**Course Director:** Edward O’Bryan, MD  
Email: obryanec@musc.edu  

**Course Coordinator:** Christine Talbot-Bond  
Telephone #: 843-792-2427  
Email: talbotbo@musc.edu

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Does this rotation accept visiting students?  
☐ YES  ☒ NO

**COURSE DESCRIPTION:**  
This course is a four-week clinical elective at the PMI Nicaragua Medical Center in El-Viejo, Nicaragua sponsored by the Palmetto Medical Initiative. The course will involve Monday through Friday clinical shifts of 8 hours (9 am-5 pm) in the outpatient, urgent care, and emergency medicine settings in El-Viejo, Nicaragua, as well as the Emergency Department of the University Medical Center in Leon, Nicaragua. Students will also have the opportunity to shadow physicians in Chinandega, Nicaragua. Optional 8 am-12 pm shifts are available on Saturdays as well. During each shift, the student will interact with patients and learn how to perform a focused H&P. The student will focus on how to order appropriate diagnostic tests and formulate a differential diagnosis while adapting to the many limitations encountered in medical care in the developing world. The student will work closely with the attending on duty and learn how to treat and manage various illnesses and injuries including tropical diseases. Furthermore, the student will have the opportunity to participate in laboratory diagnostics as well as ultrasound performance and interpretation.

**LEARNING GOALS & OBJECTIVES:** At the completion of this clinical rotation students should be able to do the following:  
1. Conduct an initial assessment of a patient in the developing world and perform stabilization techniques. (MK, PC, CS, PR)  
2. Establish differential diagnosis including potential tropical diseases, zoonotic diseases, and diseases related to inadequate public health and order/interpret appropriate diagnostic tests (including imaging/lab studies) related to the differential diagnosis. (MK, PL, SL)  
3. Manage acutely ill and/or injured patients as well as stable outpatients. (MK, PC, PR, CS)  
4. Perform procedural skills if desired (i.e., I.V. access, blood drawing, sutures, I&D’s, wound care, fracture splinting). (MK, PC, PL)  
5. Participation in ongoing research (optional).

**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, rounds, and discussion consisting of two pre-trip lectures of 1 hour each, assigned readings and one post-trip lecture of 1-2 hours, including a post-rotation debriefing session with course director.  
2. Patient contact and patient load .  
3. Post-elective presentation to peers and faculty.

**PATIENT ENCOUNTERS:** Students will be expected to work-up patients with conditions from all organ systems, including:  
1. Malaria, Typhoid, and other tropical or infectious diseases common to the area  
2. Chest pain, abdominal pain, diabetes, hypertension, cellulitis, trauma, and non-infectious diseases

**EVALUATION / FEEDBACK METHODS:** Students will be evaluated using the following methods:  
1. Clinical Performance Evaluation (PC, PR, MK, CS, PL, SL) with direct observation of clinical and patient care skills evaluated by the attending physician. (MK, PC, PR, CS)  
2. The students will be evaluated on their ability to follow the patient through the course of their time at MKMC, which could include an admission. (PR, CS, PL, SL)  
3. Active participation in group discussion as evaluated by the attending physicians or MKMC staff. (MK, PC, PR, CS, SL, PL)  
4. Participation in weekly didactic sessions as evaluated by the course director. (MK, PR, CS, PL, SL)
6. The student will be required to present a case report or original paper of their choosing during one didactic session and will be evaluated by their peers, the EM residents, and the faculty present at EM conference. (MK, PC, PR, CS, PL, SL)

Will students be expected to participate in call? □ YES □ NO

**ADDITIONAL INFORMATION:** This course requires the following:
1. Approval by the COM Associate Dean for Curriculum – Clinical Sciences and the COM Selectives and Electives Committee. **Permission to participate in this elective may be denied or revoked after original permission is granted if for any reason concerns arise regarding safety or quality of the educational experience.**
2. Coordination of travel with the MUSC Center for Global Health and adherence to the MUSC International Travel Policy and restrictions, which includes:
   a. [Registration of travel](#) with International SOS, the university international travel assistance provider
   b. Completed [Health and Safety Plan](#)
   c. Completed [International Travel Waiver](#)
3. Completion of a separate application and waiver of liability prior to departure through the Palmetto Medical Initiative, which serves as host during the rotation. This can be found at [www.palmettomedical.org](http://www.palmettomedical.org).
4. Vaccines are required for travel into Nicaragua; please see the CDC website on travelers’ health and/or visit the MUSC Travel Medicine Clinic for more details.

