angiography, and real-time hemodynamic data from PA catheters. (MK5, MK8, PL2)
6. Be able to obtain Informed Consent for diagnostic and therapeutic tests and procedures including verbalization of risks, benefits and alternatives. (PC3, PC7, CS1)
7. Participate in and potentially perform procedures under direct supervision, including placement of arterial lines, central venous lines and Swan-Ganz catheters while learning proper sterile technique. (MK8, PC7)
8. 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)
9. Demonstrate effective and professional interpersonal and communication skills, and model ethical behavior. (CS1, PR1, IP3)
10. Demonstrate empathy and discuss end of life issues with the patient and family including giving bad news. (PR1, PR2, PR3)
11. Participate in a basic family meeting to discuss goals of care including discussing and obtaining code status. (CS1, CS2, PR2)
12. 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, IP3, IP4)
13. Understand quality improvement metrics in the ICU and the team's role in reducing hospital acquired infections including VAP, CAUTI, CLASBI, etc. (PL6, SL3, IP4)
14. Concisely summarize a patient's critical illness and hand off important clinical information efficiently to other team members and consultants. (CS1, CS5, IP3)
15. Demonstrate an understanding of the pharmacology of sedation in the ICU including the prevention and treatment of pain, agitation and delirium (MK4, MK5, PC3)

16. Demonstrate a knowledge of airway management devices including high flow nasal cannula, NIV, BVM, LMA and endotracheal intubation. (MK5, PC7, PL2)
17. 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, PL3, IP4)
18. Write complete and succinct systems based medical plan with H&Ps and daily progress notes in EPIC. (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. 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, Swan-Ganz catheter placement.
5. 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
2. Shock due to cardiac pump failure, distributive pathophysiology (e.g., septic shock), obstructive mechanisms.
3. Acute cardiovascular compromise including coronary artery disease, congestive heart failure, arrhythmias, valvular dysfunction
4. Acute cardiovascular surgical emergencies

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. 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.

DERM 863: Dermatology

Course Director: Richard Marchell, MD
Email: marchell@musc.edu

Course Coordinator: Mark Lynch
Telephone #: 843-876-5074
Email: lynchd@musc.edu

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Does this rotation accept visiting students? ☒ YES ☐ NO

COURSE DESCRIPTION:
Students will observe and participate in the diagnosis and management of a wide variety of dermatologic diseases. Preference for rotations in blocks 1-5 will be given to those students entering Dermatology as their chosen specialty.

LEARNING GOALS AND OBJECTIVES: At the completion of this clinical rotation, students should be able to:
1. Perform a complete skin examination. (CS1-5, MK1, MK4, PC1-5, PR-5, IP1)
2. Diagnose and treat common skin conditions. (CS1-5, MK1, MK4, PC1-5, PR1-5, IP1)
3. Describe basic dermatologic procedures. (MK1, PC6-7, IP1)
4. Discuss the basics of dermatologic therapy. (CS1-5, MK1, MK4, PC1-5, PR1-5, IP1)
5. Identify which patients need referral to a dermatologist. (PC4, IP1)
6. Demonstrate the ability to use proper terminology to describe skin lesions or rashes. (MK1, PC4)

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. Independent completion of the American Academy of Dermatology 4-week medical student core curriculum (online).
2. Participation in inpatient rounds.
3. Participation in resident clinics at the VA and MUSC.
4. Review of skin pathology slides at the multi-headed teaching microscope in the dermatopathology lab with Dr. Elston, Dr. Metcalf, and Dr. Ralston.
5. Meet with the course director every Wednesday from 9:00-11:00 am for teaching sessions.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Non-melanoma skin cancers
2. Acne
3. Psoriasis
4. Atopic Dermatitis
5. Dermatophyte Infections

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Clinical Performance Evaluation.
2. Written exam and clinical images quiz at the end of the rotation.
3. 10-minute presentation on a dermatologic topic of the student's choice.
4. Attending and resident evaluation of performance during clinical encounters.
5. A mid-point evaluation form will be completed half way through the rotation to assess the student on their performance.

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

DERM 866: Pediatric Dermatology

Course Director: Lara Wine Lee, MD; Colleen Cotton, MD
Email: winelee@musc.edu; cottonc@musc.edu

Course Coordinator: Mark Lynch
Telephone #: 843-876-5074
Email: lynchd@musc.edu

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Block 2	1	**Block 4**	1	**Block 6**	1	**Block 8**	1	**Block 10**	1
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Does this rotation accept visiting students? ☐ YES ☒ NO

COURSE DESCRIPTION:
Students will observe and participate in the diagnosis and management of a wide variety of dermatologic diseases of the pediatric population. Patient encounters will occur largely in the Pediatric Dermatology outpatient clinic. Inpatient consultation and patient care will also supplement the students' clinical experiences.

LEARNING GOALS AND OBJECTIVES: At the completion of this clinical rotation, students should be able to:
1. Perform a complete skin examination. (CS1-5, MK1, MK4, PC1-5, PR1-5, IP1)
2. Diagnose and treat common skin conditions. (CS1-5, MK1, MK4, PC1-5, PR1-5, IP1)
3. Describe basic dermatologic procedures, skin lesions, and rashes. (MK1, PC6-7, IP1)
4. Discuss the basics of dermatologic therapy. (CS1-5, MK1, MK4, PC1-5, PR1-5, IP1)
5. Identify which patients need referral to a dermatologist. (PC4, IP1)

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. Participation in inpatient rounds.
2. Participation in clinics.
3. Independent completion of the American Academy of Dermatology medical student modules in pediatric dermatology.
4. 5-10 minute presentation of pediatric dermatologic disease of choice

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Atopic Dermatitis
2. Acne
3. Skin infections
4. Birthmarks
5. Hair disorders

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Clinical Performance Evaluation.
2. Presentation on a pediatric dermatologic topic of the student's choice.
3. Attending and resident evaluation of performance during clinical encounters.
4. A mid-point evaluation form will be completed half way through the rotation to assess the student on their performance.

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

EMED 843: Wilderness Medicine

Course Director: Simon Watson, MD, and Amanda Price, MD
Email: watsonsc@musc.edu, selden@musc.edu

Course Coordinator: Melanie Pigott
Telephone #: 843-876-8023
Email: pigott@musc.edu

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Block 1B		Block 3B		Block 5B		Block 7B		Block 9B	
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Does this rotation accept visiting students? ☐ YES ☒ NO

COURSE DESCRIPTION:
Students will learn to save lives in the wilderness while earning Advanced Wilderness Life Support (AWLS) Certification. The course uses structured didactic sessions and hands-on practical instruction in a variety of outdoor settings to teach the diagnosis and initial management of the most common wilderness injuries and illnesses. During this course, the first week is spent in Charleston, the second week is spent in Boone, NC at Camp Broadstone. There is a required course fee that will cover the Advanced Wilderness Life Support certification, as well as some of the outdoor excursions and the costs of the camp. This fee will not exceed $600. Students are required to complete a waiver form. All students will be expected to be able to engage in moderate physical activity. Students that are pursing Emergency Medicine as a career and members of the Wilderness Interest group will have first priority for this course. (*Please note: No refunds will be given within 30 days of the date of the start of the rotation. If you need to cancel within the 30-day period, your payment can be applied to a future Advanced Wilderness Life Support (AWLS) course of your choosing to be used within two years of the date of the canceled course. All refunds are subject to a 10% processing fee.)*

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Demonstrate the correct steps in patient assessment in the wilderness. (MK3, PC1, IP3)
2. Describe the initial treatment guidelines for a variety of conditions in the wilderness. (SL1, PC3)
3. Describe the management of common medical and trauma emergencies and urgencies in the wilderness while awaiting definitive care. (PC4, MK8)

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 didactic sessions to gain medical knowledge about wilderness medicine.
2. Attend practical sessions to gain hands-on experience in patient assessment and stabilization.
3. Prepare and present to the group a lecture on a chosen topic.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Students will learn and practice patient assessment and stabilization skills utilizing learners in the scripted roles of standardized patients.

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Clinical Performance Evaluation.
2. Written exam at the end of elective.
3. Practical exam at the end of elective.
4. Evaluation of content and presentation of lecture.
5. Narrative description based on learner participation and teamwork skills.

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

EMED 852: **Emergency Medicine Externship**

Course Director: Simon Watson, MD
Email: watsonsc@musc.edu

Course Coordinator: Melanie Pigott
Telephone #: 843-876-8023
Email: pigott@musc.edu

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Block 2	11	**Block 4**	11	**Block 6**	3	**Block 8**	3	**Block 10**	3
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Does this rotation accept visiting students? ☒ YES ☐ NO

COURSE DESCRIPTION:
The course consists of 12 nine-hour shifts in the Emergency Department (ED). During each shift, the student will interact with patients and learn how to perform an expeditious and focused H&P. The student will focus on how to order appropriate diagnostic tests and formulate a differential diagnosis. The student will work closely with the attending on duty and learn how to treat and manage many various illnesses and injuries. The ED operates 24 hours a day, 7 days a week. Orientation will occur on the first day of the rotation. Weekly didactic sessions are mandatory. Blocks 1-5 will be reserved for those students entering Emergency Medicine as their chosen specialty.

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. Conduct an initial assessment of a patient in the ED and perform stabilization techniques. (PC1, MK3, MK4, CS1, CS2)
3. Establish a differential diagnosis, and order and interpret appropriate diagnostic tests (including imaging studies) related to the differential diagnosis. (PC2, PR1)
4. Manage acutely ill and/or injured patients. (PC3, PR2, SL2)
5. Perform procedural skills (i.e., I.V. access, blood drawing from femoral sticks, arterial sticks, sutures, I&Ds, wound care, fracture splinting). (MK5, PC1, PC7)
6. Participate in reading EKGs, ABG interpretation, and patient case discussions. (MK5, MK8)

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. Lectures, rounds, and discussion.
3. Patient contact and patient load.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Chest pain and abdominal pain
2. Trauma
3. Altered mental state
4. Procedures may include laceration repair, abscess incision and drainage, lumbar puncture, among others

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Clinical Performance Evaluation.
2. Direct observation of clinical and patient care skills as evaluated by the ED attending physician.
3. The students will be evaluated on their ability to follow the patient through the course of the ED which could include consultations, an admission or a discharge from the ED.
4. Active participation in group discussion as evaluated by the ED attending physician.
5. Participation in the weekly EM didactic sessions as evaluated by the faculty as well as the residents.
6. The student will be required to present a case report of their choosing during one didactic session – duration of no more than five minutes – and will be evaluated by their peers, the EM residents, and the faculty present.
7. Mid-Point feedback – Student will receive feedback from attendings at the end of clinical shifts.

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

EMED 854: Emergency Ultrasound

Course Director: Ryan Barnes, DO
Email: barnesry@musc.edu

Course Coordinator: Melanie Pigott
Telephone #: 843-876-8023
Email: pigott@musc.edu

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Block 2	0	**Block 4**	0	**Block 6**	0	**Block 8**	4	**Block 10**	4
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Does this rotation accept visiting students? ☐ YES ☒ NO

COURSE DESCRIPTION:
This course is intended for students going into the field of Emergency Medicine. During the four-week rotation, the student will focus on Emergency Ultrasound (EUS) skills. They will complete a minimum of 50 scans in pertinent areas of EUS including Aorta, Biliary, Trauma, Cardiac, Renal, DVT, Soft Tissue/MSK, Thoracic, Ocular, Obstetric, and Procedural Ultrasound. There will be scheduled one on one time with EUS faculty, as well as a weekly scan review. Students will present one case at the end of their month, as well as complete interactive quizzes pertinent to required reading.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Describe the clinical indications for which bedside ultrasound would be useful. (PL2, CS1, MK5, PC3)
2. Demonstrate skills in the utilization of bedside ultrasound for diagnosis in appropriate ED patients. (PC1, MK5)
3. Demonstrate skills necessary for ultrasound guided procedures (IVs, etc.). (PC7, MK5)
4. Describe the difference between normal and abnormal anatomy found on ultrasound and how these differences affect normal physiology. (MK1, MK2, MK4)
5. Outline situations in which a more complete US scan may be needed by consultative services (Radiology, Cardiology, OB/GYN). (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. Perform at least 50 US scans in the basic areas of Emergency Ultrasound.
2. Participate in formal scan review as well as dedicated one on one time with the Emergency Ultrasound faculty.
3. Complete reading assignments (book chapters and journal articles) as required per the rotation handbook.
4. Present one interesting case during general Emergency Medicine Didactics.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Students will have encounters with patients in the emergency department with a broad spectrum of disease processes.
2. Patients presenting with injuries sustained from trauma.
3. Encounters related to medical and surgical processes requiring emergent evaluation.
4. Patients with exacerbations of chronic medical conditions.

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Clinical Performance Evaluation.
2. Pre and post-test of ultrasound skills and assigned readings.
3. Ultrasound scan review sessions.
4. Observed hands-on time with EUS faculty during EUS scans.
5. Mid-point feedback will be given to students during direct hands-on scanning with the students.

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

FAMMD 849: Geriatrics & Long-Term Care

Course Director: Russell Blackwelder, MD
Email: blackwr@musc.edu

Course Coordinator: Sierra Goodman
Phone: 843-876-2910
Email:goodmasi@musc.edu

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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	
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Does this rotation accept visiting students? ☐ YES ☒ NO

COURSE DESCRIPTION:
During this experience students will spend time in a continuing care retirement community for geriatric patients. The students taking this elective will gain experience not only in the care of geriatric populations but also in the knowledge of care transitions related to the post-acute and long-term care environments. The rotation is located at The Village at Summerville (201 W 9th North Street).

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Demonstrate quality care unique to geriatric patients in the post-acute and long-term care settings. (PC1, MK3)
2. Manage successful care transitions across settings including skilled nursing, long-term care, assisted living, and independent living. (PC3, MK4, CS3, SL2)
3. Articulate unique challenges in providing care in the institutionalized setting. (PC5, SL4)
4. Work effectively as a member of the interprofessional team in a long-term care setting. (PR1, CS4, PC6)
5. Manage physical rehabilitation needs of individual patients. (MK5, 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. Provide continuity of care across medical service settings.
2. Evaluate and treat common geriatric syndromes as they arise.
3. Work as an effective member of the interdisciplinary team in the long term care setting.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Patients with geriatric syndromes, including (but not limited to) dementia, falls, incontinence, osteoporosis, delirium
2. Patients in a long-term care setting, including (but not limited to) end-of-life care, age-related debility

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Clinical Performance Evaluation.
2. At the midpoint of the rotation the preceptor will provide verbal feedback regarding student performance.
3. Supervision of clinical encounters and work with the interdisciplinary team.

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

FAMMD 850: Family Medicine Preceptor

Course Director: Cristin Adams, DO, MPH
Email: swordsc@musc.edu

Course Coordinator: Sarah McIntyre
Telephone #: 843-876-2914
Email: mcintyrs@musc.edu

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Block 2	tbd	**Block 4**	tbd	**Block 6**	tbd	**Block 8**	tbd	**Block 10**	tbd
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Does this rotation accept visiting students? ☐ YES ☒ NO

COURSE DESCRIPTION:
On this rotation, students will work closely with a family physician, gaining genuine experience in family medicine and primary health care delivery. This elective is beneficial for those considering a career in family medicine and for future consultants to gain an appreciation for the role of the family physician. **Students must have pre-approval from a community preceptor, chosen from a list provided by Department of Family Medicine, prior to registration in this course.**

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Describe features of private practice that differ from hospital-based or academic practice. (SL1, SL4)
2. Identify and address the patient's reasons for the visit. (PC1)
3. Negotiate the assessment and plan with the preceptor and patient (PC2, PC3, MK5)
4. Discuss the methods to improve the business of providing health care services in an ambulatory practice. (PL1, PL3)
5. Analyze the lifestyle of the preceptor in relationship to practice style. (PR4)
6. Describe opportunities and optimal approaches for integrating disease prevention/health promotion into clinical practice. (MK7, PC5, PL6)

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. Patient care
2. Conduct interviews and physical examinations of patients.
3. Write the progress note for assigned patient encounter
4. Recommend orders for care of assigned patients.
5. Ensure complete and timely care of assigned patients.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Diabetes
2. Hypertension
3. Respiratory Infections, including pharyngitis, URI, sinusitis, and bronchitis
4. Hyperlipidemia
5. Musculoskeletal pain, including low back, shoulder, knee, hip, and ankle pain
6. Preventative care examinations

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Clinical Performance Evaluation.
2. A mid-point evaluation form will be completed half way through the rotation in order for the student to be assessed on their performance.

Will students be expected to participate in call? ☒ YES ☒ NO
Dependent upon site. Student will be made aware by community preceptor.

FAMMD 857: Primary Care Sports Medicine

Course Director: Alec DeCastro, MD
Email: decastroa@musc.edu

Course Coordinator: Sierra Goodman
Telephone #: 843-876-2910
Email: goodmasi@musc.edu

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Does this rotation accept visiting students? ☐ YES ☒ NO

COURSE DESCRIPTION:
The student will assist sports medicine physicians with direct patient care activities. In addition, the student will rotate through physical therapy and work with athletic trainers. Finally, the student will be expected to develop and present a morning report / noon conference on a primary care sports medicine topic.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Demonstrate a basic foundation of knowledge in primary care sports medicine. (MK1, MK2, MK3, MK4, MK5, MK6)
2. Demonstrate understanding and promote the role of exercise in health promotion and disease prevention (and be able to prescribe an individualized exercise program). (MK7, MK8, PC3, CS4)
3. Demonstrate an understanding of injury prevention and be able to manage common exercise and sport related injuries, acutely and chronically. (MK7, PC5)
4. Understand multidisciplinary team and their roles in the health of the athlete. (IP1, 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. Assist with direct patient care.
2. Complete recommended reading assignments.
3. Provide formal presentation on a sports medicine topic of choice.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Sports-related injuries
2. Other musculoskeletal complaints

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Clinical Performance Evaluation.
2. At the end of each week, the preceptor will provide verbal feedback regarding your performance.

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

FAMMD 862: Clinical Medicine Spirituality & Health

Course Director: Russell Blackwelder, MD
Email: blackwr@musc.edu

Course Coordinator: Sierra Goodman
Phone: 843-876-2910
Email: goodmasi@musc.edu

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Block 2		**Block 4**		**Block 6**		**Block 8**		**Block 10**	
Block 2A	1	Block 4A	1	Block 6A	1	Block 8A	1	Block 10A	1
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Does this rotation accept visiting students? ☐ YES ☒ NO

COURSE DESCRIPTION:
Taking a spiritual history and referring patients with spiritual concerns to chaplains or ministers are basic clinical skills that every medical provider should learn. Inquiry into the spiritual areas of patients' lives, previously considered taboo, is now taught as method of delivering more comprehensive and compassionate care at over 70 medical schools. Spiritual inquiry is justified by the need to obtain important medical information and explore the patient's point of view regarding their illness, but it must be done in such a way that respects the patient's privacy, confidentiality, and autonomy. Effectively integrating spiritual sensitivity into clinical practice is a challenge that should be addressed by all physicians and clinical care providers.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Take a spiritual history from a patient. (CS1, PR2, PC5)
2. Demonstrate integration of sensitivity to spiritual needs into the clinical encounter. (PC1, MK7, CS2, PL3)
3. Refer patients to several available spiritual and religious health resources in the hospital and community. (PR1, PC4, 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. Outpatient clinical medicine.
2. Working with the chaplain.
3. Inpatient rounding.
4. Independent reading.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Acute illnesses in an outpatient family medicine clinic
2. Patients hospitalized on a family medicine inpatient service, with pneumonia, COPD, heart disease, and other conditions
3. Hospice patients with terminal cancer and other terminal conditions

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Clinical Performance Evaluation.
2. Direct observation by faculty during direct patient care.

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

FAMMD 865: Inpatient Family Medicine Externship

Course Director: Leah Stem, MD
Email: stemle@musc.edu

Course Coordinator: Sierra Goodman
Telephone #: 843-876-2910
Email: goodmasi@musc.edu

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Block 2	2	**Block 4**	3	**Block 6**	3	**Block 8**	3	**Block 10**	3
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Block 2B		Block 4B		Block 6B		Block 8B		Block 10B	

Does this rotation accept visiting students? ☐ NO ☒ YES

COURSE DESCRIPTION:
This externship is structured to provide the student with an inpatient experience on an academic family medicine service as well as see patients in an outpatient family medicine clinic. Students are expected to complete two weeks on the inpatient service, a week (five nights) on night float, and a week in clinic. This rotation is at MUSC Hospital.

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. (PC7, CS1, CS2)
2. Perform a complete patient interview and physical exam for patients requiring hospital admission and those in the ambulatory setting. (PC1, CS1)
3. Review and synthesize patient findings, using evidence-based medicine, to develop a management plan for ambulatory and hospitalized patients. (PC2, PC3, PL3)
4. Present patient evaluations and management plans to the patient care team and discuss care plans with the patient. (CS1, PR1, PR2)
5. Document accurate history and physicals, daily progress notes, and discharge summaries for hospitalized patients as well as SOAP notes for clinic patients. (PC4, CS5)
6. Communicate with consultants and ancillary staff regarding the care and management of a patient. (PC4, IP1, IP3)

INSTRUCTIONAL METHODOLOGIES AND ROTATION ACTIVITIES:
Students on this rotation will be expected to learn and achieve the educational goals and objectives through participation in the following activities:
1. Complete an Externship Log documenting level of participation in key entrustable professional activities.
2. Lectures (Thursday academic half days, clinic morning reports, and Friday inpatient teaching sessions with Dr Hebbar).
3. Inpatient Rounds.

PATIENT ENCOUNTERS:
Students will be expected to work-up patients with these specified conditions:
1. Congestive Heart Failure (Reduced Ejection Fraction, Preserved Ejection Fraction, Combined)
2. Chest Pain
3. Chronic Obstructive Pulmonary Disease exacerbation
4. Cerebrovascular Accident vs. Transient Ischemic Attack
5. Pneumonia (Community Acquired, Healthcare associated, Aspiration, Viral)
6. Sepsis
7. Cellulitis/Soft tissue infection
8. Sickle cell crisis
9. Gastrointestinal bleed
10. Alcohol withdrawal

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Clinical Performance Evaluation.
2. At the end of each week, the attending on service will provide verbal feedback regarding your performance.
3. A mid-point evaluation form will be completed half way through the rotation in order for the student to be assessed on their performance. The student is responsible to ensure the mid-point evaluation is completed and returned to Sierra Goodman in a timely fashion.

Will students be expected to participate in call? ☒ YES ☐ NO
Students are expected to participate in “late-stay” until 10:00 pm once per week.

FAMMD 879: Family Medicine Inpt/Outpt (Tidelands Hospital)

Course Director: Vasudha Jain, MD
Email: vjain@tidelandshealth.org, jainv@musc.edu

Course Coordinator: Sierra Goodman
Telephone #: 843-876-2910
Email: goodmasi@musc.edu

Site Coordinator: Caitlyn Krask
Telephone #: 843-652-8440
Email: ckrask@tidelandshealth.org

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Block 1A		Block 3A		Block 5A		Block 7A		Block 9A	
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Block 2A		Block 4A		Block 6A		Block 8A		Block 10A	
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Does this rotation accept visiting students? ☒ YES ☐ NO

COURSE DESCRIPTION:
This rotation will provide students with inpatient and outpatient experience consistent with a community family medicine physician located in the Murrells Inlet area. Students will complete 1-2 weeks on a busy inpatient service (flexible), 1-2 weeks of outpatient medicine, and 1 week geared towards a specific interest of the student (given availability of rotation). For instance, students interested in community medicine, geratrics, or behavioral medicine (among others) will have the opportunity to focus in these areas. If the student does not have specific interests, 2 weeks will be completed in the outpatient setting. Students will be responsible for providing their own transportation and securing housing for this rotation.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Complete history and physical for patients upon admission to hospital. (PC1, CS1)
2. Develop daily plan for patients admitted to the inpatient service. (MK1, MK5, MK8, PC2, PC3, PL1, PL3)
3. Deliver accurate and concise patient assessment and management plans to patient care team. (PC2, PC3, CS1, PR1, PR4)
4. Document accurate history and physical, daily progress notes, discharge summaries, and clinic notes for patients. (CS5)
5. Communiate with consultants and ancillary staff regarding care of patients. (PC4, CS4, PR1, IP1, 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. Participate on rounds daily while on inpatient service.
2. Discuss outpatient encounters directly with attending physicians.
3. Attend Morning Report daily.
4. Meet with course director at the beginning and end of rotation for debriefing.
5. Attend academic half day if applicable.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Chronic medical conditions, including diabetes, hypertension, hyperlipidemia
2. Acute illnesses, including upper respiratory infections, musculoskeletal injuries, gastrointestinal disease
3. Psychiatric conditions, including depression, anxiety, insomnia
4. Preventative health, including Pap Smears, immunizations, physical exam, wellness
5. Frequently encountered inpatient conditions, including sepsis, community-acquired pneumonia.

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Clinical Performance Evaluation.
2. Inpatient attendings will deliver verbal feedback each week.
3. Outpatient attendings will deliver verbal feedback each week and during specific patient encounters.
4. Course director will deliver verbal feedback at the end of the rotation.

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

FAMMD 896: Complex Wound Care

Course Director: Joshua Visserman, MD
Email: visserma@musc.edu

Course Coordinator: Sierra Goodman
Telephone #: 843-876-2910
Email: goodmasi@musc.edu

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Does this rotation accept visiting students? ☐ YES ☒ NO

COURSE DESCRIPTION:
Students will work with the inpatient Wound, Ostomy, and Continence Nursing Team and in the outpatient Wound Care and Hyperbaric Medicine Center on a daily basis. The rotation will function as an inpatient experience focusing on wound healing in the acute care patient as well as an outpatient specialty clinic experience for students to learn the basics of chronic wound care including diagnosis, dressings, debridements, advanced wound care techniques and hyperbaric oxygen therapy.

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. Assess wounds that require advanced wound care treatments. (PC1, PC2, PC3)
3. Demonstrate proper techniques for wound debridement and dressing application. (PC7, MK5, SL2)
4. Collaborate with interdisciplinary health care professionals in the care of patients and families.(IP1, IP2, 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. Direct patient care in the outpatient clinic in CSB and inpatient rounds in ART, Main, and SJCH including wound assessment, dressing selection and application, wound debridement, and advanced dressing application
2. Observation of hyperbaric oxygen therapy, working alongside the hyperbaric chamber operator
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. Diabetic foot ulcers, venous leg ulcers, arterial wounds, pressure injuries, atypical wounds, fecal and urinary diversions, fistulae, surgical wound, and ostomy management
2. Osteomyelitis, cellulitis, and wound infections
3. Radiation injury and compromised flaps/grafts needing hyperbaric oxygen therapy

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Clinical Performance Evaluation.
2. Direct observation of student performance.

