



Stony Brook **Medicine**

**School of Medicine**

Department of Family, Population & Preventive Medicine

## **Course Syllabus**

Occupational and Environmental Medicine

**Course credits:** 3 credits

### **TIME AND LOCATION**

Schedule - Thursdays 3:00-4:30pm, fall semester + 12 hour student demonstration  
HSC L3 – 067

### **COURSE DIRECTOR**

Farah Haq, MD, MPH, Clinical Assistant Professor,  
Department of Family, Population and Preventive Medicine

[Farah.Haq@stonybrookmedicine.edu](mailto:Farah.Haq@stonybrookmedicine.edu)

Office: HSC Level 3, Rm. 097. Office hours by appointment; 631-444-8859

### **COURSE DESCRIPTION**

- This course is designed for resident physicians (and other students with instructor permission).
- The purpose of this course is to provide an overview of occupational and environmental medicine. Environmental and occupational exposures known to cause human disease are examined from the perspectives of toxicology, clinical diagnosis and treatment.
- Topics covered include basic principles of exposure assessment; essentials of occupational and environmental history-taking, and laws and regulations relating to occupational and environmental health. Clinical topics include heavy metal exposures; occupational and environmental lung diseases, occupational infections including bloodborne pathogens, noise-induced hearing loss, neurotoxins, occupational MSK injuries, and travel medicine. Regulatory and other approaches to reduce exposure will be examined and important public health implications will be discussed.

### **COURSE FORMAT**

The course format consists of participatory lectures integrating clinical cases. Residents are also required to complete supervised applied clinical time in occupational medicine for at least 1.5 days (12 hours) at Stony Brook or an affiliated occupational medicine (OM) practice site, during which they demonstrate the acquisition and application of knowledge learned. Patient encounters will be documented in New Innovations and supervising clinicians will complete a performance evaluation form.

### **COMPETENCIES**

- Assess individual risk for occupational/environmental disorders using an occupational and environmental history (PM competency OE1)

- Identify occupational and environmental hazards, illness, and injuries in defined populations and assess and respond to identified risks (PM competency OE2)
- Identify sources and routes of environmental exposures to chemical, physical, and biological hazards for defined populations (PM milestone MK2 Environmental Health)
- Understand the environmental and occupational factors including biological, physical and chemical factors that affect the health of communities and workers.
  - Describe the direct and indirect human, ecological and safety effects of major environmental and occupational agents.
  - Describe genetic, physiologic and psychosocial factors that affect susceptibility to adverse health outcomes from exposure to environmental and occupational hazards.
  - Describe federal and state regulatory programs, guidelines and authorities that control environmental and occupational health issues.
  - Specify approaches for assessing, preventing and controlling environmental and occupational hazards that pose risks to human health and safety.
  - Explain the general mechanisms of toxicity in eliciting a toxic response to various environmental and occupational exposures.

**COURSE TEXTBOOK (REQUIRED):** *Available electronically through the Health Sciences Library*

*Current Occupational and Environmental Medicine*, Fifth Edition, Joseph LaDou, MD, 2014, McGraw-Hill, ISBN-13:978-0-07-180815-6.

### INTERNET RESOURCES

1. Occupational Safety and Health Administration, U.S. Department of Labor, Washington, DC. - <http://www.osha.gov/>  
1910 Subpart Z – Toxic and Hazardous Substances  
[http://www.osha.gov/pls/oshaweb/owastand.display\\_standard\\_group?p\\_toc\\_level=1&p\\_part\\_number=1910&p\\_text\\_version=FALSE](http://www.osha.gov/pls/oshaweb/owastand.display_standard_group?p_toc_level=1&p_part_number=1910&p_text_version=FALSE)
2. National Institute of Occupational Safety and Health  
<http://www.cdc.gov/niosh/homepage.html>; 1-800-35-NIOSH. Many resources can be found here including health hazard evaluations, NIOSH assessments of various occupational hazards, some NIOSH questionnaires, and a list of approved respirators
3. Agency for Toxic Substances and Disease Registry (ATSDR) – <http://www.atsdr.cdc.gov/>  
Case Studies in Environmental Medicine – <http://www.atsdr.cdc.gov/HEC/CSEM/>
4. National Institute for Environmental Health Sciences - [www.niehs.nih.gov](http://www.niehs.nih.gov)
5. National Cancer Institute - <http://www.cancer.gov/>; 800-4-cancer
6. Bureau of Labor Statistics - <http://www.bls.gov/>
7. National Center for Environmental Health - <http://www.cdc.gov/nceh>
8. American College of Occupational and Environmental Medicine - <http://www.acoem.org/>
9. American Conference of Governmental Industrial Hygienists - [www.acgih.org](http://www.acgih.org)

### OTHER TEXT RESOURCES

1. Textbook of Clinical and Environmental Medicine, 2<sup>nd</sup> Edition, 2004, by Linda Rosenstock, Mark Cullen, Carl Brodken, and Carrie Redlich
2. Environmental & Occupational Medicine, 4<sup>th</sup> Edition, 2007, by William N Rom and Steven B. Markowitz

### EVALUATION CRITERIA AND PERCENTAGE

Attendance and Participation	20%
Final Examination	35%
PowerPoint Presentation	30%
OM Clinical application	15%

A letter grade will be assigned based on the total percentages.