*Funding may be available to cover costs associated with this elective, please see your COM Dean’s Office Representative for details.*
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Telephone #: 843-792-2427
Email: talbotbo@musc.edu

Does this rotation accept visiting students? □ YES □ NO

COURSE DESCRIPTION:
The course consists of 18 eight-hour shifts at the Palmetto Medical Initiative (PMI) Masindi-Kitara Medical Center (MKMC) in Masindi, Uganda. During each shift, the student will interact with patients and learn how to perform a focused H&P. The student will focus on how to order appropriate diagnostic tests and formulate a differential diagnosis while focusing on the many limitations of medical care in the developing world. The student will work closely with the attending on duty and learn how to treat and manage many various illnesses and injuries including tropical diseases. The MKMC Medical Center in Uganda operates 24 hours a day, 7 days a week and sees over 2,000 patients a month on average. The student will have the opportunity to work in Emergency and Urgent care, inpatient care, outpatient clinical care, OB/GYN care, and surgical care. Furthermore, the student will have the opportunity to participate in laboratory diagnostics as well as ultrasound performance and interpretation. If the rotation falls during one of four PMI short-term mission teams to Uganda, the student will have the opportunity to join the team in remote mobile clinic locations.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Conduct an initial assessment of a patient in the developing world and perform stabilization techniques. (MK, PC, CS, PR)
2. Establish a differential diagnosis including potential tropical diseases, zoonotic diseases, and diseases related to inadequate public health and order/interpret appropriate diagnostic tests (including imaging/lab studies) related to the differential diagnosis. (MK, PL, SL)
3. Manage acutely ill and/or injured patients as well as inpatients. (MK, PC, PR, CS)
4. Perform procedural skills if desired (i.e., I.V. access, blood drawing, sutures, I&Ds, wound care, fracture splinting). (MK, PC, PL)
5. Participation/reading blood smears, lab interpretation, ultrasound interpretation, and patient case discussions. (MK, PR, PL, SL)

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, rounds, and discussion including two pre-trip lectures of 1 hour each and one post-trip lecture of 1-2 hours including a post-rotation debriefing session with course director.
2. Patient contact and patient load.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with conditions from all organ systems, including:
1. Malaria, Typhoid and other Tropical or Infectious Diseases common to the area.
2. Chest pain, abdominal pain, diabetes, hypertension, cellulitis, trauma, and non-infectious diseases.

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods.
2. Direct observation of clinical and patient care skills evaluated by the attending physician. (MK, PC, PR, CS)
3. The students will be evaluated on their ability to follow the patient through the course of their time at MKMC, which could include an admission. (PR, CS, PL, SL)
4. Active participation in group discussion as evaluated by the attending physicians or MKMC staff. (MK, PC, PR, CS, SL, PL)
5. Participation in weekly didactic sessions evaluated by the course director. (MK, PR, CS, PL, SL)
6. The student will be required to present a case report or original paper 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 at EM conference. (MK, PC, PR, CS, PL, SL)
7. In order to continue to improve the rotation, the student will be required to critique both the course and the attendings, residents, and/or MKMC staff with whom s/he worked. These evaluations need to be completed no later than two weeks after the completion of the rotation. (PL)

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

**ADDITIONAL INFORMATION:** This course requires the following

1. Approval by the COM Associate Dean for Curriculum – Clinical Sciences and the COM Selectives and Electives Committee. Permission to participate in this elective may be denied or revoked after original permission is granted if for any reason concerns arise regarding safety or quality of the educational experience.

2. Coordination of travel with the MUSC Center for Global Health and adherence to the MUSC International Travel Policy and restrictions, which includes:
   a. Registration of travel with International SOS, the university international travel assistance provider
   b. Completed Health and Safety Plan
   c. Completed International Travel Waiver

3. Completion of a separate application and waiver of liability prior to departure through the Palmetto Medical Initiative, which serves as host during the rotation. This can be found at www.palmettomedical.org.

4. Vaccines are required for travel into Uganda; please see the CDC website on travelers’ health and/or visit the MUSC Travel Medicine Clinic for more details.

**Funding may be available to cover costs associated with this elective, please see your COM Deans Office Representative for details.**
**LEARNING GOALS & OBJECTIVES:** At the completion of this clinical rotation students should be able to do the following:

1. Demonstrate analysis, synthesis, and integration of pertinent public health data. (MK, SL)
2. Formulate a comprehensive, ordered public health intervention plan. (MK, SL)
3. Demonstrate an ability to build a positive, proactive relationships with patients. (PC, PR, CS)
4. Demonstrate professional demeanor and ethical behavior. (PC, PR, CS)
5. Demonstrate the ability to incorporate best medical practice into existing cultural beliefs. (PC, PR, CS)
6. Apply knowledge of the pathophysiology, epidemiology, and natural history of public health issues specific to Sub-Saharan Africa. (MK, SL)
7. Demonstrate and apply knowledge of the epidemiology, and natural history of public health management of patient populations. (MK, PC, SL)
8. Present pertinent public health data gathered from research, current initiatives, and best practice to MKMC staff as well as public health patients. (MK, CS, PC, SL, PL)
9. Demonstrate effective and professional interpersonal and communication skills in interactions with patients and families, including an awareness of psychosocial factors related to public health deficits. (PC, CS, PR)
10. Identify public health knowledge deficits. Change future practices based on deficits. (MK, SL, PC)
11. Demonstrate appreciation and collaboration with other members of the public health team including Peace Corps Staff, USAID Staff, nursing, and community leaders. (CS, PR)
12. Identify issues related to the cost-effectiveness of public health interventions. (MK, SL, PC)

**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, discussion, public health project implementation.
2. Coordination with Peace Corps Workers, MKMC staff and local community leaders to assess effectiveness of public health interventions.
3. Attendance at weekly public health outreaches with Peace Corps and MKMC staff, as well as twice weekly public health teaching sessions at MKMC.
4. Attendance at a mandatory “mini-course” (usually 2-3 hours long) to cover important aspects of public health, global and travel medicine prior to travel.
5. Complete a 2-3 page paper on a public health issue addressed while on rotation.
6. Attendance at a mandatory lecture and debriefing meeting (2 hours) with course director within one week of returning from rotation.

**PATIENT ENCOUNTERS:** Students will be expected to work-up patients with conditions from all organ systems, including:
1. Malaria, Typhoid and other Tropical or Infectious Diseases common to the area
2. Chest pain, abdominal pain, diabetes, hypertension, cellulitis, trauma, and non-infectious diseases

**EVALUATION / FEEDBACK METHODS:** Students will be evaluated using the following methods.
2. Direct observation of public health presentation skills as evaluated by the attending physician. (MK, PC, PR, CS)
3. Feedback and evaluation of writing assignment. (MK)
4. Active participation in group discussion as evaluated by the course director and public health staff. (MK, PC, PR, CS, SL, PL)
5. Participation in the weekly public health didactic sessions as evaluated by the faculty as well as potential residents and Peace Corps workers. (MK, PR, CS, PL, SL)
6. The student will be required to present a public health case report or research topic 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 at conference. (MK, PC, PR, CS, SL, PL)
7. In order to continue to improve the Public Health Rotation, you will be required to critique both the course and the attendings, residents, and/or Peace Corps Volunteers with whom you worked. These evaluations need to be completed no later than two weeks after the completion of the rotation. (PL)

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

**ADDITIONAL INFORMATION:** This course requires the following:
1. Approval by the COM Associate Dean for Curriculum – Clinical Sciences and the COM Selectives and Electives Committee.
2. Coordination of travel with the MUSC Center for Global Health and adherence to the MUSC International Travel Policy and restrictions, which includes:
   a. Registration of travel with International SOS, the university international travel assistance provider
   b. Completed Health and Safety Plan
   c. Completed International Travel Waiver
3. Completion of a separate application and waiver of liability prior to departure through the Palmetto Medical Initiative, which serves as host during the rotation. This can be found at www.palmettomedical.org.
4. Vaccines are required for travel into Uganda; please see the CDC website on travelers’ health and/or visit the MUSC Travel Medicine Clinic for more details.

**Funding may be available to cover costs associated with this elective, please see your COM Deans Office Representative for details.**