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

MED 817: Medical Abdominal ICU

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

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

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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 Senior Pulmonary/Critical Care 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, liver failure, post-operative liver transplant. 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 and **mandatory** ethics and ultrasound sessions on the last Wednesday of the rotation. Participation is expected at all simulation-based procedural skills modules (Central Venous Catheters, Butterfly US Modules) unless absence is excused. Students will be expected to work at least 18 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, Anesthesiology, General Surgery, 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. Observe, participate in, and/or 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, CS1, CS2, CS3, PR3)
9. Perform a basic family meeting to discuss goals of care including discussing and obtaining code status. (PC1, PC4, CS1, PR1)
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)
11. Understand quality improvement metrics in the ICU and the team's role in reducing hospital acquired infections including VAP, CAUTI, CLABSI, etc. (MK7, PR4, PL5, IP4)
12. Concisely summarize a patient's critical illness and hand off important clinical information efficiently to other team members and consultants. (CS1, IP1, IP2, PC6)
13. Demonstrate an understanding of the pharmacology of sedation in the ICU including the prevention and treatment of pain, agitation and delirium (MK2, PC3, PL4)
14. Demonstrate a knowledge of airway management devices including high flow nasal cannula, NIV, BVM, LMA and endotracheal intubation. (MK4, PC7, CS2, PR3)
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. (MK5, MK7, PC3, CS1)

17. Write complete and succinct systems based medical plan with H&Ps and daily progress notes in EPIC. (MK3, PC2, CS1, PR1)
18. Understand the evaluation, work up and management of acute decompensated chronic liver failure and expectant management (MK5, PC3, IP4)
19. Understand the acute management and potential complications of the post-op liver transplant patient (MK5, PC3, 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 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 decompensated liver failure due to Tylenol OD, ischemic hepatitis, decompensated cirrhosis, alcoholic hepatitis
2. Immediate Post-transplant liver patients
3. Acute hypoxic/hypercarbic respiratory failure due to pneumonia, acute respiratory distress syndrome, COPD, or other processes
4. Shock due to distributive pathophysiology (e.g., septic shock), cardiogenic compromise, obstructive mechanisms, or hypovolemia
5. Acute renal failure including hyperkalemia, pulmonary edema, refractory acidemia and necessitating acute hemodialysis
6. Neurologic conditions such as pain management, coma, encephalopathy, CVA and delirium

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. 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

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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. (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. Clinical Performance Evaluation.
2. Students will give their attending a mid-point evaluation form half way through the rotation for performance assessment.
3. Written examination.
4. Staff interaction and interaction with patients.

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

MED 835: Palliative Care

Course Director: Elizabeth Higgins, MD
Email: higginel@musc.edu

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

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Block 2A	1	Block 4A	1	Block 6A	1	Block 8A	1	Block 10A	1
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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)
3. Discuss end of life issues with the patient and family. (PC1, PC3, CS1)
4. Perform an appropriate history and physical for patients with serious illness and the dying patient. (MK7, MK8, PC1)
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)
7. Write a palliative care consultation note. (PC1, PC2, PC3)
8. Work within the interdisciplinary team as an effective team member. (PR1, SL4, 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. 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. 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.
4. 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. 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 the end of the rotation.

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

MED 836: Medical ICU (MUSC)

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

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

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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/Critical Care 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 and **mandatory** ethics and ultrasound session on the last Wednesday of the rotation. Participation is expected at all simulation-based procedural skills modules (Central Venous Catheters, Butterfly US Modules) unless absence is excused. Students will be expected to work at least 18 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. Observe, Participate in, and/or 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, CS1, CS2, CS3, PR3)
9. Perform a basic family meeting to discuss goals of care including discussing and obtaining code status. (PC1, PC4, CS1, PR1)
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)
11. Understand quality improvement metrics in the ICU and the team's role in reducing hospital acquired infections including VAP, CAUTI, CLABSI, etc. (MK7, PR4, PL5, IP4)
12. Concisely summarize a patient's critical illness and hand off important clinical information efficiently to other team members and consultants. (CS1, IP1, IP2, PC6)
13. Demonstrate an understanding of the pharmacology of sedation in the ICU including the prevention and treatment of pain, agitation and delirium (MK2, PC3, PL4)
14. Demonstrate a knowledge of airway management devices including high flow nasal cannula, NIV, BVM, LMA and endotracheal intubation. (MK4, PC7, CS2, PR3)
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. (MK5, MK7, PC3, CS1)

17. Write complete and succinct systems based medical plan with H&Ps and daily progress notes in EPIC. (MK3, PC2, CS1, PR1)

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. 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

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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. 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)

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. Clinical Performance Evaluation.
2. Students will give their attending a mid-point evaluation form half way through the rotation for performance assessment.
3. 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 844: Developing Clinical Skills Teaching

Course Director: Keri Holmes-Maybank, MD, MSCR
Email: holmek@musc.edu

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This course is longitudinal and requires work be done across the academic year. Interested students must complete a separate application process in the spring before the academic year begins and be selected to participate.									

Does this rotation accept visiting students? ☐ YES ☒ NO

COURSE DESCRIPTION:
Teaching clinical skills is essential and required for residents, but students receive little to no training prior to residency. Pre-clerkship students often feel more comfortable asking questions of and become more confident learning from 4th-year students as they recognize they will be able to learn and master clinical skills with time and experience. Fourth-year medical students on this longitudinal course will assist in leading at least 10 physical exam workshops, physical exam practice sessions, and interview skills practice sessions throughout the 4th year and under the supervision of master clinical skills teachers or FPC leaders. Students will attend an orientation/didactic session at the beginning of the year, as well as preparatory sessions to prepare for each workshop/practice session in which they participate. This longitudinal course provides elective credit equal to that of a 2-week elective.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Demonstrate and instruct students on the correct approach to the physical exam. (CS1, PR1)
2. Obtain essential, accurate, and age- appropriate information about patients through history-taking, physical examination and the use of laboratory data, imaging, and other tests. (PC1)
3. Demonstrate and instruct students on the correct approach to the medical interview. (PR2, CS2, PC2)
4. Discuss effective teaching approaches to the physical exam, medical interview, and at the bedside. (PC1, CS3, PR4)
5. Provide meaningful feedback. (PD1, PR1, CS1)

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. Act as clinical skills instructor with a master clinical skills teacher for preclerkship medical students.
2. Act as clinical skills instructor during student-driven clinical skills practice sessions.
3. Attend clinical skills preparatory sessions.
4. Attend didactic session and journal club regarding teaching skills.

EXPERIENCES: Students may participate in the following types of workshops/sessions, among other options:
1. Head to Toe Review
2. Vital Signs and Surface Anatomy
3. Geriatric Med Rec
4. Cranial Nerves and HEENT Exam
5. FLEX Cardiac Sim I and II
6. Medical Interview I and II
7. Tobacco Cessation
8. Alcohol Misuse/SBIRT
9. Mini Mental Status Exam

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Clinical Performance Evaluation.
2. Completion of logs by the course director and by the student at various points during the longitudinal course.

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

MED 848: Medical ICU (VA)

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

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

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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 and a **mandatory** ethics session on the last Wednesday of the rotation. Participation is expected at all simulation-based procedural skills modules unless absence is excused. Students will be expected to work at least 18 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, CS1, CS2, CS3, PR3)
9. Perform a basic family meeting to discuss goals of care including discussing and obtaining code status. (PC1, PC4, CS1, PR1)
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)
11. Understand quality improvement metrics in the ICU and the team's role in reducing hospital acquired infections including VAP, CAUTI, CLABSI, etc. (MK7, PR4, PL5, IP4)
12. Concisely summarize a patient's critical illness and hand off important clinical information efficiently to other team members and consultants. (CS1, IP1, IP2, PC6)
13. Demonstrate an understanding of the pharmacology of sedation in the ICU including the prevention and treatment of pain, agitation and delirium (MK2, PC3, PL4)
14. Demonstrate a knowledge of airway management devices including high flow nasal cannula, NIV, BVM, LMA and endotracheal intubation. (MK4, PC7, CS2, PR3)
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, PC2, CS1, PR1)

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. 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: Natalie Freidin, MD
Email: freidin@musc.edu

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

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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.

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 labs, radiological studies and synthesize a differential diagnosis. (MK1, PC1, PC2)
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, MK8, PD 6)
4. Evaluate and treat hypo/hypernatremia, hypo/hyperkalemia, acidosis and alkalosis. (MK1, MK 6, MK8)
5. Define and describe the treatment and public health significance of Chronic Kidney Disease and hypertension. (MK7, PC1, PR1)
6. Write a complete and succinct consult and follow up notes in the EMR. (MK3, MK4, PC3)
7. Describe the basic evaluation of patients for renal transplantation. (MK3, MK5, MK7)
8. Evaluate AKI and transplant complications in renal transplant patients. (MK3, MK4, MK7)

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, hypertension, hematuria, urine microscopy, and dialysis.

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

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Clinical Performance Evaluation.
2. Graded history and physical with assessment and plan.
3. Students will be evaluated and feedback given by the attending half way through the rotation for performance assessment.

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

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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/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. 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. Clinical Performance Evaluation.
2. Students will give their attending a mid-point evaluation form for performance assessment.
3. Attending physicians and fellows will provide students with verbal evaluation at the end of the rotation as well as a formal electronic evaluation.
4. 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

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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. Foregut diseases-peptic strictures, Barrett's esophagus, GERD
2. Causes of GI bleeding (upper and lower)
3. Iron deficiency anemia
4. Inflammatory bowel disease
5. Diarrhea: acute vs chronic
6. Pancreato-biliary disorders- i.e. pancreatitis, cholecystitis, cholangitis
7. Pre-malignant and Malignant GI disorders
8. Functional GI disorders
9. Colon cancer screening and surveillance

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. 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
Email: gourdith@musc.edu

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

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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, PC2)
2. Provide safe and effective anti-thrombotic therapy using heparin, low molecular weight heparin, warfarin, direct thrombin inhibitors, and direct oral anticoagulants. (MK5, MK8, PC6)
3. Interpret peripheral blood smears and clinical lab tests to diagnose common disorders of red blood cells, platelets, and white blood cells. (MK1, MK4, MK6)
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. (MK3, PC1, PC2)
2. Assist in the development of treatment plans for patients with newly diagnosed malignancies. (PC3, PC4, 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. Clinical Performance Evaluation.

2. Students will give their attending a mid-point evaluation form half way through the rotation for performance assessment.
3. Attending physicians and fellows will provide students with verbal evaluations at the end of the rotation.
4. 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

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Does this rotation accept visiting students? ☒ YES ☐ NO

COURSE DESCRIPTION:
This is an inpatient consultation service rotation designed to expose the 4th-year medical student to the field of Infectious Diseases. 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. **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. Diagnose and assess common community and hospital acquired infections and develop a timely evidenced based plan of care for the patient. (MK4, PC1, PC2)
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)
3. Provide non-judgmental and compassionate care to patients with stigmatizing infections and develop a therapeutic relationship built on trust and honesty. (PC3, PR1, CS3)
4. 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 for inpatients 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 possibly up to an additional two weeks spent on the inpatient Transplant ID service.
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.
4. 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. Clinical Performance Evaluation.
2. Students will give their attending a mid-point evaluation form half way through the rotation for performance assessment.
3. 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: Rashmi Dhakal, MD
Email: dhakalr@musc.edu

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

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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, MK7)
2. Evaluate, with supervision, endocrine disorders commonly seen in primary care. (MK5, PC1, PC2)
3. Define and describe treatment strategies for these diseases. (MK8, PC3, PC5)
4. Describe the importance of laboratory investigation in evaluations. (MK5, PC3, SL2)
5. Discuss the importance of endocrine research in this field. (PL2, 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. Clinical Performance Evaluation.
2. The students will give their attending a mid-point evaluation form half way through the rotation for performance assessment.
3. Attending physicians will provide students with a verbal evaluation at the end of the rotation.
4. 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 (Sub-I) AME

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

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

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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)
2. Demonstrate the ability to perform an efficient yet comprehensive history and physical exam. (MK6, PC1)
3. Develop differential diagnoses by explicitly prioritizing and weighing pertinent positives and negatives. (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. (MK5, PC3)
5. Describe indications/need for appropriate subspecialty consultation and formulate a cogent consult question. (PC2, PC3, PC4)
6. Recognize key clinical information and effectively communicate this to covering providers in the form of patient handoff. (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)

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 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 and documentation.

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. Clinical Performance Evaluation.
2. Students will give their attending a mid-point evaluation form halfway through the rotation for performance assessment.
3. The attending physicians and residents will provide students verbal evaluation 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

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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, 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. (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 Vascular diseases, including Pulmonary hypertension
5. Pulmonary infectious diseases, including cystic fibrosis, NTM, bronchiectasis
6. 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. Clinical Performance Evaluation.
2. Students will give their attending a mid-point evaluation form halfway through the rotation.
3. Attending physicians and fellows will provide students with verbal evaluation at the end of the rotation.
4. 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

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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 may rotate at the VA Clinic weekly; **active VA logins/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. Evaluate patients with joint pain and inflammatory arthritis. (MK4, PC1, CS1)
2. Perform musculoskeletal exam techniques and describe procedures such as arthrocentesis and injections. (MK5, 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, MK8, PC5)
5. Demonstrate effective and professional interpersonal and communication skills, and model ethical behavior. (CS1, CS2, 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. 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

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Block 2	1	**Block 4**	1	**Block 6**	1	**Block 8**	1	**Block 10**	1
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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, PC1)
2. Define and describe pharmacological and device therapy of congestive heart failure. (MK5, PC3, PL2)
3. Identify arrhythmias and describe their therapy in congestive heart failure. (MK4, PC3, PL2)
4. Define and describe evaluation for heart transplant including post-transplant care. (MK5, PC3, IP4)
5. Define and describe evaluation for durable mechanical support including perioperative and long-term care. (MK8, PC3, 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 long-term management of patient with 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 as well as specific complications related to durable mechanical support.
5. Students will be expected to attend weekly patient care and heart transplant/LVAD selection committee conferences
6. Students will be expected to addend bi weekly Heart Failure Noon Conference.

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. Clinical Performance Evaluation.
2. The students will give their attending a mid-point evaluation form half way through the rotation for performance assessment.
3. 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

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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. (PC3, PC5, PL3)
2. Demonstrate fundamentals of perioperative cardiovascular, pulmonary, and diabetes management. (MK3, PC3)
3. Demonstrate basics of perioperative venous thromboembolism prophylaxis, anticoagulation management, and antibiotic prophylaxis management. (PC3, SL2)
4. Demonstrate understanding of diagnosis and treatment of basic nosocomial infections such as pneumonia and urinary tract infections. (MK4, 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. Students will round with 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. Clinical Performance Evaluation.
2. Students will give their attending a mid-point evaluation form half way through the elective for performance assessment.
3. Attending physicians will provide students with verbal evaluation at the end of the rotation.

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

MDCOR 832: A Month in the Research NEXUS

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

Course Coordinator: Kristen Briggman
Telephone #: 843-792-8446
Email: burgstei@musc.edu

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Does this rotation accept visiting students? ☐ YES ☒ NO

COURSE DESCRIPTION:
This course is for MD/PhD students and TL1 pre-doctoral trainees ONLY. The objective of this elective is to guide students to 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. Evaluation of Performance form in MedHub.
2. Mid-point evaluation and feedback will be provided to the student at the halfway point of the course.
3. Clinical/translational proposal.
4. Participation in discussions.

5. Interpersonal/communication skills.
6. Presentation of a final proposal.
7. Written proposal to be scored by two reviewers.
8. Final course satisfaction REDCap survey.
9. Grading components - proposal 60%, participation in class 40%.

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

NEURO 841: Neurovascular (Stroke) Outpatient

Course Director: Parneet Grewal, MBBS
Email: grewalp@musc.edu

Course Coordinator: Michael Watson
Telephone #: 843-792-0078
Email: watsomic@musc.edu

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Does this rotation accept visiting students? ☒ YES ☐ NO

COURSE DESCRIPTION:
This outpatient clinical stroke rotation is designed to give 4th-year medical students an opportunity to interact with the Department of Neurology stroke faculty in a clinical setting. They will have the opportunity to learn stroke etiologies, diagnosis, treatment and management, secondary stroke prevention and stroke recovery, and management of post-stroke complications.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Discuss stroke diagnosis, secondary stroke prevention and management of post-stroke complications. (MK3, PC5, CS1, PL3, SL1)
2. Recognize common stroke syndromes and correlate with the neuro-anatomy involved. (MK4, CS1, PC3, PL5)
3. Conduct a complete history and neurological examination in stroke patients. (PC1, CS4, PR1)
4. Discuss tele-stroke consultations learned through observation or faculty demonstration. 9PC1, PC3, CS4, PR1, PL2, PL4, SL1, 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. Patient contact under attending supervision in stroke outpatient clinic and post-stroke spasticity management clinic.
2. Attend daily neurology/stroke conferences which may involve directed reading/literature reviews.
3. One-on-one or group discussions.
4. Read review papers assigned for the rotation on important stroke topics.
5. Oral, written, or small group presentation on stroke topics as assigned.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. New stroke consults – patients referred to the stroke clinic by MUSC and non-MUSC physicians.
2. Post-stroke hospitalization follow-ups
3. Post-stroke limb spasticity clinic

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Clinical Performance Evaluation.
2. Verbal feedback from the course director or the stroke faculty.
3. Midpoint feedback from the course director or assigned faculty.

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

NEURO 845: Neuro-Ophthalmology

Course Director: Aljoeson Walker, MD
Email: walkeral@musc.edu, aljoeson.walker@va.gov

Course Coordinator: Michael Watson
Telephone #: 843-792-0078
Email: watsomic@musc.edu

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Does this rotation accept visiting students? ☐ YES ☒ NO

COURSE DESCRIPTION:
Students will learn and apply neurology knowledge to the ophthalmic system. He or she will be able to reasonably identify and appropriately determine objectives indicated for the visual concerns of the patient. Reading materials are *Neuro-Ophthalmology: Clinical Signs and Symptoms* (Thomas J. Walsh) and *Neuroradiology* (D. Yousem and R. Grossman).

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Perform the key features of the Neuro-Ophthalmic Examination. (PC1, PC2)
2. Identify misalignment/muscle imbalance of the eyes. (MK1, MK3)
3. Identify papilledema and discuss its differential diagnosis in neuro-ophthalmologic diseases. (PL2, MK5)
4. Discuss neurologic disease as it relates to the visual system. (MK1, MK3)
5. Discuss the use of treatment options as they pertain to neuro-ophthalmologic diseases. (CS1, CS2, CS3, 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. Attendance at neurosciences and selected neuro-ophthalmology conferences.
2. Patient contact with patients primarily in outpatient clinics.
3. Student will develop an Independent Patient Case Presentation in the area of neuro-ophthalmologic, Demyelinating Diseases, or headache disorders, to be presented during the course.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Migraine and related visual issues
2. Papilledema and headache complaints
3. Diplopia
4. Complicated visual issues, Multiple Sclerosis, Idiopathic Intracranial Hypertension (Pseudotumor Cerebri) and or migraine
5. Spinal taps - when available

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Clinical Performance Evaluation.
2. Daily verbal feedback from the course director or the assigned faculty co-director.
3. Midpoint feedback from the course director or the assigned faculty co-director.

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

NEURO 851: General Pediatric Neurology

Course Director: Purabi Sonowal, MD
Email: sonowal@musc.edu

Course Coordinator: Michael Watson
Telephone #: 843-792-0078
Email: watsomic@musc.edu

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Does this rotation accept visiting students? ☒ YES ☐ NO

COURSE DESCRIPTION:
This elective exposes students to the spectrum of neurologic disease in newborns, infants, children, and adolescents through a mixture of inpatient and outpatient experiences. The emphasis is on mastering the fundamentals of taking a neurologic history and performing a neurologic examination, localizing lesions within the neuraxis, selecting diagnostic tests, and managing common pediatric neurologic disorders.

LEARNING GOALS & OBJECTIVES: After this clinical rotation students should be able to do the following:
1. Elicit accurate neurologic histories and perform comprehensive neurologic exams on patients of varying pediatric age groups from birth to 18 years. (PC1, MK1, CS1)
2. Demonstrate increasing sophistication in interpreting/synthesizing clinical findings into rational differential diagnoses. (MK3, PC2)
3. Select appropriate laboratory and imaging studies to establish specific diagnoses. (MK5, PC3)
4. Demonstrate an increased understanding of management principles including appropriate choice of therapeutic modalities and the inherent risks of each. (MK6, PC6)
5. Exhibit effective communication skills with pediatric patients and their parents. (CS1, CS3, PC5)
6. Students must demonstrate a commitment to carrying out professional excellence in all settings, adherence to ethical principles, and sensitivity to a diverse patient population. (PR1, PR3)
7. Residents must be able to demonstrate interpersonal and communication skills by engaging in an interprofessional team in a manner that optimizes safe, effective patient and population-centered care. (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. Patient Contact
2. One-on-one and/or group discussions
3. Attendance at neuroscience conferences including the Pediatric Neurology Thursday A.M. Conference
4. Independent study and directed readings
5. Participation in outreach opportunities when available

PATIENT ENCOUNTERS: Students will be expected to work-up patients with some of these specified conditions:
1. Seizures (febrile, new-onset, status epilepticus)
2. Headache (Migraine, Idiopathic Intracranial Hypertension)
3. Cerebral palsy and developmental delay
4. Movement disorders (includes tics and Tourette syndrome)
5. Concussion and traumatic brain injury
6. Other conditions as available including brain tumors, neuromuscular disorders, neurocutaneous syndromes, inborn errors of metabolism/mitochondrial disorders, and demyelinating disorders.

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Clinical Performance Evaluation.
2. Daily verbal feedback from the course director or the assigned faculty co-director.

3. Midpoint feedback from the course director or the assigned faculty co-director.

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

NEURO 854: Vascular Neurology (Stroke)

Course Director: Chirantan Banerjee, MD
Email: banerjeec@musc.edu

Course Coordinator: Michael Watson
Telephone #: 843-792-0078
Email: watsomic@musc.edu

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Does this rotation accept visiting students? ☒ YES ☐ NO

COURSE DESCRIPTION:
Students will be exposed to clinical neurovascular (stroke) patients to acquire a basic knowledge of the clinical examination and patient interviewing, vascular risk factors for stroke and neuro-imaging (CT, MRI, TCD, etc.). Academic opportunities will be presented by participating in Stroke Ward rounds, Stroke Clinic, research and clinical meetings/conferences with Neurology residents, Neurovascular fellows, and Neurovascular attending neurologists. Additional academic Neurovascular activities will include at least two (but more if possible) Acute Stroke brain attack experiences including acute Stroke Telemedicine consultations and Neuroendovascular surgical procedures. Student will learn about evidence-based clinical study design and journal article review through Stroke Journal Club and Neurovascular attending interactions.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Review and discuss relevant, impactful journal articles pertaining to stroke prevention and treatment. (MK7, PC3, MK5)
2. Demonstrate enhanced clinical examination and interviewing skills as well as formulate an accurate and comprehensive differential diagnosis for patients presenting with acute neurologic deficits. (CS1, PC1, PC2, PC6)
3. Demonstrate knowledge and understanding of the vascular risk factors for stroke (both ischemic and hemorrhagic) and develop appropriate stroke prevention management plans for stroke patients (PC3, MK8, PC5, CS1)
4. Demonstrate familiarity and the ability to interpret and implement evidence-based guidelines relevant to Neurovascular disease including diagnosis, causation, utility of diagnostic modalities, and treatment approaches. (MK3, MK5, MK8)

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. Patient contact with Stroke patients on the Stroke Unit/Vascular Neurology Ward at MUH.
2. One-on-one and/or group/team discussions; one formal lecture per week on stroke topics.
3. Directed reading on general and selected topics in the neurosciences as well as handouts on cerebrovascular diseases.
4. Attendance at neurosciences conferences.
5. Written or oral presentation on selected stroke topic.
6. Independent study on a selected stroke topic.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Ischemic stroke - small vessel, large vessel, cardioembolic, other defined, cryptogenic
2. Hemorrhagic stroke
3. Transient ischemic attack
4. Encephalopathy
5. Seizures

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods.
1. Clinical Performance Evaluation.
2. Daily verbal feedback from the course director or the assigned faculty co-director.
3. Midpoint feedback from the course director or the assigned faculty co-director.

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

NEURO 859: General Adult Neurology Externship

Course Director: Robert Wildman, MD
Email: wildman@musc.edu

Course Coordinator: Michael Watson
Telephone #: 843-792-0078
Email: watsomic@musc.edu

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Does this rotation accept visiting students? ☒ YES ☐ NO

COURSE DESCRIPTION:
This course exposes students to intern-level responsibilities for patient care and allows the student to perform clinically while under close supervision. The experience occurs on a hospital inpatient service where students will be expected to work-up and evaluate patients with general neurologic diseases, present cases to attending physicians, and participate in all aspects of the patient's care. Teaching will emphasize clinical and anatomical correlations, as well as other aspects of professionalism in patient care.

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 understanding of intern-level responsibilities for neurological patient care. (MK1, PC2, CS1, PL1, SL1)
3. Perform a history and general physical and neurological exam. (MK1, PC2, PR1, CS1, PL1)
4. Discuss the contribution of diagnostic testing to the evaluation of neurologic patients. (MK1, PC2, CS1)
5. Critically review and discuss medical neurological literature. (MK1, CS1, PL1)
6. Perform a lumbar puncture under supervision. (MK1, PC2)

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. Direct observation and patient contact in a clinical setting.
3. Attendance at neurosciences conferences and Grand Rounds as well as other assigned relevant conferences.
4. Oral, written, or small group presentations as assigned by course director or the assigned faculty co-director.
5. Review images at neuro-radiology rounds.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Epilepsy
2. Myasthenia Gravis
3. Multiple Sclerosis
4. Neuromyelitis Optica
5. Myopathies
6. Encephalitis
7. Guillain-Barre Syndrome

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Clinical Performance Evaluation.
2. Daily verbal feedback from the course director or the assigned faculty co-director.
3. Midpoint feedback from the course director or the assigned faculty co-director.

Will students be expected to participate in call? ☒ YES ☐ NO
One night of Neurology call per week is required.