- Attendance and Participation: Please notify course director in advance if you know you will be absent from a class. Two or more unexcused absences may affect your grade. Along with active participation in lectures, residents may be asked to briefly present or summarize an assigned topic or article to the class using appropriate references.
- Final Examination: The exam will consist of multiple choice and short answer questions based on class lectures and discussions
- PowerPoint Presentation: Residents will develop 20 minute PowerPoint presentations on relevant topics in Occupational and Environmental Medicine and present to the class. Residents will be provided with sample topics or may present on their choice of topic with prior approval of course director. The PowerPoint presentation must be emailed to the Course Director 24 hours prior to the presentation at [Farah.Haq@stonybrookmedicine.edu](mailto:Farah.Haq@stonybrookmedicine.edu).
- OM Clinical Application: Residents are also required to complete supervised applied clinical time in occupational medicine for at least 1.5 days (12 hours) at Stony Brook or an affiliated occupational medicine (OM) practice site, during which they demonstrate the acquisition and application of knowledge learned. Patient encounters will be documented in New Innovations and supervising clinicians will complete a performance evaluation form.

**OCCUPATIONAL AND ENVIRONMENTAL COURSE SCHEDULE (AS OF 08/30/18):** If schedule is revised, residents will be provided with updated schedule information.

LaDou 5<sup>th</sup> Edition Online (available through Stony Brook Health Sciences Library website)

Class 1 9/6/18	Course Introduction. Overview of Occupational Injury/Illness and OSHA	No Assigned Readings Haq
Class 2 9/13/18	Telehealth and Occupational Medicine	No Assigned Readings Noel
Class 3 9/20/18	The Occupational and Environmental History. Principles of Screening and Surveillance	Ch. 4: all sections Ch. 42: Intro thru Exposure and Disease, Interpreting Results (5 sections total) Haq
Class 4 9/27/17	Bloodborne Pathogens	Ch. 20: Infections caused by exposure to infected humans or their tissues Perrone
Class 5 10/4/18	Heavy Metals	Ch. 30: Intro thru Mercury (10 sections total) Haq
Class 6 10/11/18	Occupational Lung Diseases	Ch. 23: all sections Falco

Class 7 10/18/18	Occupational Stress	Ch 35: Intro, Occupational Stress, Workplace Violence Granek
Class 8 10/25/18	Musculoskeletal Disorders, Ergonomics and Repetitive Strain	Ch.8: all sections Ch.9: Injuries of Shoulder (item 1); Injuries of Wrist/Hand (items 1-6, 15) Ch. 10: Spine, Knee Subramani
Class 9 11/1/18		
Class 10 11/8/18	Pesticides, Solvents, Neurotoxicants	Ch. 32: all sections except last; Ch. 33: all sections except last; Ch. 34: Intro thru High Risk Groups; Organophosphate & Carbamate Insecticides Haq
Class 11 11/15/18	Occupational Dermatology, Spirometry, TB	Ch. 21: Intro thru Occupational Skin Cancers (7 sections total) Haq
11/22/18	<b>Holiday – No Class</b>	
Class 12 11/29/18	Travel Medicine	Ch. 20: Travel, Required Travel Vaccines Haq
Class 13 12/6/18	Environmental Health – physical hazards, water pollution, air pollution, laws and regulations, bioterrorism	Ch. 14: all sections <b>except</b> Laser Injuries and High Pressure Injection Injuries Ch. 44: all sections Ch. 45: Background, Routine Industrial Emissions Ch. 46: all sections Ch. 48: Intro, Significant Pollutant Sources, Regulatory Considerations Haq
Class 14 12/13/18	Environmental Health (cont.)	
Class 15 12/20/18	Noise Induced Hearing Loss	Ch. 13: all sections Caddell
12/27/18	<b>Holiday – No Class</b>	
Class 16 1/3/18	<b>Final Exam</b>	
Class 17 1/10/18	<b>Power Point Presentations</b>	PPT presentations
Class 18 1/17/18	<b>Power Point Presentations</b>	PPT presentations