**
Does this rotation accept visiting students? ☑ YES ☒ NO

COURSE DESCRIPTION:
This is a four-week clinical elective in Dar es Salaam, Tanzania, designed for fourth-year medical students with a genuine interest in global health and in caring for underserved populations. This rotation will expose the student to 1) medical care at a national hospital (Muhimbili National Hospital) in a developing country which has recently invested in an advanced cardiac center and 2) participation in a rural outreach clinic where MUSC and Muhimbili University of Health and Allied Sciences (the national university) have an active, NIH-funded field research site focused on large-scale community-based prevention and care programs, including integration of screening for non-communicable diseases such as diabetes and hypertension with HIV testing, coupled-based HIV treatment, HIV pre-exposure prophylaxis for HIV-uninfected clients coupled with HIV-infected partners, home-based monitoring for diabetes and hypertension, development of a low-cost locally produced glucometer, studies of the prevalence and predictors of non-communicable diseases (diabetes, hypertension, CKD), tailored counseling and testing for HIV based on risk profile, home-based HIV self-testing, and an incentive-based program to encourage sexual partners of HIV-infected and high risk patients to seek HIV testing. The primary focus will be on teaching the student to rely on clinical skills and judgment in addition to technology available in that setting. Students will participate in all aspects of care of medical patients at Muhimbili National Hospital. This will include daily inpatient ward rounds, outpatient clinics, ICU, and emergency room management of medical patients. There will be hospital-wide didactic teaching sessions involving attendings and students, didactic conferences, case presentations and interactive sessions with attendings. Students will be exposed to a wide spectrum of heart diseases in addition to problems not commonly seen in the U.S. such as malaria, typhoid and rheumatic heart disease.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Gather accurate and essential information in a system without modern technological equipment and use that information to provide best possible care.
2. Diagnose and manage illnesses that are common worldwide but are rare in the U.S.
3. Assist with diagnostic evaluation and provision of care to patients on the MNH medical ward under the supervision of attending physicians.
4. Participate in the diagnosis and treatment of a wide spectrum of heart diseases and other prevalent health conditions.
5. Demonstrate understanding of diseases in low-income countries and integrate and apply basic and clinical science knowledge to these diseases.
6. Examine the role of community-based interventions in providing health care in rural communities with relatively limited resources to ensure proper treatment in patients with chronic health issues.
7. Demonstrate expanded medical knowledge of heart disease and treatment in poor socioeconomic conditions by assisting with histories, physicals and assessments (rheumatic heart disease, etc.).
8. Discuss how the local patient population’s health practices, culture, and beliefs affect the patient.
10. Demonstrate the ability to adapt clinical skills and practice in a resource-constrained environment.
11. Discuss the challenges of cross-cultural communication in a multilingual context.
12. Exemplify an awareness of and respect for cultural differences unique to their experience and self-evaluate during difficult interactions.
13. Demonstrate sensitivity and openly discuss ethical decision-making in treatment of patients as well as in teaching situations.
14. Discuss the ethical dilemmas posed in an developing country hospital such as limited resources, needs of poor patients.
15. Demonstrate humility, flexibility, professionalism, and cultural sensitivity when working within a different healthcare context.
16. Demonstrate an understanding of cultural and ethical issues working with underserved populations.
17. Discuss the various health care systems available in Tanzania and how this hospital fits into that system.
18. Identify barriers to health and health care in low-resource settings.
19. Develop an understanding of the need for feasible interventions targeted to the local health system realities that maximize positive health outcomes at a low cost.
20. Demonstrate an appreciation of the need for continuity of interventions at the community-level, and the risks and perils of sporadic provision of services in low-income settings.

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. Participating in daily rounds and conferences on the Cardiology services of the Muhimbili National Hospital.
2. Participating in the evaluation and management of patients undergoing routine and advanced cardiac procedures and the evaluation and care of patients presenting to the Emergency Department at Muhimbili National Hospital.
3. Participation in a rural outreach clinic where MUSC and Muhimbili University of Health and Allied Sciences (MUHAS) have an active, rural field site focused on large-scale community-based programs addressing HIV testing, linkage and retention to care, couples-based interventions, and non-communicable diseases. Students will participate in the diagnosis, education and management of patients.
4. Students will be expected to spend one day in the MUSC Ashley River Tower Heart And Vascular Center prior to departure in order to observe advanced cardiac procedures in the U.S. to gain an understanding of the differences in health care systems.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with conditions from all organ systems, including:
1. Wide spectrum of heart disease and heart-related diseases
2. Chronic communicable diseases common to the area (TB, Malaria, HIV/AIDS)
3. Non-communicable diseases such as diabetes and hypertension

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Exit interviews with MUSC supervising faculty upon return to the U.S. (MK, PC, PR, CS, SL, PL)
2. E*Value Clinical Performance Evaluation completed by supervising faculty at Muhimbili. (MK, PC, PR, CS, SL, PL)
3. Presentation and discussion of patients with the consult attending. (MK, PR, CS, PL, SL)
4. Direct observation of clinical patient care skills verbally evaluated by the attending physician. (PC, PR, CS, MK)
5. Student will be required to present a 45-minute case-based presentation from a clinical experience seen at MNH or field site. Student will meet with course director to discuss case details and presentation forum. (MK, PC, PR, CS, SL, PL)

Will students be expected to participate in call? □ YES ☑ NO

ADDITIONAL INFORMATION: This course requires the following:
1. Approval by the COM Associate Dean for Curriculum - Clinical Sciences and the COM Selectives and Electives Committee. Permission to participate in this elective may be denied or revoked after original permission is granted if for any reason concerns arise regarding safety or quality of the educational experience.
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3. Vaccines are required for travel into Tanzania; please see the CDC website on travelers’ health and/or visit the MUSC Travel Medicine Clinic for more details

**Funding may be available to cover costs associated with this elective, please contact Kathleen Ellis in the Center for Global Health at ellisk@musc.edu for details.**