NSGY 852: General Neurosurgery Externship ASE

Course Director: William Vandergrift, MD
Email: vandergr@musc.edu

Course Coordinator: Carole Lavender
Telephone #: 843-876-5053
Email: lavendec@musc.edu

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Does this rotation accept visiting students? ☒ YES ☐ NO

COURSE DESCRIPTION:
This externship will provide exposure to all facets of pediatric and adult neurosurgery. Students will rotate through the following services depending on preference and availability: brain, spine, pediatrics, functional and cerebrovascular. Students will have the opportunity to provide outpatient and inpatient preoperative and postoperative care. Through didactic teaching, care of patients in the clinic and in the hospital, and direct observation of neurosurgical procedures, students will become familiar with common neurosurgical disorders and methods of treatment.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Work as a contributing member of a resident team including but not limited to participating in handoffs, calling of a consult, procuring informed consent, writing and communicating orders, preparing discharge summaries and orders. (PC4, PC6, CS1-5, PR1-5, IP1-4)
2. Demonstrate familiarity with common and uncommon neurosurgical pathologies. (MK1, MK4)
3. Perform an advanced neurologic examination. (PC1)
4. Perform a focused history for neurosurgical patients. (PC1)
5. List and interpret advanced imaging modalities for neurosurgical pathology. (MK5, PL2)
6. Develop an appropriate differential diagnosis for new patient encounters. (MK3, MK4, PC2)
7. Discuss advanced treatment options, possible complications, and followup strategies for surgical and non-surgical patient encounters. (MK 6, PC3, PC5, PD6, PL3, PL4, SL2)
8. Perform neurosurgical patient procedures under appropriate supervision. (PC7)

INSTRUCTIONAL METHODOLOGIES AND ROTATION ACTIVITIES: Students on this rotation will be expected to learn and achieve the educational goals and objectives through:
1. Complete an Externship Log documenting level of participation in key entrustable professional activities.
2. Direct observation and patient contact in outpatient clinics, hospital inpatients, and in the operating room.
3. Attendance at weekly neurosurgery and other assigned conferences.
4. Oral presentation on a neurosurgery topic of their choosing (15-minute platform presentation to include topic review, research presentation or interesting case presentation of value to neurological surgery).
5. One-on-one and/or group team discussions.

PATIENT ENCOUNTERS: Students will be expected to evaluate patients with:
1. Neurotrauma (brain and spine)
2. Degenerative spine
3. Neurovascular disorders
4. Neuro-oncology
5. Functional disorders
6. Epilepsy
7. Hydrocephalus

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Clinical Performance Evaluation.
2. Daily verbal feedback from the course director, faculty and residents.
3. Midpoint feedback from course director or residents.

Will students be expected to participate in call? ☒ YES ☐ NO
One overnight call each week supervised by the upper level neurosurgery resident and attending. Student must also work 2 of the 3 weekends.

NSGY 860: Neuroscience ICU

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

Unit Director: Danuel Snelgrove, MD
Email: snelgrov@musc.edu

Course Coordinator: Carole Lavender
Telephone #: 843-976-5053
Email: lavendec@musc.edu

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COURSE DESCRIPTION:
This neurosciences ICU rotation will provide students with a thorough understanding of basic general critical care and neurocritical care concepts. The students are expected to read the critical care handbook that is provided to them. Students are expected to learn the fundamentals of resuscitating patients with severe acute neurologic injuries. Students will become familiar with airway management issues, respiratory management, circulatory support, management of increased intracranial pressure, and management of comorbid conditions seen in patients with acute neurologic injury. Students will be expected to become familiar with all critical care issues and instructed on imagining interpretation as it pertains to ICU patients. Students will observe and potentially perform invasive procedures

Students will participate in a **mandatory** orientation day to cover essential critical care subject matter and **mandatory** ethics and ultrasound sessions on the last Wednesday of the rotation. Participation is expected at all simulation-based procedural skills modules (Central Venous Catheters, Butterfly US Modules) unless absence is excused. Students will be expected to work at least 18 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 interested in neurology, neurosurgery, or medicine-based specialties.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Assess a critically ill patient with neurologic/neurosurgical illness 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. Manage the most common neurologic emergencies requiring neurocritical care. (MK3, PC3)
4. Understand and discuss the contributions and limitations of diagnostic imaging (MRI, CT) and neurophysiological testing (EEG, MG/NCV) in the assessment of Neuro ICU patients. (PL2, CS1, CS4)
5. Learn and perform a complete neurologic exam and evaluation and management of patient with coma. (MK1, MK2, MK3, MK4, MK5, PC1, PC2)
6. Be able to obtain Informed Consent for diagnostic and therapeutic tests and procedures including verbalization of risks, benefits and alternatives. (PC3, PC7, ICS1, SBP3)
7. 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)
8. Demonstrate effective and professional interpersonal and communication skills, and model ethical behavior. (CS1, PR1, PR2)
9. 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)
10. 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)
11. 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)
12. 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)
13. 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)
14. 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)
15. 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)

16. 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)
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 attend neurosciences conferences and Grand Rounds as well as other assigned relevant conferences.
6. Students may be required to develop an oral, written, or small group presentation as assigned by unit director.
7. 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 cerebrovascular & neuromuscular emergencies requiring critical care
2. Post-operative neurosurgical patients
3. Status epilepticus patients
4. Head and spinal cord trauma
5. Brain tumor patients
6. CNS infections
7. Acute hypoxic/hypercarbic respiratory failure
8. Shock
9. Other neurologic conditions such as pain management, coma, encephalopathy and delirium

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. 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.

OBGYN 853: GYN Oncology Externship ASE

Course Director: Matthew Kohler, MD
Email: kohlermf@musc.edu

Course Coordinator: Andrea Shrader
Telephone #: 843-792-1241
Email: shradera@musc.edu

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Does this rotation accept visiting students? ☒ YES ☐ NO

COURSE DESCRIPTION:
Student will function as a sub intern on the Gynecologic Oncology services in the setting of the inpatient service, outpatient clinic, and operating room. Formal didactic teaching and a weekly tumor board are included. Students must receive approval from the OBGYN Medical Student Education Director to schedule Blocks 1-6.

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)
2. Demonstrate an understanding of the essentials of diagnosis and treatment of gynecologic cancers (MK3, PC2)
3. Assess patients and develop treatment plans (PC3, CS1, MK8)
4. Interact with specialists in the field of gynecologic oncology, radiation oncology and hematology/oncology (CS4, PR2, IP4, SL2)
5. Demonstrate knowledge of the basic principles of surgery for gynecologic cancer (PC7, PC3)
6. Describe the fundamentals of chemotherapy and radiation therapy for gynecologic cancer (PD6, PL2, 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. Complete an Externship Log documenting level of participation in key entrustable professional activities.
2. Didactics
3. Rounds/discussions
4. Clinic
5. Patient load
6. Operating room

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Ovarian cancer, new diagnosis
2. Endometrial cancer, new diagnosis
3. Cervical cancer, new diagnosis
4. Advanced gynecologic malignancy requiring cytotoxic chemotherapy
5. Acute perioperative complications following surgery for gynecologic cancer

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods.
1. Clinical Performance Evaluation
2. A mid-point evaluation form will be completed half way through the rotation in order for the student to be assessed on their performance.

Will students be expected to participate in call? ☒ YES ☐ NO
Weekend rounds (per your ONC Resident Team instructions)

OBGYN 861: Maternal/Fetal Medicine Externship

Course Director: Eliza McElwee, MD
Email: rodrie@musc.edu

Course Coordinator: Andrea Shrader
Telephone #: 843-792-1241
Email: shradera@musc.edu

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Does this rotation accept visiting students? ☒ YES ☐ NO

COURSE DESCRIPTION:
The rotation offers students an opportunity for enhanced experience in the management of high-risk obstetrical patients. Students will work closely with the faculty and fellows from the Division of Maternal-Fetal Medicine in the Department of Obstetrics and Gynecology. Clinically, the primary focus is the care of antepartum inpatients and participation in High Risk Obstetrics clinic. Students will also develop skills in the interpretation of NSTs and ultrasounds. Student will be assigned 2 weeks of inpatient on the antepartum unit and 2 weeks of high-risk obstetrics clinic. Students must receive approval from the OBGYN Medical Student Education Director to schedule Blocks 1-6.

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 understanding of the management of high-risk obstetrical patients including those with obstetric complications as well as medical complications of pregnancy. (MK1, MK4, IP2)
3. Perform a thorough obstetrical history and physical examination. (MK4, PC1, PC2, CS2, PR1, PD6)
4. Interact with specialists in the field of high-risk obstetrics and genetics in order to recognize the breadth and depth of the specialty. (CS1, CS2, CS4, PC1, PC5, IP1, PD1, SL2)
5. Practice basic clinical skills during obstetrical procedures: Ultrasound, Cervical exam, Fundal assessment. (MK1, MK3, PC1, PD1)
6. Research a clinical problem and educate peers by preparing a lecture based on an antepartum patient directed to 3rd-year medical students and residents. (PL3, CS4, MK1, MK3, PR4, PD2)

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. Didactics: Grand Rounds, M&M, weekly resident didactic lecture sessions, weekly MFM fellow's conferences
3. Daily Rounds/Discussions
4. Clinic
5. Patient load
6. Preparation of a lecture based on a case on the Antepartum Service directed at the residents and 3rd year students on the service

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Preterm labor
2. HTN/Preeclampsia
3. Multiple gestations
4. Diabetes in pregnancy
5. Term labor

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods.
1. Clinical Performance Evaluation
2. Evaluation of the student lecture.
3. A mid-point evaluation form will be completed half way through the rotation in order for the student to be assessed on their performance.

Will students be expected to participate in call? ☒ YES ☐ NO
Students will take one call per week.

OBGYN 872: Reproductive Infectious Disease

Course Director: Gweneth B. Lazenby, MD, MSCR
Email: lazenbgb@musc.edu

Course Coordinator: Andrea Shrader
Telephone #: 843-792-1241
Email: shradera@musc.edu

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Block 2A		Block 4A		Block 6A		Block 8A		Block 10A	
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Does this rotation accept visiting students? ☒ YES ☐ NO

COURSE DESCRIPTION:
The rotation will introduce students to the discipline of Reproductive Infectious Diseases (RID). The student will work with the RID faculty in both outpatient and inpatient settings. This will include attending specialty clinics at MUSC Women's Health for HIV and hepatitis during pregnancy. Under the guidance of the RID faculty, RID elective students will see women with postpartum and postoperative infections, inpatient RID consultations, and patients admitted with reproductive infections, e.g. PID, complications of HIV in pregnancy. Students must receive approval from the OBGYN Medical Student Education Director to schedule Blocks 3-6.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Demonstrate an understanding of reproductive infections (RI) in women (MK5, MK7)
2. Perform point of care testing in the diagnosis of RI. (MK8, PC3, CS2)
3. Appropriately diagnose and treat RI (MK5, PC2, PC3)
4. Demonstrate an understanding of vulvovaginal diseases and their diagnosis and treatment (MK8, PC2, PC3)
5. Demonstrate knowledge in perinatal and gynecologic care specific to women living with HIV or chronic hepatitis (MK4, MK8, 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. Didactics – The following conference and didactics will be attended weekly: OBGYN and ID Grand Rounds, OBGYN M&M, Adult ID fellows lecture sessions, and Adult ID and OB teaching conferences.
2. Patient contact in the following specialty clinics: GYN ID and HIV OB clinic.
3. Diagnostics and lab experience – point of care testing e.g. microscopy of the vaginal secretions, nucleic acid amplification for common STIs, and participation in microbiology lab exercises as directed by Dr. Lisa Steed

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Infections in pregnancy, HIV, Hepatitis (B/C), syphilis
2. Patients with STI symptoms or PID
3. Patients with vaginitis or vulvar dystrophies
4. Abnormal cervical or anal cytology

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Clinical Performance Evaluation
2. Students are expected to prepare a 30-minute presentation with immediate feedback provided from the faculty and residents.
3. A mid-point evaluation form will be completed half way through the rotation in order for the student to be assessed on their performance.

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

OBGYN 873: Labor & Delivery Night Float Externship

Course Director: Rachael Cowherd, MD
Email: cowherdr@musc.edu

Course Coordinator: Andrea Shrader
Telephone #: 843-792-1241
Email: shradera@musc.edu

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Block 2	1	**Block 4**	1	**Block 6**	1	**Block 8**	1	**Block 10**	1
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Does this rotation accept visiting students? ☒ YES ☐ NO

COURSE DESCRIPTION:
This externship will expose students to all aspects of inpatient services of Labor & Delivery. Students will work closely with the ObGyn Specialists & Maternal Fetal Medicine faculty and residents in the Department of Obstetrics and Gynecology. This student will have the opportunity to observe and participate in the inpatient labor & delivery unit, assist with operating room cases, and triage patients. Students will also develop skills in the interpretation of NSTs and will perform basic ultrasounds. They will be involved in vaginal and cesarean deliveries. Students may also participate in Obstetrics or Gynecologic/Gynecologic Oncology consults and other emergent Gynecology cases. Students must receive approval from the OBGYN Medical Student Education Director to schedule Blocks 2-6.

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, PC7, CS1)
2. Assess laboring patients and demonstrate an understanding of normal & abnormal labor. (MK1, MK4, IP2)
3. Demonstrate communication skills that encourage a relationship of trust and mutual respect between providers and patients. (CS2, PR1, IP3)
4. Perform a thorough obstetrical history and physical examination (PC1, PC2, CS2)
5. Diagnose and understand management common obstetrical complications including but not limited to: miscarriage, preterm labor, hypertensive disorders of pregnancy, postpartum hemorrhage. (MK5, MK8, PC2)
6. Practice and assist with basic clinical skills during obstetrical procedures: Vaginal delivery, Cesarean section, ultrasound, cervical exam, interpret a reactive non-stress test (MK3, PC7, PD1)

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. Patient load (manage a similar number of patients as the intern on the team)
3. Board Check out/Discussions
4. Triage exam rooms (OB ED)

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions
1. Active Labor and Induction of labor
2. SROM (spontaneous rupture of membranes)
3. Preterm labor
4. PPROM (preterm premature rupture of membranes)
5. Hypertensive disorders of Pregnancy

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods.
1. Clinical Performance Evaluation
2. A mid-point evaluation form will be completed half way through the rotation in order for the student to be assessed on their performance.

Will students be expected to participate in call? ☒ YES ☐ NO
The typical schedule for this externship is 5:30pm-7:30am Sunday night through Thursday night.

OBGYN 879: Benign Gynecology ASE

Course Director: Tara Van Leuven, MD
Email: vanleuve@musc.edu

Course Coordinator: Andrea Shrader
Telephone #: 843-792-1241
Email: shradera@musc.edu

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Block 2A		Block 4A		Block 6A		Block 8A		Block 10A	
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Does this rotation accept visiting students? ☒ YES ☐ NO

COURSE DESCRIPTION:
This elective offers students an opportunity to enhance their experience in the management of gynecological patients. This student will be responsible for rounding on the inpatient benign gynecology service, attending operating room cases, and participating in gynecological outpatient experiences. Students must receive approval from the OBGYN Medical Student Education Director to schedule Blocks 1–6.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation, students should be able to do the following:
1. Demonstrate an understanding of primary and preventive care for women. (MK1, MK7)
2. Perform a thorough gynecologic history and physical examination. (PC1, CS1)
3. Assess patients and develop treatment plans. (PC3, PR2)
4. Interact with specialists and generalists in the field of obstetrics and gynecology in order to recognize the breadth and depth of the specialty. (CS4, PR1, IP3)
5. Practice surgical skills. (PC7, PD1)

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. Didactics - Grand Rounds, M&M, weekly resident didactic lecture sessions.
2. Inpatient rounds/discussions.
3. Ambulatory patient care.
4. Operating room.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Abnormal uterine bleeding
2. Urinary incontinence
3. Undesired fertility
4. Menopausal symptoms
5. Gynecologic infections
6. Need for contraception
7. Unintended or abnormal pregnancy
8. Fibroids
9. Endometriosis

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Clinical Performance Evaluation.
2. A mid-point evaluation form will be completed half way through the rotation in order for the student to be assessed on their performance.

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

OPHTH 854: General Ophthalmology

Course Director: Lynn Poole Perry, MD
Email: poolel@musc.edu

Course Coordinator: Ashley Caradonna
Telephone #: 843-792-8864
Email: caradonn@musc.edu

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Block 2A		Block 4A		Block 6A		Block 8A		Block 10A	
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Does this rotation accept visiting students? ☒ YES ☐ NO

COURSE DESCRIPTION:
This elective will introduce students to clinical ophthalmology. Students will participate in didactic sessions including Grand Rounds, Journal Clubs, and Friday afternoon lectures. Students will work one-on-one with ophthalmology residents and attendings examining patients and observing surgery. A text will be provided as a checklist of practical goals to be achieved over the course of the rotation.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Demonstrate understanding of the role and scope of ophthalmology within medicine. (MK4, PR1)
2. Perform an ophthalmology exam with a standard screening protocol. (CS1, MK3)
3. Identify the presentation of acute and common ophthalmology complaints. (CS1, PC1)
4. Triage acute and common complaints and discuss when to consult the ophthalmology service. (IP1, PC2)
5. Identify common ophthalmology surgeries, such as cataract, strabismus, corneal transplant, retinal detachment, glaucoma, and oculoplastic surgeries. (PC3, MK8)

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. Observation/participation in different clinics with mentorship by a resident or attending physician.
2. Observation of surgery with mentorship by a resident or attending physician.
3. Observation of a consultation on the wards or emergency department with mentorship by a resident or attending physician.
4. Attendance at department grand rounds.
5. Completion of required reading: *Basic Ophthalmology for Medical Students and Primary Care Residents*, 8th edition. Review of provided internet sources to further enhance understanding of basic concepts.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Cataracts
2. Diabetes
3. Neuro-ophthalmology
4. Glaucoma
5. Strabismus
6. "Red painful eye"

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Clinical Performance Evaluation.
2. Direct observation of clinical and patient care skills by the attending physician and residents. Learners will receive verbal feedback on their clinical performances following clinics and surgeries.
3. Completion of a 25 item multiple choice quiz at the beginning of the rotation and a 40 question quiz at the completion of the rotation to measure progress.
4. Attendance as documented in a daily log of clinical/surgery/patients evaluated by course director.
5. Adequate screening of 1 patient in general clinic per protocol and evaluated by general ophthalmology team.
6. A mid-point evaluation form will be completed half way through the rotation in order for the student to be assessed on their performance.

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

OPHTH 890: Neuro-Ophthalmology

Course Director: Eric L. Berman, MD
Email: bermaner@musc.edu

Course Coordinator: Ashley Caradonna
Telephone #: 843-792-8864
Email: caradonn@musc.edu

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Does this rotation accept visiting students? ☐ YES ☒ NO

COURSE DESCRIPTION:
This course will allow students to learn about the sub-specialty of neuro-ophthalmology. The student will learn how to independently conduct an appropriate history and physical and perform necessary testing. All patients will be seen together with the attending physician and differential diagnosis discussed along with plans for work-up and treatment. The student will become proficient with the neuro-ophthalmologic examination as well as ordering and interpreting testing, including review of neuroimaging studies. The student will be expected to present the monthly neuro-ophthalmology conference for the residents and may also be asked to present at the Ophthalmology Department Grand Rounds. There may also be some time available to spend in other subspecialty clinics, depending on the student's interests.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Learn a focused neuro-ohthalmic history and physical examination.
2. Be able to formulate a differential diagnosis.
3. Learn to interpret the typical testing performed for neuro-ophthalmology patients.
4. Learn about disease entities commonly seen by the neuro-ophthalmologist, including, multiple sclerosis, myasthenia gravis and papilledema.
5. Improve skills needed to see neuro-ophthalmology patients, including double vision evaluation and slit lamp evaluation of optic nerve.

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. Independent reading.
2. Seeing patients together with fellowship-trained neuro-ophthalmologist.
3. Presenting at neuro-ophthalmology conference.
4. Discussion of cases and disease entities.

PATIENT ENCOUNTERS: Students can expect to encounter the following types of patients/diagnoses/conditions:
1. Double vision
2. Swollen optic nerves
3. Acute loss of vision
4. Transient loss of vision
5. Visual complications of stroke

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Clinical Performance Evaluation.
2. Students will receive mid-point feedback on their performance from their attending and/or course director.
3. Direct observation of patient care skills by attending physicians, residents, and other care team members.
4. Oral quiz at end of rotation

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

OSURG 850: Orthopaedic Surgery Externship ASE

Course Director: Sara Van Nortwick, MD
Email: vananort@musc.edu

Course Coordinator: Joan Graesch
Telephone #: 843-792-0245
Email: graesch@musc.edu

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Block 2	9	**Block 4**	9	**Block 6**	4	**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:
Student will function as a sub-intern while on this rotation. This course includes daily involvement with the orthopaedic service, including office-based clinics as well as outpatient and inpatient surgery. Students will also be involved in pre-operative and post-surgical patient care. Students will participate in the orthopaedic surgery clinics, the operating theater, as well as group and one-on-one didactic sessions. Students are expected to participate in a limited amount of "call" while shadowing the junior orthopaedic surgery residents. Students are granted plenty of opportunities for hands-on experience. Students will present one patient encounter or clinical topic per week to an attending. This course is geared to students interested in orthopaedic surgery as a career.

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. (PC5, PC7, CS1)
2. Elaborate, understand, and discuss the work-up and treatment of many MSK injuries. (MK3, MK8, CS1)
2. Present patients on rounds to upper-level residents and attendings. (PC1, PC3, CS1,)
3. Give weekly case presentations to faculty members regarding an evaluation of an injury/condition, evaluation, work-up, and treatment options. (PL3, CS1, 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. Complete an Externship Log documenting level of participation in key entrustable professional activities.
2. One-on-one teaching.
3. Small group didactic sessions and case presentations.
4. Attendance at all resident educational conferences, including a 3-hour weekly didactic session.
5. Patient care morning and evening rounds.
6. Participate in the pre-operative, intra-operative and post-operative care of orthopaedic surgery patients.
7. Attend weekly Orthopaedic Grand Rounds and specialty conferences.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Long bone fractures
2. Musculoskeletal tumors
3. Multi Trauma patients
4. Musculoskeletal disorders such as O.A., R.A., septic arthritis
5. Low back pain, compartment syndrome
6. Upper extremity reconstruction and compressive neuropathies

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Clinical Performance Evaluation.
2. Presentations to attendings and residents.
3. One-on-one discussions.
4. Clinics and hospital rounds.
5. Daily interactions with faculty and residents in small groups and one-on-one sessions.
6. Midpoint feedback will be done via one-on-one discussions between faculty and student.

Will students be expected to participate in call? ☒ YES ☐
Two to four weeknights until 10:00 pm per week and one weekend 24-hour shift (Fri, Sat, or Sun) per rotation.

OSURG 864: Office-Based Orthopaedics

Course Director: Sara Van Nortwick, MD
Email: vananort@musc.edu

Course Coordinator: Joan Graesch
Telephone #: 843-792-0245
Email: graesch@musc.edu

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Does this rotation accept visiting students? ☐ YES ☒ NO

COURSE DESCRIPTION:
This course offers the opportunity for students to evaluate and manage disorders of the musculoskeletal system. Students spend four weeks rotating through the outpatient orthopaedic subspecialty services. These services may include sports medicine, pediatric orthopaedics, adult reconstruction, hand, oncology foot and ankle, and spine. This rotation is for students interested in the care of the musculoskeletal system but not interested in a career in orthopaedic surgery.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Perform a subspecialty specific and problem focused history and examination as indicated, and formulate a differential diagnosis and provisional treatment plan. (PC1, PC3, CS2)
2. Demonstrate an understanding of how special tests and/or referrals aid in establishing a diagnosis. (MK8, PC3, IP4)
3. Discuss subspecialty specific issues and coordination of care in the peri-operative period. (PL3, SL2, IP2)
4. Present patients to colleagues. (PC1, CS1, IP3)
5. Articulate the need to refer MSK conditions to a specialist. (CS1, 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. One formal presentation per week.
2. Daily work rounds/discussions with attendings in clinic.
3. Attend weekly Orthopaedic Grand Rounds and Fracture Conference.
4. Specific reading assignments.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Upper extremity compressive neuropathies
2. Sports-related injuries
3. MSK complaints of the foot and ankle
4. Degenerative Joint Disease / Osteoarthritis
5. Shoulder and rotator pathology

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Clinical Performance Evaluation.
2. Case presentations.
3. Informal presentations.
4. Midpoint evaluations will be accomplished via small group and one-on-one sessions with the course director.

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

OTOL 850: Otolaryngology Primary Care ASE

Course Director: Lucinda Halstead, MD, and David White, MD
Email: halstead@musc.edu; whitedr@musc.edu

Course Coordinator: Anita Cheslek
Telephone #: 843-792-7162
Email: cheslear@musc.edu

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Block 2A		Block 4A		Block 6A		Block 8A		Block 10A	
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Does this rotation accept visiting students? ☐ YES ☒ NO

COURSE DESCRIPTION:
This course is an introduction to the evaluation and management of diseases of the ear, nose, throat, and head and neck. Students attend a clinically oriented lecture series, participate in the outpatient subspecialty clinics, and have closely supervised inpatient responsibility with all the sub-specialties in otolaryngology, as well as observe surgical procedures. Students participate in the clinical management of a wide assortment of the most common problems seen in the outpatient setting in otolaryngology with specific time devoted to the medical and surgical management of otitis media, chronic sinusitis, adenotonsillar hypertrophy, hearing loss, and common neck masses in adults and children. Chief Residents will organize students into specific teams to maximize the educational experience offered.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Demonstrate proficiency with the ear, nose, throat, and head and neck exam. (MK4, PC3, PR3)
2. Describe the role of office-based endoscopy for diagnosis and management of ear, nose, and throat problems. (MK5, PC3, PR3)
3. Demonstrate the ability to treat the most common ENT problems effectively. (MK4, PC3, CS2)
4. Discuss when to refer patients effectively. (PC3, CS3, PR3)

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. Regularly scheduled didactic otolaryngology lectures.
2. Rounds and discussions.
3. Patient encounters.
4. Attendance at multidisciplinary tumor board and periodic departmental hosted conferences.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Thyroid mass in an adult
2. Adenotonsillar hypertrophy in a child
3. Chronic otitis media in a child
4. Chronic sinusitis in an adult
5. Hoarseness/voice problem in an adult
6. Hearing loss in an adult

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Clinical Performance Evaluation.
2. Direct feedback after outpatient clinic, inpatient rounds and management, and operating room experiences.
3. A mid-point evaluation form will be completed halfway through the rotation in order to inform the student on their performance up to that point.