Class 1 9/6/18	Course Introduction. Overview of Occupational Injury/Illness and OSHA	No Assigned Readings Haq
Class 2 9/13/18	Telehealth and Occupational Medicine	No Assigned Readings Noel
Class 3 9/20/18	The Occupational and Environmental History. Principles of Screening and Surveillance	Ladou, Ch. 4, 26-29; Ch. 41 693-705; Ch. 42, 711--716 Haq
Class 4 9/27/17	Bloodborne Pathogens	LaDou Ch. 20, 308-318; Perrone
Class 5 10/4/18	Heavy Metals	Ladou, Ch. 30, 463-477 Haq
Class 6 10/11/18	Occupational Lung Diseases	LaDou, Ch. 23, 362-385 Falco
Class 7 10/18/18	Occupational Stress	Ladou Ch 35, 619-628 Granek
Class 8 10/25/18	Musculoskeletal Disorders, Ergonomics and Repetitive Strain	LaDou Ch.8, 63-70; Ch. 9, 71-73, 84-90; Ch. 10, 97-102, 108-111 Subramani
Class 9 11/1/18		
Class 10 11/8/18	Pesticides, Solvents, Neurotoxicants	LaDou, Ch. 27, 425-435; Ch. 32, 529-538; Ch. 34, 575-580 Haq
Class 11 11/15/18	Occupational Dermatology, Spirometry, TB	LaDou, Ch. 21, 324-340 Haq
11/22/18	<b>Holiday – No Class</b>	
Class 12 11/29/18	Travel Medicine	LaDou, Ch. 20, 318-323 Haq
Class 13 12/6/18	Environmental Health – physical hazards, water pollution, air pollution, laws and regulations, bioterrorism	Ch. 44, 741-746; Ch. 45, 748-750, 762-763; Ch. 46, 782-789; Ch. 48, 816-817 Haq
Class 14 12/13/18	Environmental Health (cont.)	
Class 15 12/20/18	Noise Induced Hearing Loss	LaDou Ch. 13 Caddell
12/27/18	<b>Holiday – No Class</b>	
Class 16 1/3/18	<b>Final Exam</b>	
Class 17 1/10/18	<b>Power Point Presentations</b>	PPT presentations by individuals or groups
Class 18 1/17/18	<b>Power Point Presentations</b>	Final Examination Evaluation of Course

## **AMERICANS WITH DISABILITIES ACT**

If you have a physical, psychological, medical or learning disability that may impact your course work, please contact Disability Support Services, ECC (Educational Communications Center) Building, room 128, (631) 632-6748. They will determine with you what accommodations are necessary and appropriate. All information and documentation is confidential.

Students who require assistance during emergency evacuation are encouraged to discuss their needs with their professors and Disability Support Services. For procedures and information, go to the following web site: <http://www.ehs.sunysb.edu> and search Fire Safety and Evacuation/Physical Disabilities

## **ACADEMIC INTEGRITY**

Each student must pursue his or her academic goals honestly and be personally accountable for all submitted work. Representing another person's work as your own is always wrong. Faculty are required to report and suspected instances of academic dishonesty to the Academic Judiciary.

For more comprehensive information on academic integrity, including categories of academic dishonesty, please refer to the academic judiciary website at <http://www.stonybrook.edu/uaa/academicjudiciary/>

## **ACADEMIC DISHONESTY**

Intellectual honesty is the cornerstone of all academic and scholarly work. Therefore, the Graduate Program in Public Health views any form of academic dishonesty as a serious matter. Any academic misconduct will be punished to the fullest extent of the University academic code. Penalties for misconduct may vary according to the circumstances of each particular case. Penalties may range in severity from verbal warning to expulsion from the University with the reason recorded on the student's permanent transcript.

## **CRITICAL INCIDENT MANAGEMENT**

Stony Brook University expects students to respect the rights, privileges, and property of other people. Faculty are required to report to the Office of Judicial Affairs any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, or inhibits students' ability to learn.

## **WRITING CENTER**

The Stony Brook University Writing Center, located in Humanities room 2009, supports writing at Stony Brook University. Trained undergraduate and graduate writing tutors help writers through one-on-one tutoring sessions that focus on each individual writer's needs. Writers of all skill-levels at any stage of the writing process are invited to make appointments at the Writing Center. Writers can bring in anything they're working on, be it a creative piece, a personal statement, or a paper for class. Tutors will help writers brainstorm, organize, focus, and develop their written works. To make an appointment on-line, go to <http://stonybrook.edu/writrhet/wcabout.shtml>.