Course Title: Principles of Occupational Health

Course Number: ENOH 0693J

Course Location: Rutgers School of Public Health, Piscataway—EOHSI Room 402

Course Date & Time: 6:10-8:00 PM, Tuesday Evenings, 9/4/2018-12/11/2018

Course Instructor: Michael E. Pratt, MD MPH, Assistant Professor, Rutgers School of Public Health, pratt@eohsi.rutgers.edu (848) 445-6048

Office Hours: By Appointment Only and after most Tuesday classes

Required Text: Current Occupational & Environmental Medicine by LaDou and Harrison: Fifth Edition (McGraw-Hill Companies)
ISBN-10: 0071808159

NOTE: For those who may have access, an electronic version of this book is in the ACCESSMedicine database available through myportal.rutgers.edu→Research tab→Library Channel—Research→Library Resources→Databases→Biomedical→Related→ACCESSMedicine.

Course Description: The purpose of this course is to convey the principles that underlie the recognition and control of workplace health hazards and address some of the injuries and illnesses related to workplace exposures.

Selected Department Competencies Addressed:

- Explain the basic mechanism of toxicology and dose-response regarding environmental/occupational toxicants
- Describe the federal and state regulatory programs that relate to environmental (community) and worker (occupational) protection
- Describe the direct and indirect human and ecological health and safety effects of various environmental and occupational exposure agents
- Determine what risks are present in a particular community and develop a basic risk assessment plan for the identification, characterization, management, and remediation of that risk
- Diagnose and apply appropriate approaches for assessing, preventing, and controlling environmental hazards that pose risks to health and safety
- Develop an intervention/prevention plan to ameliorate a particular environmental or occupational risk in a community workplace, respectively

Course Objectives: Upon completion of the course, the students will be able to:

- Understand the major principles guiding the field of occupational health
- Demonstrate how to take an occupational health history
- Understand the major categories of effects of physical agents, biological agents, chemical agents, and psychosocial factors
- Examine specific workplace problems (toxicology, ergonomics, indoor air-pollution)
- Describe the musculoskeletal injuries that can occur in the workplace
- Understand the health effects of workplace hazards
- Apply the principles of hazard recognition and control to promote workplace health and safety
- Demonstrate a foundational knowledge of occupational and environmental health: programs, databases, regulatory agencies, and laws (including ADA and Workers' Compensation)

Schedule:

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Musculoskeletal Injuries
Shoulder, Elbow, & Hand Injuries
Back and Lower Extremity Injuries
Ergonomics & the Prevention of Occupational Injuries

10/16/2018 Lecture:
Chemical, Solvent, & Pesticide Hazards
Pratt
Reading Assignment:
Chapter:
Chemicals
Solvents
Pesticides

10/23/2018 Lecture:
Noise and Radiation
Laumbach
Reading Assignment:
Chapter:
Hearing Loss
Injuries Caused by Physical Hazards

10/30/2018 Lecture:
Heavy Metals, Hazards to the Liver and Kidneys
Gochfeld
Ethical Challenges in the Workplace and Safety
Gochfeld
Reading Assignment:
Chapter:
Liver Toxicology
Renal Toxicology
Metals

11/6/2018 Lecture:
Reproductive Toxicology
Pratt/Udasin
Electronic Health Record
Pratt/Udasin
Reading Assignment:
Chapter:
Female Reproductive Toxicology
Male Reproductive Toxicology
Electronic Health Record

11/13/2018 Lecture:
Occupational Lung Diseases
Kipen
Reading Assignment:
Chapter:
Occupational Lung Diseases

11/20/2018 No Class

11/27/2018 Lecture:
Neurotoxicity and Neurobehavioral Toxicology
Fiedler
Depression in the Workplace
Fiedler
Reading Assignment:
Chapter:
Neurotoxicology
12/4/2018 Lecture:
- Occupational Cancer and Carcinogens  
- Indoor Air Quality/Unexplained Symptoms  
Reading Assignment: Chapter:
- Occupational Cancer  
- Outdoor Air Pollution  
- Building-Associated Illness  

12/11/2018 Oral Presentations

Course Requirements and Grading:
1. Oral Presentation  300 points
2. Paper  300 points
3. Quizzes  300 points
4. Participation/Attendance  100 points