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

OTOL 851: Otolaryngology Externship ASE

Course Director: Lucinda Halstead, MD
Email: halstead@musc.edu

Course Coordinator: Anita Cheslek
Telephone #: 843-792-7162
Email: cheslear@musc.edu

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Block 2A		Block 4A		Block 6A		Block 8A		Block 10A	
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Does this rotation accept visiting students? ☒ YES ☐ NO

COURSE DESCRIPTION:
This acting internship is limited to students applying for residency in ORL and provides a comprehensive overview of otolaryngology with in-depth experience in medical and surgical management of head and neck cancer, rhinology, otology, laryngology, and pediatric otolaryngology. MUSC students applying to ORL residency must contact the course coordinator PRIOR to registering and acceptance is on a first-come basis for all blocks. Students from other institutions must contact the course coordinator for details of the application requirements and acceptance process. There are typically 10-20 inpatients at a time. The student is responsible for 2-3 patients – rounding, presenting, and writing daily progress notes. The majority of our faculty will be unavailable from September 30- Oct 4, 2023 in order to attend the annual AAOHNS meeting.

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)
2. Perform the head and neck exam. (MK4, PC2, PR3)
3. Describe the spectrum of ENT surgery and medical management. (MK5, MK7, PC3)
4. Formulate a plan to manage the postoperative inpatient. (CS4, 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. Complete an Externship Log documenting level of participation in key entrustable professional activities.
2. Regularly scheduled didactic otolaryngology lectures.
3. Rounds/discussions and attendance at multidisciplinary tumor board
4. Patient contact.
5. Patient load – same as PGY 1 or 2.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Oral Cancer
2. Thyroid Nodule
3. Salivary Gland Neoplasm
4. Skin Cancer
5. Neck Mass

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Clinical Performance Evaluation.
2. Direct feedback after outpatient clinic, inpatient rounds and management, and operating room experiences.
3. A mid-point evaluation form will be completed halfway through the rotation in order for the student to be assessed on their performance.

Will students be expected to participate in call? ☒ YES ☐ NO
Will follow the call schedule of the PGY 2 on each team as they rotate through. Call will be approximately 2-3 times per week until 10:00 pm.

OTOL 860: Head & Neck Surgical Oncology Externship ASE

Course Director: Lucinda Halstead, MD
Email: halstead@musc.edu

Course Coordinator: Anita Cheslek
Telephone #: 843-792-7162
Email: cheslear@musc.edu

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Does this rotation accept visiting students? ☐ YES ☒ NO

COURSE DESCRIPTION:
This course provides students with exposure to the multidisciplinary evaluation and management of tumors of the head and neck. The clinical experience will include patients with HPV-related oropharyngeal cancer, tobacco-related tongue and laryngeal cancer, tumors of the thyroid and salivary glands, skin cancer of the head and neck, and the wide variety of other tumors occurring in the head and neck region. Many of these tumors have symptoms that mimic much more common problems such as lymphadenitis, tonsillitis, pharyngitis, Bell's palsy, and clinicians should be aware of the subtle differences between a patient with a common primary care problem treated with antibiotics versus a patient who may harbor an occult cancer. Students will function as an acting intern and be responsible for learning the early diagnosis, evaluation, and multidisciplinary treatment and rehabilitation for these diseases.

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. (PC5, CS2, PR4)
2. Complete a comprehensive head and neck examination. (PC2, PR3, PC7)
3. Integrate and manage the diagnosis, staging, and management of patients with head and neck tumors into the clinical practice. (PC6, PD6, IP4)
4. Describe the neck lymph node levels and staging of head and neck cancers. (MK4, MK5, MK7)
5. Summarize the NCCN Guidelines for the diagnosis and treatment of cancers of the thyroid, skin, parotid, tongue, pharynx, and larynx. (PL3, PL6, 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. Complete an Externship Log documenting level of participation in key entrustable professional activities.
2. Regularly scheduled didactic otolaryngology lectures, rounds, discussions and attendance at multidisciplinary tumor board
3. Patient contact – the patient load will be the same as a PGY 1 or 2 resident.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Oral Cancer / Oropharyngeal Cancer
2. Thyroid Nodule
3. Salivary Gland Neoplasm
4. Neck Mass

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Clinical Performance Evaluation.
2. Direct feedback after the following clinical experiences: operating room, outpatient clinics, inpatient rounds and management.
3. Attendance at Tumor Board and Lectures.
4. A mid-point evaluation form will be completed halfway through the rotation in order for the student to be assessed on their performance.

Will students be expected to participate in call? ☒ YES ☐ NO
Students will follow the call schedule of the PGY 1 or PGY2. Call will be approximately 2-3 times per week until 10:00 pm.

PATHO 853: Laboratory Medicine

Course Director: Cynthia Schandl, MD, PhD
Email: schandlc@musc.edu

Course Coordinator: Lisa Coulter
Telephone #: 843-792-6483
Email: coulterl@musc.edu

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Does this rotation accept visiting students? ☒ YES ☐ NO

COURSE DESCRIPTION:
This comprehensive elective exposes students to the all aspects of laboratory medicine including chemistry, microbiology, hematology, immunology, transfusion medicine and molecular diagnostics. The students will participate in laboratory rotations, laboratory rounds, conferences and small group sessions with attending faculty, residents, fellows and clinical laboratory staff. The overall objectives of the rotation are for the student to gain an appreciation of the role of laboratory measurements in the diagnosis and management of patients and to understand the preanalytical, analytical and post-analytic factors that influence laboratory results.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Identify the important preanalytical, analytical and post-analytical variables that influence laboratory results. (MK4, PC2, PL2)
2. Discuss the basic principles and test methods used in the clinical chemistry, microbiology, transfusion medicine, hematology and immunology laboratories. (MK5, PC2, PL2)
3. Describe the relationship of clinical laboratory results to diagnosis and patient management. (MK8, PL3, SL2)

INSTRUCTIONAL METHODOLOGIES AND ROTATION ACTIVITIES: Students on this rotation will be expected to learn and achieve the educational goals and objectives through the attending following methodologies and activities:
1. Lectures (Laboratory Medicine Core Lecture Series for Pathology residents; Thursdays, 8-9 am; CH 204)
2. Lab (Rotations through the different Clinical Laboratory sections as described above)
3. Conference (Clinical Pathology On-call Conference; Mondays 8:30-9:30 am; CH 204)
4. Seminars (Pathology Journal Club; 2nd Wednesday, 8-9 am and Grand Rounds; 1st Wednesday, 8-9 am; CH 204)
5. Small groups (daily with faculty at various times)
6. Independent study (assigned reading and review with faculty)

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Students present clinical problem or case in which the laboratory results were particularly important in diagnosis or management that they encountered during the laboratory rotations. Cases selected depend upon the students' interest.

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods.
1. Clinical Performance Evaluation.
2. Direct observation.
3. Oral presentation.
4. A mid-point evaluation form will be completed half way through the rotation in order for the student to be assessed on their performance.

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

PATHO 856: Forensic & Medical Autopsy Pathology

Course Director: Angelina Phillips, MD
Email: phillian@musc.edu

Course Coordinator: Lisa Coulter
Telephone #: 843-792-6483
Email: coulterl@musc.edu

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Does this rotation accept visiting students? ☒ YES ☐ NO

COURSE DESCRIPTION:
This course offers insight into forensic pathology and medicolegal death investigation as well as the workup and certification of in-hospital deaths. The student will be involved in the performance of autopsies, including the performance of external examinations, disposition of fluid/tissue samples for ancillary studies, and basic dissection of the internal organs. This course offers an excellent opportunity for review of normal anatomy and exposes the student to common pathologies and traumas. Contact Dr. Angelina Phillips via e-mail one week prior to the start of the rotation.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Identify factors that qualify a death for a forensic autopsy. (MK3, SL1)
2. Work on an interdisciplinary team and communicate effectively (PR1, IP1)
3. Explain the complete details of how an autopsy is performed. (MK1, MK4, CS1)
4. Perform uncomplicated autopsy organ dissection. (MK1, MK3, PC7)
5. Properly complete the cause and manner of death section on a death certificate. (MK4, 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. Attendance and participation in weekly autopsy conferences.
2. Rotation specific didactics.
3. Pre-case and post-case discussions with attending pathologist, residents, and /or forensic fellow.
4. Active participation in autopsy casework.
5. Student presentation of a 15-minute autopsy/forensic topic at the end of the rotation.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Natural diseases including hypertension, atherosclerosis, pneumonia, infection and/or cancer
2. Various forms of trauma including motor vehicle accidents, burns, gunshot wounds, and/or sharp force injuries
3. Illicit and prescription drug overdoses

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Clinical Performance Evaluation.
2. Attending physicians, forensic fellow, and pathology residents will provide on-site verbal evaluation/feedback about daily service work.
3. Attending physicians, forensic fellow, and pathology residents will provide on-site verbal feedback of the 15- minute student presentation at the end of the rotation.

Will students be expected to participate in call? ☒ YES ☐ NO
One weekend day during rotation.

PATHO 860: Cytopathology

Course Director: Jack Yang, MD
Email: yanja@musc.edu

Course Coordinator: Lisa Coulter
Telephone #: 843-792-6483
Email: coulterl@musc.edu

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Does this rotation accept visiting students? ☐ YES ☒ NO

COURSE DESCRIPTION:
This course will introduce students to Cytopathology. Students will learn basic preparatory techniques and be involved in evaluation of gynecologic and non-gynecologic preparations. Students will have the opportunity to participate in the entire cytologic diagnostic process, including on-site sample adequacy evaluation, specimen preparation, and final cytologic diagnosis. The course includes didactic lectures and participation of daily cytology sign-out sessions. Students will also have the opportunity to attend pathology resident seminars and cytologic-histological correlation conference. Course materials/reference textbooks include *The Bethesda System for Reporting Cervical Cytology*, *The Bethesda System for Reporting Thyroid Cytopathology,* and *Cytology-Diagnostic Principles and Clinical Correlates*. (All three books are available online in MUSC library website.) Students will meet with Dr. Yang in CH303F at 8:45 am on the first day of rotation. **NOTE**: Students pursuing pathology as a career may request to take the course for four weeks.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Describe the entire diagnostic process in cytopathology (MK1, MK4, PC1, PC2, CS1, PR1, PL1)
2. Identify the elements of the pathologic basis of diseases. (MK1, MK3, MK4, MK5, MK8, PL1)
3. Correlate clinical symptoms with underlying pathophysiologic mechanisms. (MK1, MK5, PL1)

INSTRUCTIONAL METHODOLOGIES AND ROTATION ACTIVITIES: Students on this rotation will be expected to achieve the educational goals and objectives through the following methodologies and activities:
1. Participation in Cytopathology sign-out (pap smears and fluid analysis) and rapid on-site evaluation of fine needle aspiration specimens.
2. Attend histo/cyto correlation conference and general pathology lectures
3. Identify topic of interest and give a short cytopathology-related oral presentation (applies to students enrolled in 4-week elective).

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Thyroid nodule
2. Mediastinal lymphadenopathy
3. Hematuria
4. Pap smear

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Clinical Performance Evaluation.
2. Direct observation by faculty and residents during patient care and review of clinical/didactic activities.
3. Direct observation and Question/Answer sessions.
4. Direct observation by residents and attending of student day-to-day activities on the team.
5. Short quiz on a topic related to Cytopathology.
6. A mid-point evaluation form will be completed half way through any 4-week rotation in order for the student to be assessed on their performance.

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

PATHO 862: Surgical Pathology

Course Director: Cindy Welsh, MD
Email: welshct@musc.edu

Course Coordinator: Lisa Coulter
Telephone #: 843-792-6483
Email: coulterl@musc.edu

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Does this rotation accept visiting students? ☒ YES ☐ NO

COURSE DESCRIPTION:
This course will introduce students to surgical pathology. Students will be exposed to gross examination of surgical specimens, frozen section examination, and microscopic pathology. The course will have an emphasis in surgical pathology on topics that are of interest to the student in their ultimate career path. The student will be expected to choose a clinical case that occurs during their four-week rotation to present as a short (5-min) PowerPoint presentation at the last Friday morning resident's conference or in another conference time (arranged and approved by the course director) prior to leaving the elective. The student will also be expected to attend the morning lectures and conferences that occur Monday-Friday at 8:00 am. Time off from the rotation for interviews, etc., requires negotiation beforehand with the course director and follows COM policy.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Describe the scope of pathology and what surgical pathologists do. (MK5)
2. Discuss the indications for and the methodology of intraoperative consultation (frozen section). (MK5, IP3, PC2)
3. Describe the dissection techniques for common surgical specimens. (MK3, PC7)
4. Identify the gross and microscopic features of common neoplasms. (MK3, PC2)
5. Present a patient case with an emphasis on pathology and review of the pertinent literature. (MK8, CS4, PL3)

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. Attendance of general pathology lectures.
2. Attendance at least one tumor board during this course to see the interaction of pathologists and clinicians.
3. Participation in surgical pathology, including gross examination of specimens, evaluation of frozen sections and microscopic evaluation of surgical specimens.
4. Choose a topic of interest and give a 5-minute oral presentation with review of the pertinent literature.
5. Present a patient case selected during the rotation with an emphasis on pathology.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Frozen section intraoperative consultations
2. Major oncology resections with follow through to appropriate tumor board discussions
3. Surgical biopsy specimens

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Clinical Performance Evaluation.
2. Evaluation of medical knowledge by attending physician on surgical pathology sign-out.
3. Observation and evaluation of skills in the frozen section.
4. Observation of interpersonal communicative skills and professionalism.
5. Quality of oral presentation by elective director.

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

PATHO 865: Dermatopathology

Course Director: Jessica Forcucci, MD
Email: forcucci@musc.edu

Course Coordinator: Lisa Coulter
Telephone #: 843-792-6483
Email: coulterl@musc.edu

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Does this rotation accept visiting students? ☒ YES ☐ NO

COURSE DESCRIPTION:
The student will participate in daily dermatopathology sign out and independent study. The student will also participate in dermatopathology didactics and pertinent clinical conferences (melanoma tumor board, dermatology grand rounds).

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Communicate basic pathologic changes that occur in the skin using the terminology of dermatopathology. (MK1-2, CS1)
2. Understand the "life" of a specimen and the role of various healthcare professionals from collection to review of results in the electronic medical record. (MK5, PL4, IP1)
3. Analyze skin specimens microscopically. (PC1, PC2)
4. Identify the pathologic features of common inflammatory diseases and neoplasms of the skin. (MK3-4)
5. Integrate clinical and pathological features of skin diseases. (CS4, PR2, PD6)

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
2. Sign Out/Discussions
3. Conferences
4. Independent study

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Basal Cell Carcinoma
2. Squamous Cell Carcinoma
3. Actinic Keratosis
4. Seborrheic Keratosis
5. Melanocytic nevi
6. Psoriasis
7. Eczematous Dermatitis
8. Lichenoid Dermatitis

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Clinical Performance Evaluation (incorporating verbal feedback from dermatopathology faculty, fellows, and residents).
2. Medical knowledge, interpersonal communication skills, and professionalism at dermatopathology sign out.

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

PATHO 871: Hematopathology & Medicine

Course Director: David Park, MD
Email: parkda@musc.edu

Course Coordinator: Lisa Coulter
Telephone #: 843-792-6483
Email: coulterl@musc.edu

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Does this rotation accept visiting students? ☐ YES ☒ NO

COURSE DESCRIPTION:
In this course, students will understand the role of the hematopathology division in the multidisciplinary team approach to providing the best possible patient care. Students will participate in the laboratory evaluation and diagnosis of malignant and nonmalignant hematologic disorders. Students will be involved in the morphologic, immunohistochemical, flow cytometric, cytogenetic, and molecular genetic analyses of peripheral blood smear, bone marrow aspirate and biopsies, and lymph node biopsies. Correlation of these data with the clinical, radiologic, and physical findings will be emphasized.

LEARNING GOALS & OBJECTIVES (MK3, MK5, MK8): At the completion of this clinical rotation students should be able to do the following:
1. Describe how to use a multidisciplinary, integrated approach to the diagnosis of hematologic disorders utilizing morphology, flow cytometry, classical cytogenetics and molecular genetic analysis.
2. Discuss how to diagnose acute and chronic leukemias and determine cell lineage, to distinguish myeloproliferative and myelodysplastic disorders from reactive processes and be familiar with the protean manifestations of plasma cell neoplasms.
3. Distinguish myeloproliferative/myelodysplastic disorders from reactive processes.

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. Daily attendance during hematopathology clinical service multiheaded-scope sign-out sessions
2. Self-initiated and staff directed literature searches on relevant topics
3. Understanding general laboratory operations in clinical practice

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Present clinical history, physical findings, ancillary laboratory data, morphologic assessment, flow cytometric interpretation, cytogenetic analysis and molecular study results on a patient with a hematopoietic neoplasm of their choice.

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Clinical Performance Evaluation.
2. Informal quiz on concepts/principles in response to routine questions about pathologic diagnosis of cases being reviewed at the multiheaded-scope.
3. Students will be evaluated on their ability to present clear, concise and well-organized informal case presentations.
4. Ability to be a patient-focused, multidisciplinary team member in exercising patient care through conscientious work-up of hematopathology cases
5. Ability to navigate through scientific literature and provide evidence-based approach to hematopoietic neoplasms

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

PEDS 821: Pediatric Emergency Medicine

Course Director: Ian Kane, MD
Email: kanei@musc.edu

Course Coordinator: Emily McGinnis
Telephone #: 843-792-8362
Email: mcginnie@musc.edu

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Does this rotation accept visiting students? ☐ YES ☒ NO

COURSE DESCRIPTION:
Student will work in the acute setting of the SJCH Pediatric ED and attend morning reports/conferences/simulation center activities. In the context of clinical care, students will gain exposure to and experience in peripheral IV placement, splinting of fractured extremities, placement of sutures, lumbar puncture, and oxygen delivery. This course is intended for students entering the fields of Pediatrics, Emergency Medicine, or Family Medicine and requires pre-approval from the course director for enrollment in Blocks 2-8 if the student is NOT from one of these targeted disciplines.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Identify a sick child and initiate diagnostics and therapy. (MK5, PC1, PC2)
2. Manage minor trauma and demonstrate an understanding of major trauma in the pediatric patient. (MK3, PC3)
3. Collect focused, developmentally appropriate patient histories and perform focused, developmentally appropriate physical exams. (PC1, PC2)
4. Identify patients needing immediate attention by the supervising physician. (PC1, PC3, PC6)
5. Determine which patients can be discharged home and which need admission. (PC3, PC4)
6. Describe indications and familiarity with procedures commonly performed in Pediatric ED settings [splint placement, lumbar puncture, placement of sutures, peripheral intravenous catheter placement, procedural sedation]. (PC7, PL2)

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. Participation in small group teaching discussions
2. Clinical decision-making discussions after patient encounters
3. Observation/performance of common PED procedures

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Trauma due to MVC, falls, and accidents
2. Infectious diseases such as pneumonia, otitis media, gastroenteritis, bacteremia, and sepsis
3. Abdominal diagnoses such as appendicitis, constipation, obstruction, and torsion
4. Respiratory diagnoses such as asthma, croup, and bronchiolitis.
5. Management of chronically ill children with acute complaints.

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Clinical Performance Evaluation.
2. Direct observation and in-person feedback by attending physicians and residents.

Will students be expected to participate in call? ☐ YES ☒ NO
Student will work a total of 13 shifts consisting of a combination of day and evening shits. One shift will be a procedure/nursing (8-hour) shift in which the student will spend time gaining additional exposure to and experience in triage assessment, routine procedures such as IV placement, bladder catheterization, bedside/point-of-care ultrasound, commonly performed urgent/emergent radiology procedures, and respiratory therapy (nebulization administration, MDI instruction, O2 delivery).

PEDS 823: Pediatric Cardiology

Course Director: Lanier Jackson, MD
Email: jacksolb@musc.edu

Course Coordinator: Emily McGinnis
Telephone #: 843-792-8362
Email: mcginnie@musc.edu

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Does this rotation accept visiting students? ☐ YES ☒ NO

COURSE DESCRIPTION:
During this elective, students will work directly with specialists in pediatric cardiology and cardiothoracic surgery and rotate through all areas of pediatric cardiology including:

- one week in the cardiology clinic for outpatient pediatric cardiac consultations for new patients and the outpatient established patient evaluation at Summey Medical Pavilion (2250 Mall Dr, North Charleston, SC 29406)
- one week in the inpatient ICU,
- one week in the step-down floor for evaluation of the pre-operative and post-operative inpatient, and
- one week in observation of trans-catheter corrective procedures **OR** a one week rotation as a member of the pediatric cardio-thoracic surgical team, depending on student preference.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Demonstrate understanding of normal cardiac anatomy and physiology and describe the various common congenital cardiac alterations in anatomy and physiology. Acknowledge limitations in knowledge and correct those deficits. (MK4, MK1, MK8, PD2)
2. Demonstrate understanding of the diverse cardiac care team providing patient care in the outpatient and inpatient setting. Demonstrate ownership of the patient and responsibly provide continuity of care with each patient and the care team. (PC5, CS1, CS5, IP4)
3. Demonstrate understanding of the barriers and socio-economic challenges for the complex congenital pediatric and adult patient, their families, and of the necessary support structures integral to patient care. (PR3, PR1, SL4)
4. Assist in cardiac procedures with sterile preparation and management of a sterile environment in a cardiac procedural suite. Observe cardiac surgical procedures for an understanding of the complexity of congenital cardiac surgery. (PC6, MK5, PC7)

INSTRUCTIONAL METHODOLOGIES & 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. Participation as an integral member of the cardiac inpatient team.
2. Participation in the critical evaluation and assessment of the pediatric cardiac consult.
3. Evaluation and assessment of the preoperative pediatric cardiac patient, surgical procedures, and follow-up of the patient in the early post-operative period focusing on the altered cardiac physiology.
4. Attendance at cardiology clinics to improve pediatric cardiac exam skills and outpatient evaluation techniques.
5. Participation in specialized therapeutic modalities that aide in diagnosis and management of the complex pediatric cardiac patient. Students will observe echocardiography and cardiac catheterization available for delineating complex anatomy and interventional techniques for therapy.
6. Attend weekly care conferences: surgical and cath conferences – to understand the integration of medical and surgical care teams in the care of each congenital patient, and attend educational conferences for didactic teaching of congenital heart disease.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Patient with a congenital cardiac common diagnosis (i.e. VSD, ASD, and PDA, AV Canal defect, TOF, etc.)
2. Complex cardiac patient, including patients with Single ventricular physiology in varying stages of repair
3. Critically ill premature or full-term neonate patient with secondary pulmonary hypertension
4. Acquired heart disease, including cardiomyopathy, myocarditis, or Kawasaki's disease
5. Cyanotic neonatal or pediatric patient

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Clinical Performance Evaluation.
2. Direct observation and in-person feedback by attending physicians and residents.
3. A mid-point evaluation will be completed halfway through the rotation in order for the student to be assessed on their performance.

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

PEDS 824: Pediatric Gastroenterology & Nutrition

Course Director: Jordan Whatley, MD
Email: whatleyj@musc.edu

Course Coordinator: Emily McGinnis
Telephone #: 843-792-8362
Email: mcginnie@musc.edu

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Does this rotation accept visiting students? ☐ YES ☒ NO

COURSE DESCRIPTION:
This rotation offers initial exposure to Pediatric Gastroenterology and Nutrition. Students will work directly with attending gastroenterologists in inpatient, outpatient, and procedural settings. Emphasis will be on common clinical concerns such as reflux, constipation, chronic diarrhea but with opportunity to tailor rotation to student's interest and career goals. The Pediatric Gastroenterology team at MUSC has a wide variety of clinical strengths including general outpatient gastroenterology, liver transplant, pediatric neurogastroenterology, advanced endoscopy, inflammatory bowel disease, and nutrition.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Describe GI diseases in pediatrics, including their occurrence, care, outcome, and impact on child and family. (MK2-5, MK8)
2. Describe the outpatient and inpatient management of various GI diseases. (PC1-3, PC5-6)
3. Demonstrate an understanding of the importance of nutrition (both enteral and parenteral) for children with various GI diseases. (MK1-2, MK6-7, PL1)
4. Interpret growth patterns and PE findings of children with various GI diseases. (PC3, PC5, PL1)
5. Describe how to perform common pediatric GI procedures and the indications for these procedures (EGD, colonoscopy, pH/impedance probes, ERCP, EUS and breath hydrogen testing). (MK5, MK7)

INSTRUCTIONAL METHODOLOGIES & 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. Participation as integral member of the pediatric GI team.
2. Observation of GI procedures, including endoscopy and ERCP.
3. Participation in GI clinics and consults, including evaluating patients, determining pertinent physical exam finding and developing care-plan with the attending physicians.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Neonatal liver disease
2. Inflammatory bowel disease
3. Acute GI issues including bleeding
4. Constipation/encopresis
5. Gastroesophageal reflux disease
6. Eosinophilic Disorders
7. Jaundice and Elevated Liver Enzymes
8. Abdominal pain
9. Diarrhea

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Clinical Performance Evaluation.
2. Direct observation and in-person feedback by attending physicians and residents.

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

PEDS 825: Pediatric Cardiac ICU

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

Unit Director: Luke Schroeder, MD
Email: schroedl@musc.edu

Course Coordinator: Emily McGinnis
Telephone #: 843-792-8362
Email: mcginnie@musc.edu

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COURSE DESCRIPTION:
Fourth-year medical students will work as members of an interdisciplinary team on a busy pediatric cardiac critical care service. Working directly with specialists in pediatric cardiology and cardiothoracic surgery, the student will gain experience in assessing, stabilizing and developing care plans for critically ill pediatric patients with congenital or acquired heart disease. Students will become familiar with the cardiac anatomy and physiology of both pre-operative and post-operative congenital heart disease. Additionally, students will become familiar with the basics of mechanical ventilation, sedation and analgesia, resuscitation, shock and vasoactive medications, surgical emergencies, procedural indications and end-of-life care issues in the pediatric cardiac ICU. Students will observe and potentially participate in 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 18 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 interested in pediatric specialties and cardiology.

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. Demonstrate understanding of normal cardiac anatomy and physiology and describe the various common congenital cardiac alterations in anatomy and physiology. Acknowledge limitations in knowledge and correct those deficits. (MK4, MK1, MK8, PD2)
3. Participate as a member of the diverse cardiac care team providing patient care in the inpatient setting. Demonstrate ownership of the patient and responsibly provide continuity of care with each patient and the care team. (PC1, PC5, CS1, CS5, PR1, IP4)
4. Demonstrate understanding of the barriers and socio-economic challenges for the complex congenital pediatric and adult patient, their families, and of the necessary support structures integral to patient care. (PR3, PR1, SL4)
5. Participate in cardiac procedures with sterile preparation and management of a sterile environment in a cardiac procedural suite. Observe cardiac surgical procedures for an understanding of the complexity of congenital cardiac surgery. (PC6, MK5, PC7)
6. Be able to obtain Informed Consent for diagnostic and therapeutic tests and procedures including verbalization of risks, benefits and alternatives. (PC3, PC7, ICS1, SBP3)
7. 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)
8. Demonstrate effective and professional interpersonal and communication skills, and model ethical behavior. (CS1, PR1, PR2)
9. 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)
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. 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. 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. The student will be given opportunities to observe echocardiography and cardiac catheterization available for delineating complex anatomy and interventional techniques for therapy.
4. Attend weekly specialty conferences: surgical and cath conferences – to understand the integration of medical and surgical care teams in the care of each congenital patient.
5. 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 including:
1. Patient with a diagnosis of common cardiac lesions (i.e. VSD, ASD, and PDA, AV Canal defect, TOF, etc.)
2. Complex cardiac patient, including patients with single ventricular physiology in varying stages of repair
3. Critically ill premature or full-term neonate patient with secondary pulmonary hypertension
4. Acquired heart disease, including cardiomyopathy, myocarditis, or Kawasaki's disease
5. Cyanotic neonatal or pediatric patient

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. 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.

PEDS 840: Developmental-Behavioral Pediatrics

Course Director: Silvia Pereira-Smith, MD
Email: pereiras@musc.edu

Course Coordinator: Emily McGinnis
Telephone #: 843-792-8362
Email: mcginnie@musc.edu

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Does this rotation accept visiting students? ☒ YES ☐ NO

COURSE DESCRIPTION:
Students will attend outpatient developmental clinics and perform supervised developmental assessments/evaluations for the spectrum of developmental and behavioral problems (ADHD, disruptive behavior disorders, learning disabilities, autism spectrum disorder, developmental delay, intellectual disability, spina bifida, and NICU infant follow-up). Students who have previously taken the selective—Introduction to Developmental-Behavioral Pediatrics—may work with the course director to further tailor this elective to their needs and interests.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Implement the basics of developmental and behavioral screening and assessment of children ages 0-3, preschool, and school age. (PC1, CS1)
2. Demonstrate knowledge of typical versus atypical development. (MK1, M4, MK6)
3. Evaluate and counsel patients as part of an interprofessional team in an interdisciplinary experience. (PC1, PC5, IP1, IP2, IP3, IP4)
4. Discuss public laws, advocacy, and case management as they pertain to developmental and behavioral disorders. (SL2, 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. Taking a complete and relevant history and performing a pertinent physical exam on patients presenting with a potential developmental/behavioral problem.
2. Administer and/or interpret age-appropriate screening tools to identify clinically significant developmental and/or behavioral concerns.
3. Reading and discussion of current literature on topics outline in objectives as well as topics pertaining to specific patient encounters.
4. Clinical encounters.
5. Discussion

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. ADHD, ODD, and disruptive behavior disorders
2. Learning disability, developmental delay, intellectual disability
3. Autism spectrum disorder
4. Developmental delay
5. Specfic populations (e.g. NICU graduates, Down Syndrome, Cardiac Neurodevelopment, Spina Bifida, International Adoption)

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Clinical Performance Evaluation.
2. Direct observation and in-person feedback by attending physicians and residents.
3. A mid-point evaluation will be completed halfway through the rotation in order for the student to be assessed on their performance.

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

PEDS 852: Pediatric Nephrology

Course Director: Oana Nicoara, MD
Email: nicoara@musc.edu

Course Coordinator: Emily McGinnis
Telephone #: 843-792-8362
Email: mcginnie@musc.edu

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Does this rotation accept visiting students? ☒ YES ☐ NO

COURSE DESCRIPTION:
Students on this rotation will work alongside attendings and residents in the Pediatric Nephrology outpatient clinic and on inpatient consultations. Students may be required to drive to North Charleston (2250 Mall Dr, North Charleston, SC 29406) for outpatient clinics.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Describe the presenting signs of common pediatric nephrology problems and be able to formulate a differential diagnosis for these presenting signs. (MK3, MK4, PC2)
2. Describe the management of common pediatric nephrology problems. (MK3, PC3, PC5)
3. Demonstrate an understanding of general pediatrics issues in children with renal transplants (i.e. indication, how children qualify, associated immune suppression, effects on family, and vaccines after transplant). MK5, PC5, CS1, CS4)
4. Demonstrate an understanding of how a subspecialist communicates with primary care providers, hospitalists, intensivists, surgical services, and emergency department physicians, and appreciate the role of other professionals (e.g., nursing staff) in the care of children with complex renal disease. (PC4, SL1, IP2, IP3, IP4)
5. Communicate effectively with patients and families across a broad range of socioeconomic and cultural backgrounds and in a variety of difficult situations. (CS1, CS2, CS3)

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 - student will give at least one talk on the rotation and will attend weekly small group lectures given by the nephrologist.
2. Rounds/discussions, including writing appropriate notes.
3. Reading the recommended articles.
4. Conferences: Renal/urology/radiology conference, transplant selection, CRRT dialysis QAPI (Quality Improvement), general pediatrics conferences.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Hematuria and proteinuria
2. Glomerular diseases (i.e. nephrotic syndromes, lupus nephritis, etc.)
3. Hypertension
4. Congenital Anomalies of the Kidneys and Urinary Tract
5. Nephrolithiasis
6. Renal Transplant

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Clinical Performance Evaluation.
2. Direct observation and in-person feedback by attending physicians and residents.

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

PEDS 855: Genomics in Medical Practice

Course Director: Neena Champaigne, MD
Email: champain@musc.edu

Course Coordinator: Emily McGinnis
Telephone #: 843-792-8362
Email: mcginnie@musc.edu

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Does this rotation accept visiting students? ☐ YES ☒ NO

COURSE DESCRIPTION:
Students will learn the impact of Genomics in medical practice now and in the future. Students will work closely with the geneticist and genetic counselors to evaluate, diagnose, and counsel patients with genetic diseases. Students will also be guided in their learning through computer-based sources of genetic information. Students may be required to drive to North Charleston during this rotation (2250 Mall Dr, North Charleston, SC 29406).

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Access and analyze information from computer/internet-based sources of genetic information. (PL2, MK2)
2. Perform simple pedigree analysis and apply it to medical practice. (PL5, MK7, PC1)
3. Discuss the social/legal/ethical implications of predictive testing using genetic markers. (PL1, MK3, SL4, PR4)
4. Discuss the advantages and limitations of gene-based testing. (PL2, MK5)

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. Patient contact through participation in daily half-day clinics Monday through Friday
2. Rounds/discussions
3. Self-directed learning guided by course director and other teachers including genetic counselors and residents
4. Lab – one half-day session to be spent in the Cytogenetics and Molecular Pathology laboratory. Students will be graded incomplete if missed.
5. Attend phlebotomy lab to learn blood-drawing skills under supervision.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Rare and common genetic diseases, including developmental delay, autism, seizure disorders, hearing loss, and chromosomal and single gene (Mendelian) syndromes.

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Clinical Performance Evaluation.
2. Direct observation and in-person feedback by attending physicians and residents.

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

PEDS 863: Pediatric Hospitalist Medicine (Inpatient Wards) Externship

Course Director: Patricia McBurney, MD
Email: mcburnpg@musc.edu

Course Coordinator: Emily McGinnis
Telephone #: 843-792-8362
Email: mcginnie@musc.edu

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Does this rotation accept visiting students? ☒ YES ☐ NO

COURSE DESCRIPTION:
The student will be exposed to pediatric patients with acute and chronic diseases and will participate in the complete care of the patient as part of the general pediatric team. Clinical emphasis will include interviewing and physical examination skills, discussions of pathophysiology, and formulation of diagnostic and treatment plans.

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 improving interviewing and examining skills. (PC1, CS1, PL4)
3. Contribute to pathophysiology discussions. (MK1, PR1, CS1)
4. Formulate diagnostic and treatment plans. (MK8, PC3)
5. Formulate appropriate orders and preparing prescriptions. (PC4, PC5)
6. Identify criteria for admission and discharge from hospital. (MK6, PC1, 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. Complete an Externship Log documenting level of participation in key entrustable professional activities.
2. Patient contact
3. Rounds/discussions
4. Lectures

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Acute event (e.g., BRUE/apnea/cyanosis)
2. Dehydration
3. Fever
4. Respiratory distress
5. Chronic disease with complication

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Clinical Performance Evaluation.
2. Direct observation and in-person feedback by attending physicians and residents.
3. A mid-point evaluation will be completed halfway through the rotation in order for the student to be assessed on their performance.

Will students be expected to participate in call? ☒ YES ☐ NO
Students will take overnight call (24 hours of continuous duty) up to every 4 nights. Students will present their patients from the call night on rounds the next morning. Generally, students will be dismissed from rounds at 10:30 a.m. on their post-call day.

PEDS 864: Pediatric Cardiology Externship

Course Director: Lanier Jackson, MD
Email: jacksolb@musc.edu

Course Coordinator: Emily McGinnis
Telephone #: 843-792-8362
Email: mcginnie@musc.edu

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Does this rotation accept visiting students? ☒ YES ☐ NO

COURSE DESCRIPTION:
During this externship, students will work directly with specialists in pediatric cardiology and cardiothoracic surgery and serve as acting interns on the inpatient floor of the cardiac step-down unit. The student will take ownership of a group of patients, with all patient care activities to be performed and reported by the student. Students will be challenged to learn the skills necessary to care for the complex medical patient, to integrate and work closely with a complex and diverse medical team, and to learn the cardiac anatomy and physiology of the pre-operative and post-operative congenital cardiac patient.

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 understanding of normal cardiac anatomy and physiology and describe the various common congenital cardiac alterations in anatomy and physiology. Acknowledge limitations in knowledge and correct those deficits. (MK4, MK1, MK8, PD2)
3. Participate as a member of the diverse cardiac care team providing patient care in the outpatient and inpatient setting. Demonstrate ownership of the patient and responsibly provide continuity of care with each patient and the care team. (PC1, PC5, CS1, CS5, PR1, IP4)
4. Demonstrate understanding of the barriers and socio-economic challenges for the complex congenital pediatric and adult patient, their families, and of the necessary support structures integral to patient care. (PR3, PR1, SL4)
5. Participate in cardiac procedures with sterile preparation and management of a sterile environment in a cardiac procedural suite. Observe cardiac surgical procedures for an understanding of the complexity of congenital cardiac surgery. (PC6, MK5, PC7)

INSTRUCTIONAL METHODOLOGIES & 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. Participation as an integral member of the cardiac inpatient team.
3. Participation in the critical evaluation and assessment of the pediatric cardiac consult.
4. Evaluation and assessment of the preoperative pediatric cardiac patient, surgical procedures, and follow-up of the patient in the early post-operative period focusing on the altered cardiac physiology.
5. The student will be given opportunities to observe echocardiography and cardiac catheterization available for delineating complex anatomy and interventional techniques for therapy.
6. Attend weekly care conferences: surgical and cath conferences – to understand the integration of medical and surgical care teams in the care of each congenital patient, and attend educational conferences for didactic teaching of congenital heart disease.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Patient with a common diagnosis (i.e. VSD, ASD, and PDA, AV Canal defect, TOF, etc.)
2. Complex cardiac patient, including patients with Single ventricular physiology in varying stages of repair
3. Critically ill premature or full-term neonate patient with secondary pulmonary hypertension
4. Acquired heart disease, including cardiomyopathy, myocarditis, or Kawasaki's disease
5. Cyanotic neonatal or pediatric patient

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Clinical Performance Evaluation.
2. Direct observation and in-person feedback by attending physicians and residents.
3. A mid-point evaluation will be completed halfway through the rotation in order for the student to be assessed on their performance.

Will students be expected to participate in call? ☒ YES ☐ NO
Overnight call is not required; however, rounding on the patients who have been followed by the student on the cardiac stepdown unit is required on one consecutive weekend during the externship - constitutes weekend call.

PEDS 868: Primary Care Pediatrics

Course Director: Kristina Gustafson, MD
Email: gustafs@musc.edu

Course Coordinator: Emily McGinnis
Telephone #: 843-792-8362
Email: mcginnie@musc.edu

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Does this rotation accept visiting students? ☐ YES ☒ NO

COURSE DESCRIPTION:
This rotation is in an ambulatory pediatric center and will allow the student to provide acute care and preventative health screenings to children ages 0-18 years of age. Depending on level of training and to assure exposure to all general pediatric issues, the students will alternate between seeing patients with acute care complaints one day and preventative appointments on the next (i.e. all 3rd year clerkship students will be assigned the same appointment type one day while the 4th year student will be assigned the opposite appointment type and then they will swap assignments on the next day). As an additional learning opportunity, 4th year students will have the opportunity, should they wish, to 1) accompany a general pediatric attending on Wednesdays to travel to a Georgetown outreach clinic to see patients with behavioral issues/ADHD, 2) see patients in Rutledge Tower in the co-located Foster Care Support Clinic, which is the medical home for all foster children in the tri-county Charleston area, and 3) work with our nursing staff for 0.5 - 1 day doing general pediatric clinic procedures, such as immunization delivery, hearing & vision screening, point of care testing, etc.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Demonstrate a solid knowledge base in outpatient general pediatrics with a better understanding of the psychosocial factors that contribute to the health of pediatric patients. (MK1, MK2, MK7, PC5, CS2, PR2, IP1, IP3)
2. Collect both focused and comprehensive, developmentally appropriate histories. (PC1, PR2, PD2)
3. Synthesize information gathered about sick and well children and then formulate diagnosis and treatment plans. (MK3, MK4, MK5, MK6, PC2, PC3, CS1, PD6, SL2)
4. Examine children of many developmental ages. (PC1, MK1)
5. Discuss age-appropriate health supervision principles. (PC5, CS1)

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. Patient contact
2. Lectures/conferences

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Well child/sports and camp physicals
2. Infection
3. School/behavior issues
4. Gastrointestinal issues
5. Dermatological issues

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Clinical Performance Evaluation.
2. Direct observation and in-person feedback by attending physicians and residents.
3. A mid-point evaluation will be completed halfway through the rotation in order for the student to be assessed on their performance.

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

PEDS 870: Pediatric Hematology/Oncology Externship

Course Director: Anca Dumitriu, MD
Email: dumitriu@musc.edu

Course Coordinator: Emily McGinnis
Telephone #: 843-792-8362
Email: mcginnie@musc.edu

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Does this rotation accept visiting students? ☒ YES ☐ NO

COURSE DESCRIPTION:
This is a hands-on rotation on the clinical hematology/oncology services. The student will be the acting intern for patients and will be involved in admissions, discharges, rounds, and daily care of the patients. The student will also have opportunities to participate in Tumor Board, consults, team teaching sessions, and procedures (i.e. bone marrow biopsies and pathology review).

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. Describe pediatric oncology diseases and common hematological disorders. (MK1, MK2, MK4)
3. Present relevant clinical information in a concise manner. (MK6, MK8, CS5, PL3)
4. Interact appropriately with families of children suffering from chronic diseases. (PC1, PC5, CS2, PR1, PR2)
5. Manage time efficiently in clinical work. (PC6, PL2, SL2, IP2)
6. Demonstrate a patient and family-centered and humanistic approach to clinical work. (CS1, PR4, PR5, SL4, 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. Complete an Externship Log documenting level of participation in key entrustable professional activities.
2. Lectures
3. Rounds/discussions
4. Patient contact

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Anemia
2. Leukemia
3. Tumors, which will depend on the types of patients but likely include neuroblastomas, sarcomas, renal tumors, brain tumors, and lymphomas.

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Clinical Performance Evaluation.
2. Direct observation and in-person feedback by attending physicians and residents.
3. A mid-point evaluation will be completed halfway through the rotation in order for the student to be assessed on their performance.

Will students be expected to participate in call? ☐ YES ☒ NO
Students will follow the intern's 12-hour shift workdays (6:30 a.m.-6:30 p.m.) with the appropriate number of days off per the COM Education Hour Policy.

PEDS 871: Clinical Genetics & Counseling

Course Director: Neena Champaigne, MD
Email: champain@musc.edu

Course Coordinator: Emily McGinnis
Telephone #: 843-792-8362
Email: mcginnie@musc.edu

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Does this rotation accept visiting students? ☐ YES ☒ NO

COURSE DESCRIPTION:
This course allows the student to gain additional fundamental knowledge of common genetic disorders encountered in day-to-day practice and experience in analyzing the complex psychosocial and emotional aspects of genetic disorders and counseling. Students will attend clinics staffed by an attending physician, a genetic counselor, and a registered dietitian (as needed) at the Children's Hospital and outreach sites and will perform supervised patient assessments, prepare case summaries, and literature search assignments. Students are not expected to be scribes and may write summaries for learning purpose. Students may be required to drive to North Charleston during this rotation (2250 Mall Dr, North Charleston, SC 29406).

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Describe the basics of dysmorphology assessment. (MK1, PL2)
2. Demonstrate understanding of the principles and practice of genetic counseling. (MK6, PC5, SL4)
3. Demonstrate understanding of genetic testing in clinical practice. (MK8, PC1, SL3)
4. Discuss and consider the ethics of genetic medicine. (MK8, PC5, 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. Self-directed learning with guidance from course director and other teachers including genetic counselors and residents
2. Rounds/discussions.
3. Patient contact through participation in daily half-day clinics Monday thru Friday.
4. Lab: All students are expected to spend at least one half-day session in the cytogenetic and molecular pathology lab to learn basics of cytogenetic and molecular genetic analytical techniques from laboratory technologist and/or laboratory director(s). Completion of this assignment is required for earning a Pass or Honors grade.
5. Attend phlebotomy lab to learn blood-drawing skills under supervision (optional).

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Students will participate in assessments of patients with rare and common genetic disorders, the most common examples of which include developmental delay, autism, seizure disorders, hearing loss, congenital malformations, and chromosomal and single gene (Mendelian) syndromes.

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Clinical Performance Evaluation.
2. Direct observation and in-person feedback by attending physicians and residents.

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

PEDS 876: Pediatric ICU

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

Unit Director: Rustin Meister, MD
Email: meisterr@musc.edu

Course Coordinator: Emily McGinnis
Telephone #: 843-792-8362
Email: mcginnie@musc.edu

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COURSE DESCRIPTION:
Fourth-year medical students will work as integral members of an interdisciplinary team on a busy pediatric critical care service at the MUSC Children's Hospital to learn about evaluation and management of acute care illness. With supervision and guidance, students will gain experience in assessing, stabilizing, and developing care plans for critically ill pediatric patients. Students will become familiar with the basics of mechanical ventilation, sedation and analgesia, resuscitation, shock and vasoactive medications, surgical emergencies, procedural indications and end-of-life care issues in the pediatric ICU. Students will observe and potentially participate in 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 18 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. Overnight call is not required, but is recommended 1-2 times per rotation as an integral learning experience, or can be used as make-up for unexcused absences. This rotation is recommended for students interested in pediatric specialties and emergency medicine.

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, PC6)
3. Be able to obtain Informed Consent for diagnostic and therapeutic tests and procedures including verbalization of risks, benefits and alternatives. (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. (CS2, CS3, PR3)
8. Participate in a basic family meeting to discuss goals of care including discussing and obtaining code status. (PC4, CS4, 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. (SL4, IP2, IP3, IP4)
10. Understand quality improvement metrics in the ICU and the team's role in reducing hospital acquired infections including VAE, CAUTI, CLABSI, etc. (MK7, PL4, PL5, PL6, SL3)
11. Concisely summarize a patient's critical illness and hand off important clinical information efficiently to other team members and consultants. (CS1, CS5, IP1, IP3, PC6)
12. Write complete and succinct systems based medical plan with H&Ps and daily progress notes in EPIC. (MK3, PC2, 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, sedatives, and analgesic medications.
4. Students will have the opportunity to learn about and potentially perform a variety of procedures, including intubation, central venous catheter placement, arterial catheter placement, and lumbar puncture.

5. 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. Organ failure (respiratory, cardiac, renal, hepatic, metabolic, hematologic)
2. Acute deterioration of chronic disease states
3. Post-surgical care
4. Sepsis
5. Trauma

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Clinical Performance Evaluation
2. Direct observation of patient care skills by the attending physician and residents on service.
3. Attending physicians 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.

PEDS 879: Pediatric Infectious Diseases

Course Director: Lauren Powell, DO
Email: powellau@musc.edu

Course Coordinator: Emily McGinnis
Telephone #: 843-792-8362
Email: mcginnie@musc.edu

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Does this rotation accept visiting students? ☒ YES ☐ NO

COURSE DESCRIPTION:
This elective is designed to provide an in-depth and intensive exposure to both common and unusual infectious diseases of children. The student will participate in outpatient clinical visits (Summey Medical Pavilion 2250 Mall Dr, North Charleston, SC 29406) and inpatient consults to all the pediatric services (subspecialty, ICU and hospitalists) at the MUSC Shawn Jenkins Children's Hospital. Students will work as an integral part of the team, under the direct supervision of the infectious diseases attending. The rotation emphasizes appropriate use of antimicrobial therapy, the importance of the host-pathogen relationship in determining the outcome of an infectious disease, appropriate use and stewardship of diagnostic techniques, and understanding the importance of social, emotional, ethical and medico-legal issues in patient care.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Demonstrate an in-depth understanding of the epidemiology, pathogenesis, clinical manifestations, diagnosis and treatment of common pediatric infectious diseases (MK3-5)
2. Explain how social determinants, health behaviors, and preventative measures affect infectious disease processes and health in individual pediatric patients across populations (MK7)
3. Develop appropriate evaluation and management plan for common pediatric infectious diseases using family-centered approach including follow up (PC3)
4. Provide care, education, and counseling to patient and family with accurate, up-to-date information with consideration of family's culture, ethnicity, spirituality, gender, age, disabilities, and other aspects of personal and/or health beliefs, practices, and decisions (PC5)
5. Communicate crucial, appropriately focused, and accurate information through written medical records and patient presentations (CS5)
6. Demonstrate accountability for all responsibilities (whether academic, patient related or professional) (PR4)
7. Acknowledge personal limitations openly and honestly with ability to seek and respond to feedback regarding professional performance and demonstrate ability to improve on personal deficiencies as well as appropriate resources when dealing with uncertainty in clinical care (PD1-2, PD6)
8. Incorporate evidence-based medicine, technology, medical informatics, safety and quality improvement, public health, population health, and translational research into patient care and clinical decision making (PL2-6)
9. Understand the pediatric medical home and roles of inter-professional team members, and advocate for patients and families as they navigate complex health systems (SL1-2)
10. Participate in multidisciplinary patient care activities involving other members of the healthcare team, including case managers, sub-specialty consultants, and home care services and demonstrate effective communication as well as collaboration skills (IP2-4)

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. Patient contact
2. Lectures
3. Rounds/Discussion
4. Literature and guideline review

PATIENT ENCOUNTERS: Students will be expected to work-up patients with the following, but not limited to conditions:
1. Acute and/or chronic infections

2. Nosocomial infections
3. Post-surgical/procedure infections
4. Trauma related infections
5. Sepsis
6. Infections within the immunocompromised host (e.g. HIV, primary immunodeficiencies, those with conditions that require immunosuppressive therapy)

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Clinical performance evaluation
2. Direct observation and in-person feedback by attending physicians and residents

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

PEDS 890: Child Abuse & Neglect

Course Director: Carrie Busch, MD
Email: buschc@musc.edu

Course Coordinator: Emily McGinnis
Telephone #: 843-792-8362
Email: mcginnie@musc.edu

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Does this rotation accept visiting students? ☐ YES ☒ NO

COURSE DESCRIPTION:
Course is available in 2- and 4-week blocks based on availablility. Students must request approval from the course director prior to enrolling in this course to ensure availability. Student will work with subspecialists in Child Abuse Pediatrics (CAP) and will see patients in both the MUSC CAP follow up clinic, the MUSC clinic at the Dee Norton Lowcountry Children's Center (1061 King Street), and the MUSC clinic at the Dorchester Children's Center (303 East Richardson Ave., Summerville). They will also participate in ER and inpatient consults as available.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Demonstrate a logical and appropriate clinical approach to the care of suspected or confirmed victims of abuse or neglect. (MK3, MK5, PC3, CS3, PS3)
2. Access medical information efficiently, evaluate it critically, and apply it appropriately to the care of patients suspected of abuse or neglect. (MK8, PC3, PL3)
3. Communicate effectively with physicians, other health professionals, and community agencies. (CS4, PR1, PD6, IP3, IP4)
4. Access and comply with the laws that define a physician's responsibilities when abuse or neglect is suspected. (PR4, SL3)
5. Demonstrate understanding of how to practice high-quality healthcare and advocate for patients suspected of abuse or neglect. (MK5, PC6, 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. Patient contact
2. Discussions
3. Conferences

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Physical abuse
2. Sexual abuse
3. Emotional abuse
4. Neglect

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Clinical Performance Evaluation.
2. Direct observation and in-person feedback by attending physicians, child abuse nurse practitioners and pediatric residents.
3. A mid-point evaluation will be completed halfway through the rotation in order for the student to be assessed on their performance.

Will students be expected to participate in call? ☐ YES ☒ NO
Call is an optional experience. Call participation will not be reflected on the end of course evaluation.

PMR 851: Physical Medicine & Rehab

Course Director: Heather Walker, MD
Email: walker@musc.edu; heather.walker2@encompasshealth.com

Course Coordinator: Michael Watson
Telephone #: 843-876-5053
Email: watsomic@musc.edu

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Does this rotation accept visiting students? ☐ YES ☒ NO

COURSE DESCRIPTION:
Students will have contact with inpatients at Encompass Health Rehabilitation Hospital of Charleston. Students will have the opportunity to observe physical, occupation and speech therapies. They will additionally have the opportunity to shadow Prosthetics/Orthotics during the rotation. **Clinic location is 9181 Medcom Street, Charleston, SC.**

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Identify diseases and aging processes that cause functional abnormalities. (MK1, MK3, MK5)
2. Demonstrate understanding and utilize common classification systems used in individuals with brain injury (Rancho Los Amigos), spinal cord injury (ASIA). (MK5)
3. Communicate functional goals and expectations to patients and caregivers. (PC1, PC5, CS2, IP3, PR1)
4. Become familiar with the format of documentation using a functionally-based template. (PC3, CS5)
5. Describe the roles and scope of practice and interact with members of a rehabilitation team. (CS4, IP2, IP3, IP4)
6. Identify patient factors and other requirements for the different rehab settings. (SL1, SL2)

INSTRUCTIONAL METHODOLOGIES & 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 contact including initial evaluation and examination with daily follow up in the inpatient setting.
2. Attend interdisciplinary team conferences.
3. Evaluate and examine patients in consultation to assess for rehabilitation appropriateness.
4. Observe assigned patients during therapy sessions.
5. Participate in special learning opportunities when available (Wound rounds, Pharmacy observation).