Course Grading (based on % of 1000 points):
- 93-100% FOR A
- 90-92.99% FOR A-
- 85-89.99% FOR B+
- 80-84.99% FOR B
- 77-79.99% FOR B-
- 73-76.99% FOR C+
- 70-72.99% FOR C
- ≤69.99% C-/D/F or incomplete, as determined

Guidelines for Participation

**Students are responsible for reading and video assignments prior to class.** This will facilitate class participation.

All students are required to participate in the weekly Principles of Occupational Health discussion boards found on Canvas. Points will be weighted in favor of:
- Quality posts (anytime)
- Posts that start a thoughtful thread of discussion on newly opened boards (Tuesdays, Wednesdays, and Thursdays)

Participation points will be assigned as follows:
- Lecture attendance and classroom participation (10 points max)
- Discussion boards (90 points max)

Guidelines for Paper due on 11/6/2018

Your paper will address occupational health practices in a specific occupational sector. It includes, but is not limited to:
- Background
- Pertinent statistical information and trends derived from databases (e.g. Bureau of Labor Statistics)
- Applicable laws and regulations, including governmental agencies
- Occupations in the sector and typical work hazards and controls
- Discussion about improved population health and safety in the occupational sector
- Pertinent resources and references
Topics must be pre-approved and may NOT include the occupational sector you will present orally in December. More details about the paper will be given in class on 10/9/2018. The paper length may not exceed 10 pages (excluding charts/tables in appendix). Please refer to the School of Public Health Honor Code for expectations regarding work originality.

Guidelines for Oral Presentation on 12/11/2018
Select an occupation and identify a specific worker. Follow that worker for at least half a day:
• Describe the job duties and observe the work practices.
• Identify any hazards on the job; including physical, chemical, biological and psychological hazards.
• Describe the adequacy of any safety or protective measures that are currently in use by the worker(s), including engineering controls, administrative controls and personal protective equipment.
• Recommend specific changes (protective measures) that will reduce worker hazardous exposure.

Incorporate the principles you have learned during the POH coursework. You may also use the course textbook as a guide in describing hazards. Your observations and recommendations must be based on scientific evidence and must have practical applications.
• Prepare a power point presentation based on your findings above.
• Duration of presentation is 15 minutes (+ 5minutes for questions)
• I recommend 15 power point slides.
• **Relevant pictures of the work process(es) should be included in your presentation.

You should identify the occupation and person you wish to follow early in November and get the proper permissions including those for photographs of worksite and individuals being photographed. Topics must be pre-approved.

Note: Please provide Dr. Pratt with an electronic version of your power point presentation (via e-mail) on or before 5pm Tuesday December 4, 2018.

Quizzes
There is no mid-term or final exam. Quizzes will cover assigned reading material and lecture content up to each quiz. Quizzes may also include content taken from previous forum discussions. While quizzes will emphasize most recent reading and lectures, students will be responsible for all prior content on any quiz.

School of Public Health Honor Code: The School of Public Health Honor Code is found in the student bulletin (sph.rutgers.edu/academics/catalog/index.html). Each student bears a fundamental responsibility for maintaining academic integrity and intellectual honesty in his or her graduate work. For example, all students are expected to observe the generally accepted principles of scholarly work, to submit their own rather than another’s work, to refrain from falsifying data, and to refrain from receiving and/or giving aid on examinations or other assigned work requiring independent effort. In submitting written material, the writer takes full responsibility for the work as a whole and implies that, except as properly noted by use of quotation marks, footnotes, etc., both the ideas and the works used are his or her own. In addition to maintaining personal academic integrity, each student is expected to contribute to the academic integrity of the school community by not facilitating inappropriate use of her/his own work by others and by reporting acts of academic dishonesty by others to an appropriate school authority. It should be clearly understood that plagiarism, cheating, or other forms of academic dishonesty will not be tolerated and can lead to sanctions up to and including separation from the Rutgers School of Public Health.
Policy Concerning Use of Recording Devices and Other Electronic Communications Systems:
When personally owned communication/recording devices are used by students to record lectures and/or classroom lessons, such use must be authorized by the faculty member or instructor who must give either oral or written permission prior to the start of the semester and identify restrictions, if any, on the use of mobile communications or recording devices.