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Stroke, brain injury: To include hemiplegia, hemiparesis, aphasia, apraxia, neglect, dysphagia, cognitive deficit, dementia, spasticity
2. Spine and/or spinal cord injuries: bowel/bladder care, skin care, wheelchair fitting, neuropathic vs musculoskeletal pain
3. Orthopedic rehab: arthropathies, fractures, multi-trauma
4. Communication competency: rapport, comprehensibility, effectiveness

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Clinical Performance Evaluation.
2. Direct observation and in-person feedback by attending physician and/or resident physician; as well as rehabilitation team members.
3. Midpoint feedback from the course director or the assigned faculty co-director.

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

PSYCH 858: Geriatric Psychiatry

Course Director: Rindy Fernandes, MD
Email: rosri@musc.edu

Course Coordinator: Mae Laroya, MD
Telephone #: 843-792-0343
Email: laroya@musc.edu

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Does this rotation accept visiting students? ☒ YES ☐ NO

COURSE DESCRIPTION:
The inpatient geriatric psychiatry unit is a full-service treatment facility for patients > 60 years old, with severe psychiatric illnesses. Students will complete initial work ups on patients being admitted to the unit, as well as follow patients throughout their stay. The student, as part of a team, takes responsibility for daily rounding duties, including participation in family meetings. ***Interdisciplinary Education:*** This elective not only benefits students interested in Psychiatry, but also those interested in Family Medicine**,** Internal Medicine (and subspecialties), Surgery (opportunity to see post-op patients w/delirium and/or cognitive disorders), Neurology, and Orthopedics. Students will be required to complete one weekend of rounding.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Explain evaluation criteria and management of dementia. (MK1-8, PL1, PL4-6)
2. Examine an elderly patient and identify, diagnose, and suggest treatment options for cognitive disorder and dementia plus comorbid signs and symptoms. (MK1-8, PC1-7, CS1-3, CS5, PR1-5, PL1, PL3-5, SL2, SL4, IP3-4)
3. Formulate the long-term treatment of dementia and describe how the medical team interacts with the patient's family, assisted living, nursing home, and home health. (MK1-3, MK4-8, PC1-7, CS1-3, CS5, PR1-5, PL1, PL3-5, SL2, SL4, IP3-4)
4. Practice supervisory skills by providing third-year medical students with feedback on performance, documentation, and interviewing with guidance from residents or attending. (MK6-8, PC2-3, PC5-7, CS4, PR4, PD2, PD5, IP1-3)
5. Examine elderly patients and identify, diagnose, and suggest treatment options for mood disorders in elderly patients. (MK1-8, PC1-7, CS1-3, CS5, PR1-5, PL1, PL3-5, SL2, SL4, IP3-4)

INSTRUCTIONAL METHODOLOGIES & 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. Accurately conduct and record psychiatric and medical workup of a geriatric patient.
2. Attend rounds daily; report findings and contribute to clinical discussion regarding diagnosis, treatment, and prognosis.
3. Assess clinical status of patient daily, write progress note and establish a supportive and therapeutic relationship with patient
4. Attend Geriatric Psychiatry Journal Club or read a paper in the Journal of the American Geriatric Association or the American Association of Geriatric Psychiatry and discuss findings with team.
5. Complete a self-directed learning project that consists of a 10-minute presentation to the team.
6. Attend Psychiatry Grand Rounds.
7. Attend weekly MS4 workshop series. (Hearing Voices, Clinical Skills, Note Writing and Handoff Skills, Reflective Exercise)

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Dementia, depression, and/or delirium
2. Co-morbid conditions, including multiple psychiatric disorders as well as psychiatric and medical conditions
3. Schizophrenia

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Midpoint Evaluation and end-of-rotation Clinical Performance Evaluation.
2. Observation of students completing an initial psychiatric examination and H & P (resident, fellow, attending).
3. Observation of student discussing in depth history and physical examination findings, diagnosis, and treatment plan during rounds by a resident, fellow, and/or attending.
4. Completion of self-directed learning project and presentation graded by selective director.
5. Participation in MS4 workshop series.
6. At the end of the rotation, students will again receive verbal feedback about their performance.

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

PSYCH 860: Interventional Psychiatry

Course Director: Baron Short, MD
Email: shorteb@musc.edu

Course Coordinator: Mae Laroya, MD
Telephone #: 843-792-0343
Email: laroya@musc.edu

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Does this rotation accept visiting students? ☒ YES ☐ NO

COURSE DESCRIPTION:
Many patients with neuropsychiatric disorders prove to be treatment-resistant or have difficulty tolerating first line psychopharmacologic treatments. These patients, particularly those with depression, are often referred for neuromodulatory interventions such as transcranial magnetic stimulation (TMS), electroconvulsive therapy (ECT), and deep brain stimulation (DBS). Psychiatry is in the early stages of formally recognizing and training "interventionalists" who perform specialized procedures. This course will introduce students to neuromodulation and the emerging field of Interventional Psychiatry.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Demonstrate appropriate interpersonal interactions with patients, families, treatment team, and interdisciplinary teams during exams and interviews. (CS1, CS2, CS3)
2. Evaluate patients with refractory psychiatric illness for neuromodulatory interventions. (PC1, PC2, PC 3)
3. Discuss approved and experimental brain stimulation modalities, including but not limited to electroconvulsive therapy (ECT), transcranial magnetic stimulation (TMS), vagus nerve stimulation (VNS), deep brain stimulation (DBS), transcranial direct current stimulation (tDCS) and epidural cortical stimulation (EpCS). (MK3, MK 4, MK5)

INSTRUCTIONAL METHODOLOGIES & 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. Daily collaboration with the Interventional Psychiatry Fellow, the Brain Stimulation Service Director and the Director of the Brain Stimulation Laboratory in terms of patient evaluation, treatment and management.
2. Patient evaluation and management in weekly therapeutic clinics (e.g., TMS, ECT, etc.), which includes observation of programmable devices.
3. Self-directed learning using evidence-based medicine.
4. Self-directed reading of *Brian Stimulation Therapies for the Clinician*. (Book will be provided.)
5. Weekly attendance at Brain Stimulation Division meeting, Psychiatry Grand Rounds, and other clinical/didactic activities.
6. Attend weekly MS4 workshop series. (Hearing Voices, Clinical Skills, Note Writing and Handoff Skills, Reflective Exercise).

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Treatment-resistant mood disorders
2. Catatonia
3. Schizophrenia
4. Parkinson's disease

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Midpoint Evaluation and end of rotation Clinical Performance Evaluation.
2. Verbal feedback from resident, fellow, attending physician on student performance, at least weekly.
3. Feedback on the self-directed learning project, graded by course director.
4. At the end of the rotation, students will again receive verbal feedback about their performance.

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

PSYCH 870: Forensic Psychiatry

Course Director: Edward Thomas Lewis III, MD, and
Emily Gottfried, Ph.D.
Email: lewiset@musc.edu, gottfrem@musc.edu

Course Coordinator: Mae Laroya, MD
Telephone #: 843-792-0343
Email: laroya@musc.edu

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Does this rotation accept visiting students? ☐ YES ☒ NO (This elective is located off the main campus.)

COURSE DESCRIPTION:
Forensic Psychiatry is a challenging and exciting field that interfaces psychiatry with the legal system. Students will learn the fundamental principles of forensic psychiatry, including principles related to mentally ill criminal defendants, issues related to the treatment of mentally ill in correctional settings, civil commitment procedures, and the fundamental differences between forensic psychiatric evaluations and clinical psychiatric evaluations. They will be provided opportunities to learn about legal matters as they pertain to psychiatric patients. For those interested, students may also have the opportunity to observe sexual behaviors, child custody, preemployment police officer, and fitness for duty evaluations; observe a treatment group for individuals accused/convicted of sexual offenses; attend Probate Court; and go to the Department of Juvenile Justice. ***Interdisciplinary Education:*** This elective not only benefits students interested in Psychiatry, but also those interested in Internal Medicine (and subspecialties), Family Medicine, and Pediatrics.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Conduct effective interviews, diagnose and differentiate primary psychiatric disorders from malingering, personality disorders and substance use disorders. (MK3, MK4, MK7)
2. Collaborate with the forensic team to develop an accurate diagnostic formulation and discuss how diagnoses may impact legal proceedings. (PC2, PC3, IP2)
3. Demonstrate knowledge of the fundamental principles of forensic psychiatry and pursue outside reading on unfamiliar legal and psychiatric topics. Complete assigned readings and prepare to participate in weekly discussions, landmark case law seminars, and preparation of legal briefs to present to the forensic team. (PD2, PL6, SL4)
4. Demonstrate developing skills to consult on psychiatric issues with disciplines outside of medicine, including attorneys, judges and detention center staff. (PR1, PR3, PL1)

INSTRUCTIONAL METHODOLOGIES & 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. Completion, review, and discussion of forensic client charts, including psychiatric records and court related documents.
2. Observation/participation in forensic psychiatric evaluations with forensic faculty.
3. Observation of mental illness probate court and substance abuse probate court.
4. Attendance at forensic seminars and lectures.
5. Presentation to forensic faculty on a forensic psychiatric topic of student's choosing studied in depth over course of rotation.
6. Attend weekly MS4 workshop series. (Hearing Voices, Clinical Skills, Note Writing and Handoff Skills, Reflective Exercise)

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Psychotic, Major Mood and Personality Disorders
2. Malingering
3. Substance Use Disorders

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Midpoint Evaluation and end of rotation Clinical Performance Evaluation.
2. Direct observation and supervision by faculty/residents during evaluations and other types of forensic activities.
3. Evaluation of presentation skills and knowledge of specific forensic topic during rotation presentation.
4. Students will receive verbal feedback about their performance

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

PSYCH 871: Psychosomatic Medicine Consults

Course Director: David Beckert, MD, and Allison Smith, MD
Email: beckertd@musc.edu; smithall@musc.edu

Course Coordinator: Mae Laroya, MD
Telephone #: 843-792-0343
Email: laroya@musc.edu

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Does this rotation accept visiting students? ☒ YES ☐ NO

COURSE DESCRIPTION:
Students will be instructed on the basic principles of providing psychiatric consultation in a medical and surgical setting. The students will have the opportunity to perform the consultations and function at the level of an intern while working as part of the Institute of Psychiatry consult team. ***Interdisciplinary Education:*** This elective not only benefits students interested in Psychiatry, but also those interested in primary care, Internal Medicine and medicine subspecialties, General Surgery and surgery subspecialties, and Ob/Gyn.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Communicate effectively with patients, families, treatment team, and interdisciplinary teams through written documentation and verbal communication. (CS1, CS5, IP3)
2. Diagnose and differentiate primary psychiatric disorders from those secondary to medical illness. Collaborate with team to develop an appropriate assessment and treatment plan. (MK3, PC2, IP4)
3. Demonstrate knowledge of common psychiatric presentations in the medical setting. Pursue outside reading on unfamiliar topics. (MK8, PD6, PL3)
4. Complete assigned readings and participate in discussion. Review a topic of interest based on a patient case to present to the team at the end of the rotation. (MK5, PD2, PL6)
5. Identify and demonstrate the skills to stabilize psychiatric disorders in the acute medical and surgical settings. Identify patients in need of care in a psychiatric acute care setting. (MK4, PC3, CS4)
6. Practice supervisory skills by providing third-year medical students with feedback on performance, documentation, and interviewing with guidance from residents or attending. (PR1, PD1, IP2)

INSTRUCTIONAL METHODOLOGIES & 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 rounds daily; interview and assist in completing initial H&P, report findings and contribute to clinical discussions.
2. Complete daily notes, assess vitals, check pertinent labs, and communicate with family/interdisciplinary providers pertinent to your patient's care.
3. Attend grand rounds and case conferences.
4. Complete research project with final presentation on a topic of interest pertaining to a patient's symptoms and/or diagnosis seen and how the interprofessional team effected the outcome.
5. Attend weekly MS4 workshop series (Clinical Skills, Note Writing and Handoff Skills).

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Delirium
2. Primary and secondary mood disorders
3. Substance abuse and anxiety disorders
4. Assess decisional capacity

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Midpoint Evaluation and end of rotation E*Value Clinical Performance Evaluation.
2. Observation of student's interviewing skills and overall interactions with patients and families.
3. Observation of student's presentations and discussions of patient care.
4. At the end of the rotation, students will again receive verbal feedback about their performance.

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

PSYCH 874: Child & Adolescent Psychiatry Externship

Course Directors: Jennifer Patterson, MD; Paige Litz, DO
Email: pattersj@musc.edu, litz@musc.edu

Course Coordinator: Mae Laroya, MD
Telephone #: 843-792-0343
Email: laroya@musc.edu

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Does this rotation accept visiting students? ☒ YES ☐ NO

COURSE DESCRIPTION:
The Child and Adolescent Unit (2N) in the Institute of Psychiatry, offers students the ability to enhance their evaluation, treatment, management and knowledge of a variety of childhood/adolescent psychiatric disorders on an acute inpatient psychiatric unit. Students on this externship are required to participate at the level of an intern. This unit provides brief crisis stabilization of youth (6-17) with severe mood, behavior, anxiety, substance use, and thought disorders. The treatment team works closely with the patient, the family, and community providers to stabilize the crisis, improve coping skills and communication, and to ensure a smooth transition back to the community.
Interdisciplinary Education: This externship not only benefits students interested in Psychiatry, but also those interested in: Pediatrics (including Developmental Pediatrics, Adolescent Medicine, and other pediatric subspecialties), Family Medicine, Neurology, and Pediatric Neurology

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, CS1)
2. Communicate effectively with patients, families, treatment team, and interdisciplinary teams through written documentation and verbal communication. (CS2, CS3, IP3)
3. Accurately identify and develop an appropriate treatment plan relating to common primary childhood psychiatric disorders. Pursue outside reading on unfamiliar topics. (MK6, MK7, PC3)
4. Demonstrate appropriate interpersonal interactions with child and adolescent patients (patient exams/interviews), family and staff. (CS1, CS2, PR3)
5. Identify and demonstrate treatment methods used in childhood psychiatric disorders (including psychopharmacology, group therapy, and family therapy) to provide effective and timely care taking into account appropriate resources for patients. (MK8, PL3, PL4)
6. Perform an appropriate mental status exam in youth. (MK3, PC1, PC2)
7. Demonstrate the ability to write orders, accurately write progress notes, and complete discharge summaries consistent with that expected in the PGY 1 year. (CS5, PR4, PL1)
8. Practice supervisory skills by providing third-year medical students with feedback on performance, documentation, and interviewing with guidance from residents or attending. (CS4, IP3, PR4)
9. Students will be expected to utilize the principles of evidence-based medicine. (PL3, PL5)

INSTRUCTIONAL METHODOLOGIES & 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. Accurately conduct and record psychiatric and medical workup of a child and adolescent patient.
3. Attend rounds daily; report findings and contribute to clinical discussion regarding diagnosis, treatment, and prognosis.
4. Assess clinical status of patient daily, write progress note and establish a supportive and therapeutic relationship with patient
5. Attend Child and Adolescent Journal Club
6. Complete a self-directed learning project using evidenced based medicine approach that consists of a 10-minute presentation to the team.
7. Attend Psychiatry Grand Rounds.
8. Attend MS4 Clinical Skills and Handoff Skills workshops.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Attention deficit hyperactivity disorder
2. Oppositional defiant disorder/conduct disorder
3. Mood disorders
4. Anxiety disorders
5. Substance use disorders
6. Psychotic disorders

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:

1. Midpoint Evaluation and end-of-rotation Clinical Performance Evaluation.
2. Students will be directly observed interviewing and assessing patients.
3. A 15-minute presentation, delivered to the entire treatment team, is required on a topic of his/her choice.
4. Students will receive verbal feedback about their performance.

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

Students are required to participate in 2 nights of short call and perform 1 weekend (2 days) of rounding.

PSYCH 877: Adult Inpatient Psychiatry Externship - IOP

Course Director: Ethan Ashley, MD
Email: ashleyet@musc.edu

Course Coordinator: Mae Laroya, MD
Telephone #: 843-792-0343
Email: laroya@musc.edu

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Block 2	2	**Block 4**	2	**Block 6**	2	**Block 8**	2	**Block 10**	2
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Does this rotation accept visiting students? ☒ YES ☐ NO

COURSE DESCRIPTION:
The Adult Units in the Institute of Psychiatry (IOP) offer students the ability to enhance their knowledge of psychiatric disorders and treatment through exposure to a variety of psychiatric conditions. Students are encouraged to participate at the level of an intern.

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 (PC3, PC4, PC5)
2. Demonstrate a developing medical vocabulary and use written language effectively. (MK1, CS1, CS5)
3. Demonstrate appropriate interpersonal interactions with patients (patient exams/interviews) and staff. (CS1, CS2, CS3)
4. Accurately identify psychiatric diagnoses using Diagnostic and Statistical Manual 5 Criteria (DSM 5). (MK4, MK5, PC2)
5. Recognize personal limits in knowledge and experience, and pursue information necessary to understand and solve diagnostic and therapeutic problems utilizing an evidence-based approach. (PD1, PD5, PL3)
6. Identify and demonstrate the skills necessary to provide effective and timely care taking into account appropriate resources for patients. (MK5, PC3, SL2)
7. Demonstrate the ability to write orders, accurately write process notes, and complete discharge summaries consistent with that expected in the PGY 1 year. (PC1, PL1, PL4)
8. Practice supervisory skills by providing third-year medical students with feedback on performance, documentation, and interviewing with guidance from residents or attending. (IP1, IP2, IP3)

INSTRUCTIONAL METHODOLOGIES & 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. Daily pre-rounds and rounds.
3. Self-directed learning using evidenced based medicine approach.
4. Direct observation by faculty and residents during direct patient care and review of other clinical and didactic activities.
5. Grand Rounds.
6. Participate in MS4 Workshops including Clinical Skills Workshop and Note Writing and Handoff Skills Workshop.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Substance use disorders
2. Mood, Anxiety and Psychotic Disorders
3. Cognitive Disorders (Delirium and Dementia)
4. Personality Disorders

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Midpoint Evaluation and end of rotation Clinical Performance Evaluation.
2. Students will be directly observed interviewing and assessing patients.
3. A 15-minute presentation, delivered to the entire treatment team, is required on a topic of his/her choice.
4. Students will be expected to utilize the principals of evidence-based medicine.
5. Students will receive verbal feedback about their performance.

Will students be expected to participate in call and weekend rounds? ☒ YES ☐ NO
Students are required to participate in 2 nights of short call and perform 2 weekends (4 days) of rounding.

PSYCH 888: Adult Inpatient Psychiatry Externship - VA

Course Director: D.W. Hiott, MD
Email: David.Hiott@va.gov

Course Coordinator: Mae Laroya, MD
Telephone #: 843-792-0343
Email: laroya@musc.edu

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Does this rotation accept visiting students? ☐ YES ☒ NO

COURSE DESCRIPTION:
This elective offers students the chance to enhance their knowledge of psychiatric disorders and treatment while rotating at our VA location. Students are expected to participate at the level of an intern and will be exposed to a variety of psychiatric conditions.

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 (PC3, PC4, PC5)
2. Demonstrate appropriate interpersonal interactions with patients (patient exams/interviews) and staff. (CS1, CS2, CS3)
3. Demonstrate the ability to write orders, accurately write process notes, and complete discharge summaries consistent with that expected in the PGY 1 year. (PC1, PL1, PL4)

INSTRUCTIONAL METHODOLOGIES & 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. Daily pre-rounds and rounds.
3. Self-directed learning using evidenced based medicine approach.
4. Direct observation by faculty and residents during direct patient care and review of other clinical and didactic activities.
5. Grand Rounds.
6. Attend weekly MS4 workshop series. (Clinical Skills, Note Writing and Handoff Skills)

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Substance use disorders
2. Mood, Anxiety and Psychotic Disorders
3. Cognitive Disorders (Delirium and Dementia)
4. Personality Disorders

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Midpoint Evaluation and end of rotation Clinical Performance Evaluation.
2. Students will be directly observed interviewing and assessing patients.
3. A 15-minute presentation, delivered to the entire treatment team, is required on a topic of his/her choice.
4. Students will be expected to utilize the principals of evidence-based medicine.
5. Participation in MS4 workshop series.
6. Students will receive verbal feedback about their performance.

Will students be expected to participate in call and weekend rounds? ☒ YES ☐ NO
Students are required to participate in 2 nights of short call and perform 1 weekend (2 days) of rounding.

RAD 851: Diagnostic Radiology

Course Director: Gregory Puthoff, DO
Email: puthoff@musc.edu

Course Coordinator: Tiana Keener
Telephone #: 843-792-2473
Email: keenerti@musc.edu

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Block 2A		Block 4A		Block 6A		Block 8A		Block 10A	8
Block 2B		Block 4B		Block 6B		Block 8B		Block 10B	8

Does this rotation accept visiting students? ☒ YES ☐ NO

COURSE DESCRIPTION:
This course is designed to provide students with a better understanding of the central role of diagnostic radiology in the evaluation and management of patients through participation in reading room readouts, lectures, case conferences/presentations, online assignments, interactive labs, and observation of the various imaging modalities and procedures. Students will tailor their experience to their clinical interests by spending one week in four of the following areas: Body, Cardiac, Chest, IR, MSK, Nuclear Medicine, Neuroradiology, Pediatrics, or Ultrasound.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Describe the fundamental role of the radiologist as consultant and the value of imaging to provide timely, accurate, and actionable diagnostic information regarding a patient's medical condition. (MK8, IP3, SL2)
2. Discuss the indications and appropriateness of imaging studies for common clinical problems and utilize evidence-based resources (ACR Appropriateness Criteria) to determine imaging appropriateness for less common clinical problems. (MK5, PC3, PL3)
3. Describe the risks of medical imaging: radiation induced cancer, contrast nephropathy, contrast reactions, and MRI safety. (MK5, MK8, PC6)
4. Describe how common procedures and imaging are performed. (MK5, PC1)
5. Apply basic interpretive skills to evaluate imaging studies (plain films and CT), including study identification, recognition of normal radiographic and cross-sectional anatomy and common, potentially life-threatening pathology. (MK1, MK4, PC2)

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. Clinical exposure: Students will participate in clinical services interacting with and observing residents and faculty daily.
2. Lectures/conferences: Resident-led lectures, faculty-led case presentations, resident conferences, and Grand Rounds.
3. Two interactive labs: Hands on ultrasound scanning with ultrasound guided vascular access, paracentesis and biopsy simulation and an interactive introduction to interventional radiology tubes, lines and drains.
4. Reading assignments: Each student will receive a copy of Herring's *Learning Radiology,* Goodman's *Felson's Principles of Chest Roentgenology* and accompanying web resources.
5. Online materials: Aquifer CORE cases, AHRQ's Web M&M scenarios, and Radiographic Anatomy review.
6. Formal presentation of an Evidence Based Imaging case including differential diagnostic considerations, appropriate imaging workup, complications, cost, and radiation dose.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Normal and abnormal imaging studies and procedures on current MUSC patients
2. Broad spectrum of pathology, acute, chronic, medical, and surgical diseases in patients of all ages

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Mid-point feedback and end-of-rotation Clinical Performance Evaluation.
2. Direct observation of the student's clinical work by the resident and attending physicians.
3. Student participation and performance in case conferences, Evidence Based Imaging Presentation and interactive workshops.
4. Performance on two quizzes based on online assignments, textbook, and material presented in lectures and case conferences.

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

RAD 854: Pediatric Radiology

Course Director: Richard Jones, MD
Email: jonerich@musc.edu

Course Coordinator: Tiana Keener
Telephone #: 843-792-2473
Email: keenerti@musc.edu

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Does this rotation accept visiting students? ☒ YES ☐ NO

COURSE DESCRIPTION:
This course is designed to provide students with a better understanding of the central role of diagnostic radiology in the evaluation and management of pediatric patients through participation in reading room readouts, clinical rounds, lectures, case conferences/ presentations, online assignments, interactive labs, and observation of the various imaging modalities and procedures. Students will spend the entire rotation in the Pediatric reading room.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Describe the fundamental role of the radiologist as consultant and the value of imaging to provide timely, accurate, and actionable diagnostic information regarding a patient's medical condition. (MK5, IP3, SL2)
2. Discuss the indications and appropriateness of imaging studies for common clinical problems and utilize evidence-based resources (ACR Appropriateness Criteria) to determine imaging appropriateness for less common clinical problems. (MK5, PC3, PL3)
3. Describe the risks of medical imaging: radiation induced cancer, contrast nephropathy, contrast reactions and MRI safety. (MK5, MK8, PC6)
4. Describe how common procedures and imaging are performed. (MK5, PC1)
5. Apply basic interpretive skills to evaluate imaging studies (radiography, MR, CT, US) including study identification, recognition of normal radiographic and cross-sectional anatomy, and common, potentially life-threatening pathology. (MK1, MK3, PC2)

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. Clinical exposure: Students will participate in clinical services interacting with and observing residents and faculty daily.
2. Lectures/conferences: Resident-led lectures, faculty-led case presentations, resident conferences, and Grand Rounds.
3. Two interactive labs: Hands on ultrasound scanning with ultrasound guided vascular access, paracentesis and biopsy simulation and an interactive introduction to interventional radiology tubes, lines and drains.
4. Reading assignments: Each student will receive a copy of Donnelly's *Pediatric Imaging: The Fundamentals* and accompanying web resources.
5. Online materials: Online Pediatric Radiology Curriculum, AHRQ's Web M&M scenarios, and Radiographic Anatomy review.
6. Formal presentations of Evidence Based Imaging cases including differential diagnostic considerations, appropriate imaging workup, complications, cost, and radiation dose.
7. Teaching file cases: Students will be required to complete cases in Horizon Study Share and present each to the course director.
8. OPTIONAL: Complete four sample dictations for diagnostic radiology studies and review with course director.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Normal and abnormal imaging studies and procedures on current MUSC inpatients and outpatient
2. Wide variety of clinical conditions including acute and chronic, medical and surgical diseases in pediatric patients

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Mid-point feedback and end-of-rotation Clinical Performance Evaluation.
2. Direct observation of the student's clinical work by the resident and attending physicians.
3. Student participation in case conferences, Evidence Based Imaging Presentation and interactive workshops.
4. Quiz performance based on online assignments, textbook, and material presented in resident and case conferences.
5. Evaluation of Case of the Day, Evidence Based Imaging presentations and evaluation of teaching file cases to Course Director.

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

RAD 856: Interventional Radiology

Course Director: Andre Uflacker, MD
Email: uflackera@musc.edu

Course Coordinator: Tiana Keener
Telephone #: 843-792-2473
Email: keenerti@musc.edu

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Block 1	0	**Block 3**	2	**Block 5**	0	**Block 7**	0	**Block 9**	2
Block 1A	0	Block 3A		Block 5A		Block 7A		Block 9A	
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Does this rotation accept visiting students? ☒ YES ☐ NO

COURSE DESCRIPTION: Students will learn about the role of Vascular and Interventional Radiology in patient care, including inpatient and outpatient scenarios and gain insight into the services it provides by observing and participating in consultations, pre-procedural planning, image guided procedures, and post procedural follow up. Students will attend VIR conferences, Vascular Surgery conferences, general radiology lectures, case conferences and presentations, and complete on-line assignments. Students will spend the entire rotation in the IR procedure area and reading rooms.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Describe the fundamental role of the interventional radiologist as a clinician and consultant and the value of image guided procedures to provide safe minimally invasive procedures to aid in the treatment regarding a patient's medical condition. (MK8, SL2, PC3)
2. Discuss indications, contraindications, and appropriateness of imaging studies and image-guided procedures for common clinical problems and utilize evidence-based resources to determine imaging appropriateness for less common clinical problems. (MK5, PL3, MK8)
3. Describe the risks and benefits of the various image guided procedures offered by our service as well as alternative strategies available to the patient regarding their specific medical condition. (MK5, CS4, PC5)
4. Describe how common procedures are performed, pre-procedure workup and post-procedural follow-up. (MK5, PC7)
5. Apply interpretive skills to evaluate images obtained during procedures, (fluoroscopic and CT), including study identification, recognition of radiographic and cross-sectional anatomy, and common, potentially life-threatening pathology. (MK5, PC2, PL3)

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. Clinical exposure: Students will participate in clinical services interacting with and observing residents and faculty daily.
2. Lectures/conferences: Resident-led lectures, faculty-led case presentations, resident conferences, and Grand Rounds.
3. Two interactive labs: Hands-on ultrasound scanning with ultrasound guided vascular access, paracentesis and biopsy simulation and an interactive introduction to interventional radiology tubes, lines and drains.
4. Reading assignments: Each student will receive a copy of Herring's *Learning Radiology,* VIR Hand Book, and accompanying web resources.
5. Online materials: Aquifer CORE cases, AHRQ's Web M&M scenarios, and Radiographic Anatomy review.
6. Formal presentations of Evidence Based Imaging cases including differential diagnostic considerations, appropriate imaging workup, complications, cost, and radiation dose.
7. Teaching file cases: Students will be required to complete cases in Horizon Study Share and present each to the course director.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Normal and abnormal imaging studies and procedures on current MUSC patients
2. Wide variety of clinical conditions including acute and chronic, medical and surgical
3. Inpatient consultations pre and post procedure

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Mid-point feedback and end-of-rotation Clinical Performance Evaluation.
2. Direct observation of the student's clinical work by the residents, fellows and attending physicians.
3. Student participation in case conferences, Evidence Based Imaging Presentation and interactive workshops.
4. Quiz performance based on online assignments, textbook, and material presented in resident and case conferences.
5. Evaluation of Case of the Day, Evidence Based Imaging presentations and evaluation of teaching file cases to Course Director.

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

RAD 857: Neuroradiology

Course Director: Milad Yazdani, MD
Email: yazdani@musc.edu

Course Coordinator: Tiana Keener
Telephone #: 843-792-2473
Email: keenerti@musc.edu

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Does this rotation accept visiting students? ☒ YES ☐ NO

COURSE DESCRIPTION: This course is designed to provide students with a better understanding of the central role of diagnostic radiology and more specifically neuroradiology in the evaluation and management of patients through participation in reading room readouts, lectures, case conferences/ presentations, online assignments, interactive labs, and observation of the various imaging modalities and procedures. Students will spend the entire rotation in the Neuroradiology reading room.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Describe the fundamental role of the radiologist as consultant and the value of imaging to provide timely, accurate, and actionable diagnostic information regarding a patient's medical condition. (MK5, MK8, CS4)
2. Discuss the indications and appropriateness of imaging studies for common clinical problems and utilize evidence-based resources (ACR Appropriateness Criteria) to determine imaging appropriateness for less common clinical problems. (PC1, PL3, SL2)
3. Describe the risks of medical imaging: radiation induced cancer, contrast nephropathy, contrast reactions and MRI safety. (MK2, IP2, PR2)
4. Describe how common neuroradiologic procedures and imaging are performed. (PC3, PC5, CS2)
5. Apply basic interpretive skills to evaluate common imaging studies, (CT and MR) inducing study identification, recognition of normal radiographic and cross-sectional anatomy, and common, potentially life-threatening pathology. (MK1, MK3, MK4)

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. Clinical exposure: Students will participate in clinical services interacting with and observing residents and faculty daily.
2. Lectures/conferences: Resident led-lectures, faculty-led case presentations, resident conferences, and Grand Rounds.
3. Two interactive labs: Hands on ultrasound scanning with ultrasound guided vascular access, paracentesis and biopsy simulation and an interactive introduction to interventional radiology tubes, lines and drains.
4. Reading assignments: Each student will receive a copy of Herring's *Learning Radiology,* Goodman's *Felson's Principles of Chest Roentgenology* and accompanying web resources.
5. Online materials: Aquifer CORE cases, AHRQ's Web M&M scenarios, and Radiographic Anatomy review.
6. Formal presentations of Evidence Based Imaging cases including differential diagnostic considerations, appropriate imaging workup, complications, cost, and radiation dose.
7. Teaching file cases: Students will be required to complete cases in Horizon Study Share and present each to the course director.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Normal and abnormal imaging studies and procedures on current MUSC patients
2. Wide variety of clinical conditions including acute and chronic, medical and surgical diseases in patients of all ages

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Mid-point feedback and end-of-rotation Clinical Performance Evaluation.
2. Direct observation of the student's clinical work by the resident and attending physicians.
3. Student participation in case conferences, Evidence Based Imaging Presentation and interactive workshops.
4. Quiz performance based on online assignments, textbook, and material presented in resident and case conferences.
5. Evaluation of Case of the Day, Evidence Based Imaging presentations and evaluation of teaching file cases to Course Director.

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

RAD 861: Breast Radiology

Course Director: Abbie Cluver, MD
Email: cluvera@musc.edu

Course Coordinator: Tiana Keener
Telephone #: 843-792-2473
Email: keenerti@musc.edu

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Block 1A	0	Block 3A	1	Block 5A	0	Block 7A	0	Block 9A	1
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Block 2A	1	Block 4A	1	Block 6A	0	Block 8A	1	Block 10A	1
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Does this rotation accept visiting students? ☐ YES ☒ NO

COURSE DESCRIPTION: This course is designed to provide students with an understanding of diagnostic radiology as it pertains to breast imaging radiology and management of clinical breast disease. Students will participate in reading room readouts, lectures, case conferences/presentations, online assignments, and observation of the various imaging modalities and procedures in breast imaging. Students will attend breast radiology pathology concordance conference and breast tumor board. Students will spend the entire rotation in the breast imaging reading room and Hollings Cancer Center Mammography/Breast Imaging Suite. *This is a 2-week course, but is offered as a 4-week course upon request. If interested in the 4-week course, please contact the Course Coordinator.*

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation, students should be able to do the following:
1. Describe the fundamental role of radiologist as consultant and the value of imaging to provide timely, accurate, and actionable diagnostic information in screening for breast cancer, evaluation of breast conditions, and a patient's medical condition. (MK5, PC2, CS4,)
2. Discuss the indications and appropriateness of imaging studies for common clinical breast problems and utilize evidence-based resources (ACR Appropriateness Criteria) to determine imaging appropriateness (MK8, PL1, PR2,)
3. Describe the various imaging modalities that may be used to diagnose breast conditions. Differentiate between screening and diagnostic mammogram, the appropriate utilization of breast ultrasound and breast MRI. (MK5, PL2, SL2)
4. Describe how common procedures and imaging are performed. (MK5, CS3, PC7)
5. Apply basic interpretative skills to evaluate imaging studies including study identification and recognition of utilization. Identify various features of normal/abnormal breast tissue on imaging modalities such as mammograms, ultrasound, MRI, etc. (MK4, PC2, PL4)
6. Discuss the multidisciplinary collaboration to evaluating and managing breast cancer patients. (PC4, PR1, 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 participate in clinical services interacting with and observing residents, fellows, and faculty daily
2. Lectures/conferences: Resident-led lectures, faculty-led case presentations, resident conferences, radiology pathology concordance conference, Hollings Cancer Center breast tumor board, and Grand Rounds
3. Two interactive labs: Hands-on ultrasound scanning with ultrasound guided vascular access, paracentesis and biopsy simulation and an interactive introduction to interventional radiology tubes, lines and drains
4. Reading assignments: Breast Imaging-Reporting and Data System (BIRADS) mammography section available in the reading room, JACR journal screening mammogram recommendations 2010, ACR appropriateness criteria screening mammogram and palpable breast masses, and accompanying web resources. Each student will receive a copy of Herring's *Learning Radiology* and Goodman's *Felson's Principles of Chest Roentgenology*
5. Online Materials: Aquifer CORE cases, AHRQ's Web M&M scenarios, and Radiographic Anatomy review
6. Formal presentations of Evidence Based Imaging cases including differential diagnostic considerations, appropriate imaging workup, complications, cost, and radiation dose.
7. Teaching file cases: Students will be required to complete cases in Horizon Study Share and present each to the course director.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Normal and abnormal imaging studies and procedures on current MUSC patients
2. Broad spectrum of pathology, acute, chronic, medical, and surgical diseases pertaining to breast care

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Mid-point direct feedback provided (for 4-week course only) and/or End-of-rotation Clinical Performance Evaluation.
2. Direct observation of the student's clinical work by the resident, fellow, and attending physicians.
3. Student participation in case conferences, Evidence Based Imaging Presentation and interactive workshops.
4. Quiz performance based on online assignments, textbook, and material presented in resident and case conferences.
5. Evaluation of Case of the Day, Evidence Based Imaging presentations and evaluation of teaching file cases to Course Director.

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

RAD 862: Musculoskeletal Imaging

Course Director: Russell Chapin, MD
Email: chapinrw@musc.edu

Course Coordinator: Tiana Keener
Telephone #: 843-792-2473
Email: keenerti@musc.edu

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Block 2	1	**Block 4**	1	**Block 6**	0	**Block 8**	1	**Block 10**	0
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Does this rotation accept visiting students? ☐ YES ☒ NO

COURSE DESCRIPTION: This course is designed to provide students with an understanding of diagnostic radiology as it pertains to musculoskeletal (MSK) radiology and the management of sports-related, degenerative, rheumatologic and orthopedic oncologic disease. Students will participate in reading room readouts, lectures, case conferences/presentations, online assignments, and observation of the various imaging modalities and procedures in musculoskeletal imaging. Students will attend orthopedic tumor board. Students will spend the entire rotation in the MSK imaging reading in Rutledge Tower.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Describe the fundamental role of radiologist as consultant to referring physicians including: orthopedic surgeons, sports medicine and primary care doctors, orthopedic oncologists and rheumatologists and the value of imaging to provide timely, accurate, and actionable diagnostic information regarding patient condition. (MK5, CS4, SL2)
2. Discuss the indications and appropriateness of imaging studies for common musculoskeletal problems and utilize evidence-based resources (ACR Appropriateness Criteria) to determine imaging appropriateness (MK8, SL3, PL6)
3. Describe the various imaging modalities that may be used to evaluate and diagnose MSK-related conditions and determine the most appropriate imaging modality (x-ray, CT, MRI or ultrasound) for clinical work-up. (MK5, PL2, SL2)
4. Describe how common procedures and imaging are performed. (MK5, CS3, PC7)
5. Apply basic interpretative skills to evaluate imaging studies including study identification and recognition of utilization. Identify various features of degenerative, traumatic, rheumatologic or oncologic pathology on imaging modalities such as x-ray, CT, MRI and ultrasound. (MK4, PC2, PL4)
6. Discuss the multidisciplinary collaboration toward evaluating/managing orthopedic oncologic patients. (PC4, 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. Students will participate in clinical services interacting with and observing residents, fellows, and faculty daily
2. Lectures/conferences: Resident-led lectures, faculty-led case presentations, resident conferences, Orthopedic Oncologic tumor board, and Grand Rounds
3. Two interactive labs: Hands-on ultrasound scanning with ultrasound guided vascular access, paracentesis and biopsy simulation and an interactive introduction to interventional radiology tubes, lines and drains
4. Reading assignments: Selected Journal Articles (Radiographics, Skeletal Radiology, Radiology, Journal of Ultrasound in Medicine), Fundamentals of Skeletal Radiology available in the library or reading room. Each student will receive a copy of Herring's *Learning Radiology* and Goodman's *Felson's Principles of Chest Roentgenology.*
5. Online Materials: Aquifer CORE cases, AHRQ's Web M&M scenarios, and Radiographic Anatomy review
6. Formal presentations of Evidence Based Imaging cases including differential diagnostic considerations, appropriate imaging workup, complications, cost, and radiation dose.
7. Teaching file cases: Students will be required to cases complete in Horizon Study Share and present each to the course director.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Degenerative and inflammatory arthritis (clinical presentation, laboratory and imaging work-up) of current MUSC patients.
2. Broad spectrum of pathology, acute, chronic, medical, and surgical diseases pertaining to MSK-related pathology.

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Mid-point direct feedback provided and end-of-rotation Clinical Performance Evaluation.
2. Direct observation of the student's clinical work by the resident, fellow, and attending physicians.
3. Student participation in case conferences, Evidence Based Imaging Presentation and interactive workshops.
4. Quiz performance based on online assignments, textbook, and material presented in resident and case conferences.
5. Evaluation of Case of the Day, Evidence Based Imaging presentations and evaluation of teaching file cases to Course Director.

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

RAD 865: Radiologic & Pathologic Correlation

Course Director: Laura Spruill, MD, and Jeannie Hill, MD
E-mail: spruill@musc.edu; hillj@musc.edu

Course Coordinator: Tiana Keener
Telephone #: 843-792-2473
Email: keenerti@musc.edu

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Block 2A		Block 4A		Block 6A		Block 8A		Block 10A	
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Does this rotation accept visiting students? ☐ YES ☒ NO

COURSE DESCRIPTION:
In this elective, the student will attend a variety of clinical tumor boards, participate in 2 Surgical procedures and 2 Image guided procedures to obtain pathologic specimens, identify and direct the collection of current clinical cases which demonstrate outstanding correlation of imaging and pathology. Case documentation will include review of patient history, physical exam findings, imaging, gross and microscopic pathology findings, diagnosis, and discussion. Cases will be uploaded by the student into an internet-based teaching file to be subsequently used by medical students, residents, and faculty in the departments of radiology and pathology. At least 2 cases should include complete information and thorough discussion of the radiologic and pathologic features of a disorder/disease process suitable for submission for publication as a case report. **For students to enroll in this course, it is required to have previously taken a Radiology selective or elective.** *(This course may be able to accommodate a third student upon request if approved. Please contact the Course Coordinator to inquire.)*

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Identify potential radiologic-pathologic correlation cases from hospital information systems. (PC1, PL2)
2. Identify optimal images from multiple imaging modalities displaying radiologic pathologic correlation. (MK1, MK4, MK5)
3. Describe the advantages of multidisciplinary care as demonstrated by tumor boards. (PC6, SL2, IP1)
4. Describe the pertinent imaging characteristics of a variety of pathologic disorders. (MK4, MK5, MK8)
5. Describe the gross appearance of pathologic specimens. (MK4)
6. Describe the optimal sectioning of gross specimens for radiologic pathologic correlation. (MK4, IP2)
7. Perform a focused literature search. (MK8, PC3, PL2)
8. Read and analyze scientific literature. (MK5, MK8, PL3)
9. Prepare a potentially publishable scientific case report and present to clinical colleagues. (CS1, PL3, 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. Review of Online Teaching Materials.
2. Attendance in a broad spectrum of Tumor Boards (including Pediatric, Thoracic, Breast, GI, and Head and Neck).
3. Participation in 2 Surgical procedures and 2 Image guided procedures to obtain pathologic specimens.
4. Review of patient histories, imaging, and pathology.
5. Review of current scientific literature, with supervision, feedback, and approval.
6. After instruction in the teaching file software, development of radiologic and pathologic teaching file cases to be presented at the end of the rotation in the Radiology 851 Case of the Day Conference and Pathology Rad/Path Conference.

PATIENT ENCOUNTERS: Students will be expected to review and summarize the work-up of patients with the following specified conditions:
1. A wide variety of clinical conditions including acute and chronic, medical and surgical diseases in patients of all ages.

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Mid-point direct feedback provided and end-of-rotation Clinical Performance Evaluation.
2. Faculty evaluation of Teaching File Cases and Presentations.
3. Faculty evaluation of Literature Search and Case Report.

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

RAD 874: Diagnostic Radiology FLX

Course Director: Gregory Puthoff, DO
Email: puthoff@musc.edu

Course Coordinator: Tiana Keener
Telephone #: 843-792-2473
Email: keenerti@musc.edu

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Block 2		**Block 4**		**Block 6**	18	**Block 8**		**Block 10**	
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, a combination of online and in-person activities, is designed to provide students with a better understanding of the central role of diagnostic radiology in the evaluation and management of patients through participation in reading room readouts, online lectures, case conferences/presentations, online assignments, and observation of the various Imaging modalities and procedures while affording some flexibility for residency interviews. Students will tailor the experience to their clinical interests by selecting 3 subspecialties (Body, Cardiac, Chest, IR, MSK, Nuclear Medicine, Neuroradiology, Pediatrics, and Ultrasound). The student will spend 3-4 days in each area for a total of 10 days, 2 of which must be the **first and last days**. **Students may NOT enroll in both this course and any of the following electives during their fourth year: RAD851, RAD854, RAD856, RAD857, RAD858, RAD861, or RAD862.**

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Describe the fundamental role of the radiologist as consultant and the value of imaging to provide timely, accurate, and actionable diagnostic information regarding a patient's medical condition. (MK8, IP3, SL2)
2. Discuss the indications and appropriateness of imaging studies for common clinical problems and utilize evidence-based resources (ACR Appropriateness Criteria) to determine imaging appropriateness for less common clinical problems. (MK5, PC3, PL3)
3. Describe the risks of medical imaging: radiation induced cancer, contrast nephropathy, contrast reactions, and MRI safety. (MK5, MK8, PC6)
4. Describe how common procedures and imaging are performed. (MK5, PC1)
5. Apply basic interpretive skills to evaluate imaging studies (plain films and CT), including study identification, recognition of normal radiographic and cross-sectional anatomy, and common, potentially life-threatening pathology. (MK1, MK4, PC2)

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. Clinical exposure: Students will participate in clinical services interacting with and observing residents and faculty at least 10 days of their 4-week rotation, 2 of which **MUST** be the **first** and **last** days of the rotation.
2. Online Aquifer CORE Cases and lectures
3. Conferences: Faculty-led case presentations, multidisciplinary conferences such as Tumor Board
4. Reading assignments: Each student will receive a copy of Herring's *Learning Radiology,* Goodman's *Felson's Principles of Chest Roentgenology* and accompanying web resources
5. Online materials: Additionally, AHRQ's Web M&M scenarios, and Radiographic Anatomy review
6. Completion of online assignment in which students will assess clinical scenarios and answer questions about differential diagnostic considerations, appropriate imaging workup according to the ACR Appropriateness Criteria, potential complications, cost, and relative radiation dose of the workup.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Normal and abnormal imaging studies and procedures on current MUSC patients
2. Broad spectrum of pathology, acute, chronic, medical, and surgical diseases in patients of all ages

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods.
1. Clinical Performance Evaluation.
2. Mid-point evaluation form will be completed halfway through rotation in order for the student to be assessed on their performance.
3. Performance during case conference presentations.
4. CORE case completion.
5. Performance on Appropriate Imaging online assignment.
6. Performance on pre- and post-tests based on CORE cases, online assignments, textbook, and material in lectures/case conferences.

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

RAD 888: Advanced Clinical Radiology

Course Director: Gregory Puthoff, DO
Email: puthoff@musc.edu

Course Coordinator: Tiana Keener
Telephone #: 843-792-2473
Email: keenerti@musc.edu

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Does this rotation accept visiting students? ☐ YES ☒ NO

COURSE DESCRIPTION:
This advanced clinical elective is designed to provide 4th-year medical students an in-depth and hands-on radiology experience. Traditional general radiology courses have been designed to give medical students a better understanding of the central role of diagnostic radiology in the evaluation and management of patients and has historically provided a broad overview. The advanced course will provide 4th-year medical students that have specific interests and plans to apply to radiology increased exposure and hands-on experiences. This will be accomplished by allowing the medical students to experience what radiology residents do daily, including dictating and signing out reports, hands-on procedure experience, and on-call experiences. Additionally, students will be given specific online assignments, lectures, and case conferences to increase their knowledge of radiology. Exposure to more advanced radiology educational material and academic responsibilities will allow students to begin developing a more specific knowledge base and understanding of the rigorous academic demand of being a radiology resident. The course will culminate in a verbal case conference where students will have the opportunity to present the knowledge gained in a systematic way, which will also be an opportunity to experience the presentation and public speaking skills required of radiologists.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Describe the fundamental elements of a radiology report and demonstrate the ability to generate clinically relevant reports. (PC1, PC6, CS4)
2. Apply basic interpretive skills to evaluate imaging studies (plain films and CT), including study identification, recognition of normal radiographic and cross-sectional anatomy, and common, potentially life-threatening pathology. (MK1, MK4, PC2)
3. Describe the risks of medical imaging: radiation induced cancer, contrast nephropathy, contrast reactions, and MRI safety. (MK5, MK8, PC6)
4. Participate in and demonstrate understanding of common imaging guided procedures. (MK5, PC1)
5. Participate in and demonstrate communication skills required of radiologists including communicating with other clinical services in both routine and critical communications (MK5, PC3, PL3)
6. Participate in and present at case of the day conferences. (MK3, PC2, CS1)

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. Clinical exposure: Students will participate in clinical services interacting with residents and faculty daily.
2. Clinical exposure: Reviewing imaging and generating radiology reports to be reviewed with radiologist faculty in same manner as current radiology residents.
3. Clinical exposure: Students will participate in overnight on call experiences with radiology residents where they will be required to help triage cases and provide clinical communication.
4. Conferences: Student lead case presentations and experiences at multidisciplinary conferences such as Tumor Board.
4. Reading assignments: Each student will receive reading assignments from CT for the non-radiologist, Felson's Principles of Chest Roentgenology and additional selections from Brant and Helms Fundamentals of Diagnostic Radiology. These reading assignments are geared toward advanced radiology topics and are part of standard radiology resident curriculum.
5. End of rotation verbal case conference where students will be given unknown cases and expected to describe the imaging findings and make diagnosis. This will focus on life threatening emergencies/urgencies which radiologists commonly encounter.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Normal and abnormal imaging studies and procedures on current MUSC patients
2. Broad spectrum of pathology, acute, chronic, medical, and surgical diseases in patients of all ages

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods.
1. Clinical Performance Evaluation.
2. Mid-point evaluation form will be completed halfway through rotation in order for the student to be assessed on their performance.
3. Performance during case conference presentations.

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

RDONC 800: Radiation Oncology

Course Director: Jennifer Harper, MD
Email: harperjl@musc.edu

Course Coordinator: Jeffrey Johnson
Telephone #: 843-792-3273
Email: johnsjef@musc.edu

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Block 1	3	**Block 3**	3	**Block 5**	2	**Block 7**	0	**Block 9**	1
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Does this rotation accept visiting students? ☒ YES ☐ NO

COURSE DESCRIPTION:
This elective is primarily for students with an interest in some aspect of oncology, and often specifically in the field of radiation oncology. Most will have completed the third-year selective (although it is not a requirement) and be prepared to interact with the physician team, patients, and other personnel. Students should have a solid foundation in oncology and be quite familiar with oncologic care. The students will take on key roles in patient management and frequently be involved in independent research projects. They will be required to do an oral presentation on either their own research projects or some other interesting topic in radiation oncology. While the goals and objectives of this course are similar to those of the third-year selective, the expectations for proficiency are much higher.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Explain when radiation would be part of the management of a patient with cancer. (MK3, PC1)
2. Interact professionally with other physicians and members of the treatment team. (CS1, PR2, IP2)
3. Demonstrate knowledge of complex treatment planning using virtual reality treatment planning computers. (PL2, SL2)
4. Demonstrate ability to examine a variety of adult and pediatric cases with an emphasis on CNS, Breast, Prostate, Lung, Gyn, Head/Neck and GI cancers. These examinations will entail fiber optic scopes and other sophisticated means of examination. (PL4, CS4)
5. Formulate a treatment plan of care. (MK8, CS3)

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 and participate in multidisciplinary tumor boards in which case management with other specialists will be discussed.
2. Attend and participate in didactic sessions regarding cancer management, radiobiology, and radiation physics.
3. One-on-one work with attending and resident physicians on patient management teams. Students will be responsible for gathering information on patients and reviewing pertinent literature regarding patients and their diseases.
4. Attend and participate in multi-disciplinary tumor boards in which case management decisions are made. Students should be prepared to discuss current literature including relevant clinical trials and evidence-based medicine.
5. Give a brief presentation during conference on a topic related to cancer.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Breast cancer
2. Lung cancer
3. Prostate cancer
4. Gynecologic cancer
5. Head and neck cancer
6. Brain tumor

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Clinical Performance Evaluation.
2. Direct observation of clinical and patient care skills by attendings and residents.
3. Final discussion with the course director to assess the learning objectives.

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

SURG 830: Adult Cardiac Surgery Externship ASE

Course Director: Nicolas Pope, MD
Email: popeni@musc.edu

Course Coordinator: Kris Banks-Smalls
Telephone #: 843-792-2720
Email: banksasm@musc.edu

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Block 2	2	**Block 4**	2	**Block 6**	2	**Block 8**	2	**Block 10**	2
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Does this rotation accept visiting students? ☒ YES ☐ NO

COURSE DESCRIPTION:
This course provides in-depth exposure to patients undergoing surgery for acquired cardiac disease. The student will be an integral part of the team that includes general surgery and cardiothoracic surgery residents, cardiac surgery attendings, and midlevel providers. The student will work with the entire staff and will receive extensive exposure to patients in the operating room, cardiothoracic intensive care unit, and on the floor, as well as in the outpatient clinic.

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. Discuss the basic preoperative evaluation of patients with surgically correctable cardiac disease. (PC1, PC3, MK4)
3. Discuss the postoperative management of patients undergoing cardiac surgery. (PC1, PC3, MK4)
4. Describe the common complications experienced by patients undergoing cardiac surgery. (PC1, PC2, PC3, MK3, MK4, MK5)
5. Describe the purpose and basic functional principles of the "heart lung machine." (MK5, PL2)

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. Direct patient care in the clinics, on the floors, and assisting in the operating room.
3. Weekly Division of Cardiothoracic Surgery M and M conferences and Grand Rounds.
4. Active participation in surgical procedures, rounds, and clinics with assigned attendings.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Coronary Artery Disease
2. Cardiac Valvular Disease
3. Congestive Heart Failure

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods.
1. 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

SURG 832: Night Emergency Surgery ASE

Course Director: Evert Eriksson, MD
Email: eriksson@musc.edu

Course Coordinator: Kris Banks-Smalls
Telephone #: 843-792-2720
Email: banksasm@musc.edu

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Does this rotation accept visiting students? ☒ YES ☐ NO

COURSE DESCRIPTION:
Students will participate in the Night Emergency Surgery Service as members of the night float team. This service evaluates and treats a significant volume of trauma patients, as well as performs emergency consultations and acute care surgery operative procedures. This service is recommended for students interested in general surgery, as well as students interested in emergency medicine and primary care specialties.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Discuss the basic principles of trauma patient evaluation and resuscitation. (MK3, PC1, PC2, PC3, PC4, PC6, CS1, CS4)
2. Identify trauma patients who need emergent surgical intervention. (MK3, PC4)
3. Accurately assess and develop a differential diagnosis for patients with acute abdominal pain and other urgent surgical conditions. (MK3, PC2, CS1, CS4)
4. Discuss management of acute surgical emergencies and other conditions requiring urgent management in pediatric surgical patients. (MK3, PC2, CS1, CS4)

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. Assist in evaluation and resuscitation of trauma patients presenting during the "night float service" hours.
2. Assist the mid-level and chief surgical residents in evaluation of patients for whom a surgical consultation has been requested in the emergency room as well as in other MUH inpatient units.
3. Assist with operative procedures on trauma and general surgery patients during the "night float service" hours.
4. Follow the schedule of the interns assigned to the "night emergency trauma service" rotation. (Sunday 7 pm until 6 am Monday, then 6 pm to 6 am Monday through Friday nights. Rotation starts on first Monday and ends on last Friday morning after call.)

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Multi-system trauma
2. Traumatic Brain Injury
3. Penetrating trauma
4. Patient with an acute abdomen

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. 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
Rotation takes place on weeknights as well as Sunday nights during the rotation consistent with the "night emergency trauma service" rotation. Students will be off during daytime hours.

SURG 833: General Thoracic Surgery ASE

Course Director: Barry Gibney, MD
Email: gibney@musc.edu

Course Coordinator: Kris Banks-Smalls
Telephone #: 843-792-2720
Email: banksasm@musc.edu

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Does this rotation accept visiting students? ☐ YES ☒ NO

COURSE DESCRIPTION:
This course provides in-depth exposure to patients with diseases of the chest, including lungs, esophagus, and mediastinum. The student will be an integral part of the team that includes general surgery and cardiothoracic surgery residents, thoracic surgery attendings, and mid-level providers. The student will be assigned to the general thoracic attendings but will work with the entire staff and will receive extensive exposure to patients in the operating room, cardiothoracic intensive care unit, and on the floor, as well as in the outpatient clinic at Hollings Cancer Center.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Describe how to evaluate patients with diseases of the lung, esophagus, mediastinum and chest wall. (MK4, PC1, PC3)
2. Stage cancer of the lung and esophagus. (MK4)
3. Demonstrate the work up/admission of patients undergoing thoracic surgery. (PC1, PC3, CS1, CS2)
4. Discuss the role of surgery in management of patient's with thoracic disease. (PC3, CS1)
5. Identify and institute management of post-op complications from thoracic surgery. (PC1, PC2, PC3, MK3, MK4, MK5)

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. Daily rounds.
2. Participation in OR.
3. Participation in outpatient clinics.
4. Thoracic conferences.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Lung cancer
2. Esophageal cancer
3. Benign esophageal disease
4. Pleural space problems
5. Lung transplantation

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. 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

SURG 834: Pediatric Surgery Externship ASE

Course Director: Laura Hollinger, MD
Email: hollingl@musc.edu

Course Coordinator: Kris Banks-Smalls
Telephone #: 843-792-2720
Email: banksasm@musc.edu

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Does this rotation accept visiting students? ☒ YES ☐ NO

COURSE DESCRIPTION:
Students will serve as members of the patient care team for patients on the pediatric surgical service interacting with the attendings and residents from the pediatric surgical service on a daily basis. Students will participate in outpatient clinics, the operating room, and rounds with residents and attending surgeons. Students will also participate in the management of inpatient consults and assessment of pediatric burn/trauma patients.

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. Discuss pre-/post-op pediatric surgical care and fluid management, the principles of pediatric burn care, and basic surgical techniques. (MK6, PC3, PR3, PL5)
3. Describe the evaluation and management of common pediatric surgical problems (inpatient and outpatient). (MK3, PC1, PL1, SL5)
4. Discuss the initial assessment of the pediatric trauma patient and perform this assessment in patients with less severe injuries. (MK3, PC1, PL1)
5. Discuss the management of neonates with congenital anomalies. (MK4, PC3, PL3)
6. Identify and discuss management of acute pediatric surgical emergencies including the child with an acute abdomen and life-threatening emergencies. (MK6, PC2, PL3)

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. Direct patient care in the clinics, on the floors, and assisting in the operating room.
3. Attend weekly Department of Surgery M and M conferences and Grand Rounds.
4. Prepare and present cases at weekly pediatric surgery service conferences (radiology conference, etc).

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Congenital anomaly (ex- congenital diaphragmatic hernia, malrotation, esophageal atresia with trachea-esophageal fistula)
2. Acute abdomen
3. Pediatric trauma
4. Pediatric patient with burns
5. Acute pediatric surgical emergency

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. 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
Taking call is expected. Students may take call from home and participate in after-hours pediatric surgical operative cases or spend time in-house working with the night emergency trauma service.

SURG 835: Plastic Surgery Externship ASE

Course Director: Lance Tavana, MD
Email: tavana@musc.edu

Course Coordinator: Kris Banks-Smalls
Telephone #: 843-792-2720
Email: banksasm@musc.edu

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Does this rotation accept visiting students? ☒ YES ☐ NO

COURSE DESCRIPTION:
Students will participate in plastic surgery patient care in both the inpatient and outpatient settings with the faculty and residents of the Division of Plastic Surgery. The student's daily activities will be assigned by the academic chief plastic surgery resident and will include activities such as plastic surgery didactic cases and visiting professor conferences, as well as inpatient and ambulatory patient care. Students will be involved in operative cases on a daily basis with exposure to all aspects of reconstructive and cosmetic surgery.

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. Evaluate patients with common problems treated by plastic surgeons and discuss the various conditions and pathologies that plastic surgeons treat. (MK2, MK4, PC1, PC3)
3. Perform basic wound evaluation and closure techniques. (PC1, PC7)
4. Discuss basic wound healing and steps that can be taken to maximize healing and reduce scar formation and demonstrate core knowledge in normal and abnormal wound healing, wound care, wound closure, and scar evaluation. (MK1, MK3)
5. Outline preoperative and operative plan for patients undergoing breast surgery, hand surgery, and oncologic reconstruction. (MK5, PC3)
6. Demonstrate familiarity with the "reconstructive ladder" and its application to patients undergoing reconstruction of soft tissue defects. (PC3)
7. Discuss the role of nutrition in surgical management and steps taken to maximize overall healing. (MK2, MK5, 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. Complete an Externship Log documenting level of participation in key entrustable professional activities.
2. Intraoperative teaching of wound closure techniques.
3. Direct patient care in the clinics, inpatient floors, and assisting in the operating room.
4. Weekly Plastic Surgery division didactic and grand rounds conferences.
5. Student will give a brief 10-minute presentation at the end of the rotation on a topic provided by the course director.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Breast reconstruction
2. Surgical oncology related reconstruction
3. Hand surgery

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Clinical Performance Evaluation.
2. Patient-based presentation to count for 25% of grade.
3. Direct observation of student performance.
4. Students will receive feedback about performance at the midpoint of the course.

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

SURG 837: Surgical Oncology Externship ASE

Course Director: Jeffrey Sutton, MD
Email: suttojef@musc.edu

Course Coordinator: Kris Banks-Smalls
Telephone #: 843-792-2720
Email: banksasm@musc.edu

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Does this rotation accept visiting students? ☒ YES ☐ NO

COURSE DESCRIPTION:
Students on the surgical oncology rotation will participate in the ambulatory and inpatient surgical care of patients with breast, endocrine, skin, soft tissue, and GI tumors. Students will be exposed to the multidisciplinary approach to patient care through tumor board conferences and clinics. Students will be orientated to the service by the course director who will also provide verbal feedback midway through the 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. Identify the basic steps and anatomy for several surgical oncology and endocrine procedure. (MK1, MK3, PC2)
3. Provide a concise presentation of patients on inpatient rounds and begin to develop an appropriate assessment and care plans and recognize postoperative surgical complications and appreciate changes in management required to address these complications. (MK8, PC2, PC3, PR1, CS1, CS2, PL2, IP2, IP3)
4. Describe inpatient responsibilities (including but not limited to: reviewing orders, following up on lab and test results, assessing patients, admitting patients, seeing consults, calling consults, performing bedside procedures) and Participate in the evaluation of patients in outpatient clinics. (MK5, PC1, PR1, PC6, PC7, CS1, CS2, CS5)
5. Identify an area of clinical knowledge deficiency, conduct a literature search, and summarize the results for the surgical oncology attending and resident. (MK2, MK3, CS1)
6. Describe the multidisciplinary approach to the treatment of surgical oncology patients and develop a basic understanding of non-surgical (adjuvant) therapies. (MK1, MK3, PL5)
7. Communicate effectively with oncology patients, families, colleagues, and the public through the use of active listening and appropriate verbal, nonverbal and written skills. (CS1, CS2, SL1, PD2)

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. Participation in operative cases with residents, fellows, and attendings.
3. Participation in inpatient rounds and outpatient clinic.
4. Participation in tumor board conferences.
5. Participation in service resident/student teaching session.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Breast: benign breast disease, high risk and breast cancer patients
2. Endocrine: thyroid and parathyroid cancer, hyperparathyroidism
3. Gastrointestinal malignancies including pancreatic, colorectal and gastric cancer
4. Melanoma

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. 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

SURG 838: Transplant Surgery Externship ASE

Course Director: Angello Lin, MD
Email: linang@musc.edu

Course Coordinator: Kris Banks-Smalls
Telephone #: 843-792-2720
Email: banksasm@musc.edu

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Does this rotation accept visiting students? ☐ YES ☒ NO

COURSE DESCRIPTION:
Students will participate in all aspects of patient care in the inpatient and outpatient setting, including on rounds, in the clinics, and in the operating room. Students will be exposed to all aspects of the complex medical and surgical care of patients with end organ failure. This course is recommended for students interested in surgery, nephrology, hepatology, internal medicine, or other primary care specialties.

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. Formulate a medically suitable daily plan for their patients. (MK5, PC3)
3. Accurately and succinctly present the critical elements of their patients' course on rounds. (PC3, CS1)
4. Articulate some of the medical and surgical issues that are specific to transplant patients. (MK3)
5. Articulate a basic understanding of the approach to general surgical issues. (MK5)
6. Articulate a basic understanding of the medical management of complicated general surgical patients. (MK5)

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. Participation in multi-disciplinary rounds with residents, fellows, and attendings.
3. Participation in solid organ transplant cases (primarily liver and kidney).
4. Participation in the daily management, medical, and surgical care of the service inpatients.
5. Participation in the outpatient evaluation and management of transplant patients.
6. Participation in organ procurement ("donor runs").
7. Participation in recipient selection meeting.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. ESRD (renal failure)
2. Cirrhosis (chronic liver failure) and fulminant hepatic failure (acute liver failure)
3. Diabetes (pancreatic endocrine failure)
4. Patients on dialysis with vascular access issues
5. Primary liver cancers

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. 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
Students can expect to participate in transplantation activities as organs become available.

SURG 839: Trauma & Acute Care Surgery Externship ASE

Course Director: Alicia Privette, MD
Email: privetta@musc.edu

Course Coordinator: Kris Banks-Smalls
Telephone #: 843-792-2720
Email: banksasm@musc.edu

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Does this rotation accept visiting students? ☒ YES ☐ NO

COURSE DESCRIPTION:
Students will serve as externs on the Trauma and Acute Care Surgery service. They will be assigned to patients and will be expected to be their primary caregivers, with supervision by the resident staff and attending surgeons. Students will be expected to participate in the daily delivery of care to the Acute Care Surgery patients, as well as the surgical clinics where new patients are evaluated and recently discharged patients are seen for follow up. This rotation is recommended for students interested in primary care, emergency medicine, general surgery, and any surgical subspecialty (neurosurgery, orthopedic surgery, ENT, urology, plastic surgery).

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 a basic understanding of Advanced Trauma Life Support (ATLS) and how it is applied in the emergency room setting. (MK4, MK5, CS3, CS4, CS5)
3. Delineate the work up and treatment of common surgical conditions. (MK1, MK2, MK3, MK4, MK5, PC1, PC2, PC3, PL3)
4. Develop comprehensive and coherent patient presentations. (PR4, PR5, CS1, CS4, CS5, PL3)
5. Discuss the treatment algorithms for blunt and penetrating abdominal trauma and common complications. (MK4, MK5, PC2, PC3, PC4, PC5)

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. Be an active team member during trauma resuscitations.
3. Be involved in the work up of surgical consultations.
4. Participate in daily patient rounds by following and presenting specific patients.
5. Attend divisional educational activities such as Trauma Radiology Conference, Joint Trauma/Neurosurgery Conference, and Trauma/Emergency Medicine Case Review Conference.
6. Be actively involved in the operative management of the patients on the service.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Blunt thoracic and abdominal trauma
2. Penetrating thoracic and abdominal trauma
3. Abdominal pain
4. Patients with non-traumatic acute surgical conditions.
5. Traumatic brain injury
6. Extremity and pelvic trauma

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. 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

SURG 840: Peripheral Vascular Surgery Externship ASE

Course Director: Matthew Wooster, MD
Email: woosterm@musc.edu

Course Coordinator: Kris Banks-Smalls
Telephone #: 843-792-2720
Email: banksasm@musc.edu

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Block 1	2	**Block 3**	2	**Block 5**	1	**Block 7**	1	**Block 9**	1
Block 1A		Block 3A		Block 5A		Block 7A		Block 9A	
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Block 2	2	**Block 4**	2	**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 externship offers students the opportunity to function as a member of the team and be responsible for many of the duties of an intern under the direct guidance and supervision of house staff and attending staff. The student will be assigned to the vascular service at Ashley River Tower. In addition, if a student manifests a high level of interest in vascular surgery and communicates with the coordinator well in advance of the rotation, 3-5 days of the rotation may be arranged to interact primarily with MUSC clinical faculty at Roper Hospital. This course is designed primarily for students interested in surgery who are considering training in a vascular surgery residency.

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. Describe basics of wound care, diabetic foot ulcer evaluation and management, and the role of a vascular laboratory. (MK3, PC3)
3. Perform a basic history and physical examination on a patient with peripheral vascular disease. (PC1, MK1)
4. Interpret basic vascular laboratory lab results. (CS4, MK5)
5. Discuss the role of endovascular techniques in the diagnosis and treatment of peripheral vascular disease. (MK6, PL2)
6. Discuss the role for medical management versus intervention for common peripheral vascular pathologies. (SL1, PC2)

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. Interaction with patients and staff in the inpatient and outpatient setting for direct bedside teaching.
3. Conference presentations and participation.
4. Participation in the operating room, bedside procedures, and review of images with housestaff and attendings.
5. Self-study and completion of assigned reading in texts and journal articles.
6. At least one day a week will be spent in the operating room where familiarity with underlying pathophysiology, anatomy, and basic surgical principles will be expected.
7. Students will participate in endovascular procedures for the treatment of peripheral vascular disease.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Aortic aneurysm disease
2. Carotid artery disease
3. Lower extremity peripheral vascular disease, including claudication and limb-threatening ischemia
4. Venous thromboembolic disease

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Clinical Performance Evaluation.
2. Direct observation of student performance.
3. Students will receive feedback about performance at the midpoint of the course.
4. Degree of participation in and response to questions in conferences, the operating room, and outpatient settings.
5. Quality of presentations in conferences.

Will students be expected to participate in call? ☒ YES ☐ NO
Students will take call 2-3 times during the rotation to increase exposure to vascular surgery emergencies.

SURG 846: Surgical Trauma ICU

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

Unit Director: Cynthia Talley, MD
Email: leon@musc.edu

Course Coordinator: Kris Banks-Smalls
Telephone #: 843-792-2720
Email: banksasm@musc.edu

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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	
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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	
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COURSE DESCRIPTION:
Students will be assigned to serve as externs in the surgical intensive care unit and will be the primary care provider for assigned patients. Very close supervision will be provided by the surgery residents assigned to the unit. Daily teaching rounds are given by attending surgeons who are board certified in critical care. Students will become familiar with the basics of mechanical ventilation, intravenous fluids, shock and vasoactive medications, surgical emergencies, 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 with an interest in anesthesia or in any surgical field including ENT, orthopedics.

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 as well as define parameters for extubation. (MK1, MK4, MK8, PC6, PC7, CS1, CS2, PR3, PL2)
14. Demonstrate familiarity with the management of Traumatic Brain Injury and the multi-system injured trauma patient. (PC3)
15. 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 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
2. Shock
3. Traumatic Brain Injury
4. Multisystem Injured Trauma patient
5. Acute surgical emergencies
6. SIRS and Multi-organ system failure

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. 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.

SURG 853: Burn Surgery Externship ASE

Course Director: Steven Kahn, MD
Email: kahnst@musc.edu

Course Coordinator: Kris Banks-Smalls
Telephone #: 843-792-2720
Email: banksasm@musc.edu

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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	
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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 become an integral part of the multidisciplinary burn team and will provide longitudinal patient care for acute and complexed burn surgery patients throughout the patient care continuum in all aspects of patient care, including participating in daily rounds of critically ill patients, bedside ICU procedures, dressing changes, clinic visits, and the operating room. Students will assist with surgical techniques including grafting components and wound closures. Students will participate in initial comprehensive burn assessments, daily patient management, formulation of treatment plans, and discharge arrangements with the appropriate supervision and corresponding documentation.

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 knowledge and principles of total burn patient care. (MK4, MK5, CS3, CS4, CS5)
3. Discuss and perform initial burn assessment will accurate burn classification. (MK1, MK2, MK3, MK4, MK5, PC1, PC2, PC3, PL4)
4. Recognize proper dressing and topical antimicrobial institution. (MK5, MK6, MK8, PC3, PL2)
5. Encompass multidisciplinary team approach with using evidence-based practice. (CS1, CS4, PR1, IP1, IP2, IP3, IP4)
6. Identify and management of complications within the burn patient population. (MK3, MK4, MK7, PL6, 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. Complete an Externship Log documenting level of participation in key entrustable professional activities (EPAs).
2. Acquire appropriate technical skills in bedside procedures, frequent wound assessments and wound care, excision of burn wounds, and skin grafting.
3. Direct patient care in burn unit, clinic, and assisting in operating room daily.
4. Acquiring intraoperative surgical techniques.
5. Attend and actively participate in divisional educational activities.
6. Be actively involved in the operative management of the patients on the service.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Burn-Inhalation, Electrical, Thermal
2. Critical Care-Burn Shock, Resuscitation
3. Multisystem Injured Traumas
4. Skin Grafting/Skin Substitutes
5. Wound Reconstruction-Complex Chronic Wounds

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. 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

SURG 873: GI Surgery Externship ASE

Course Director: William Lancaster, MD
Email: lancastw@musc.edu

Course Coordinator: Kris Banks-Smalls
Telephone #: 843-792-2720
Email: banksasm@musc.edu

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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	
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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:
Students will serve as externs on one of the areas of GI Surgery covered by attending surgeons in the Section of GI surgery. Students will be given the choice of participation on the Bariatric Colorectal Service and/or the Pancreatic Biliary Service to include inpatient care as well as pre- and post-operative care in the surgery clinics. Strongly recommended for students interested in general surgery as well as for students interested in primary care, geriatrics, and internal medicine.

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. Perform an accurate history and physical examination of the surgical patient. (MK4, PC1)
3. Discuss operating room decorum and roles of assistant surgeon. (PR1, CS1, IP1, IP2, IP3, IP4)
4. Demonstrate ability to present patients on rounds. (CS1, CS3)
5. Communicate effectively with patients, nurses, and physicians. (PR1, CS1, IP1, IP2, IP3, IP4)
6. Describe the important role of intern in team patient care. (PR1, CS1, IP1, 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. Complete an Externship Log documenting level of participation in key entrustable professional activities.
2. Direct patient care in the clinics, on the floors, and assisting in the operating room.
3. Weekly Department of Surgery M and M conferences and Grand Rounds.
4. Students will be responsible for supervised care of 2-6 inpatients on either the Bariatric Colorectal Service or the Pancreatic Biliary Service.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Enterocutaneous fistula
2. Acute pancreatitis
3. Chronic pancreatitis
4. Morbid obesity
5. Diverticulitis
6. Gastroesophageal reflux disease
7. Inguinal and abdominal wall hernias
8. Pancreatic cancer
9. Symptomatic cholelithiasis

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. 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

UROL 851: Urology ASE

Course Director: Austin Hester, MD
Email: hesterau@musc.edu

Course Coordinator: Lisa Kynoski
Telephone #: 843-792-4538
Email: kynoski@musc.edu

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Block 1	0	**Block 3**	0	**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	0	**Block 4**	0	**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:
Students will rotate in both inpatient and outpatient clinical areas at MUSC and the VA hospital, managing complex urologic conditions and providing a detailed look at what a career in urologic surgery will entail. Service guidelines will be emailed two weeks before the actual rotation begins. Students must receive approval from the course director to enroll in blocks 1-5.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Describe relevant anatomy and perform a genitourinary exam on adult and pediatric patients, male and female. (PC1, MK1)
2. Explain the natural history, diagnosis, and treatment of common urologic disorders, including nephrolithiasis, hematuria, acute scrotum, incontinence, UTI, ED, BPH, and genitourinary cancers. (PC1, MK4, MK5)
3. Complete uroradiology content at www.auanet.org and demonstrate familiarity with imaging techniques in urology (cystography, nuclear medicine, renal US, CT) and an understanding of the interpretation of these studies. (MK1, MK4, MK5)
4. Identify the indications for endoscopic, laparoscopic, robotic and open surgical approaches for adults and children. (MK8, PC2)
5. Describe pre-, intra-, and post-operative management of general, oncologic, and reconstructive urologic patients. (MK2, MK3, MK4)
6. Demonstrate basic surgical skills of a urologist, including catheterization, suturing, physical exam skills, endoscopy, laparoscopy, robotics and open surgery through simulation training and clinical practice. (PD1, PL2, MK5)
7. Utilize AUA Med Student Curriculum to further expand urologic knowledge
https://www.auanet.org/education/auauniversity/education-and-career-resources/for-medical-students

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. Participation in morning and evening inpatient rounds/discussions.
2. Following inpatient census of 1-3 patients (postop or admissions from the ER) and assisting with 1-3 consults per week.
3. Attendance/participation in all urological conferences.
4. Completion of 4th year Urology Selective Skills Checklist submitted to the coordinator at the conclusion of the rotation.
5. Meeting with course director at the start of rotation, as a group, and individually prior to conclusion of rotation (student must arrange meeting through the coordinator).

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Prostate/Bladder/Kidney Cancer
2. Voiding Dysfunction/Incontinence/BPH/Hematuria/ED
3. Nephrolithiasis/Acute Scrotum

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Clinical Performance Evaluation.
2. Direct observation of clinical and patient care skills by the chief resident and attending urologist
3. Conference discussions and Grand Rounds presentation.
4. Successful completion of skills checklist, and core curriculum content located at www.auanet.org.
5. A mid-point evaluation form will be completed halfway through the rotation in order for the student to be assessed on their performance.

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

UROL 853: Urology Externship ASE

Course Director: Austin Hester, MD
Email: hesterau@musc.edu

Course Coordinator: Lisa Kynoski
Telephone #: 843-792-4538
Email: kynoski@musc.edu

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Block 1	4	**Block 3**	4	**Block 5**	0	**Block 7**	0	**Block 9**	0
Block 1A		Block 3A		Block 5A		Block 7A		Block 9A	
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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 students considering urology as a career. Students will rotate in both inpatient and outpatient clinical areas at MUSC and the VA hospital, managing complex urologic conditions and providing a detailed look at what a career in urologic surgery will entail. Service guidelines will be emailed two weeks before the actual rotation begins. Students must receive approval from the course director to enroll in blocks 1-4.

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. Describe relevant anatomy and perform a genitourinary exam on adult and pediatric patients, male and female. (PC1, MK1)
3. Explain the natural history, diagnosis, and treatment of common urologic disorders, including nephrolithiasis, hematuria, acute scrotum, incontinence, UTI, ED, BPH, and genitourinary cancers. (PC1, MK4, MK5)
4. Complete uroradiology content at www.auanet.org and demonstrate familiarity with imaging techniques in urology (cystography, nuclear medicine, renal US, CT) and an understanding of the interpretation of these studies. (MK1, MK4, MK5)
5. Identify the indications for endoscopic, laparoscopic, robotic and open surgical approaches for adults and children. (MK8, PC2)
6. Describe pre-, intra-, and post-operative management of general, oncologic, and reconstructive urologic patients. (MK2, MK3, MK4)
7. Demonstrate basic surgical skills of a urologist, including catheterization, suturing, physical exam skills, endoscopy, laparoscopy, robotics and open surgery through simulation training and clinical practice. (PD1, PL2, MK5)

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. Participation in morning and evening inpatient rounds/discussions.
3. Following inpatient census of 1-3 patients (postop or admissions from the ER) and assisting with 1-3 consults per week.
4. Attendance/participation in all urological conferences (including journal club) and 15-minute Grand Rounds presentation given to the department on a subject encountered during the rotation.
5. Completion of 4th year Urology Selective Skills Checklist submitted to the coordinator at the conclusion of the rotation.
6. Meeting with course director at the start of rotation, as a group, and individually prior to conclusion of rotation (student must arrange meeting through the coordinator).

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Prostate/Bladder/Kidney Cancer
2. Voiding Dysfunction/Incontinence/BPH/Hematuria/ED
3. Nephrolithiasis/Acute Scrotum

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. E Clinical Performance Evaluation.
2. Direct observation of clinical and patient care skills by the chief resident and attending urologist
3. Conference discussions and Grand Rounds presentation. (MK, CS)
4. Successful completion of skills checklist, and core curriculum content located at www.auanet.org.
5. A mid-point evaluation will be completed halfway through the rotation in order for the student to be assessed on their performance.

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