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Spring 2022

### EVSC 490-452: Environmental Health and Safety

Michael Bonchonsky

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Spring 2022

## EVSC 490-452: Environmental Health and Safety

Michael Bonchonsky

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**ST: Environmental Health:**  
**EVSC 490-452**  
*Spring 2022 Course Syllabus*

[NJIT Academic Integrity Code](#): All Students should be aware that the Department of Chemistry & Environmental Science (CES) takes the University Code on Academic Integrity at NJIT very seriously and enforces it strictly. This means that there must not be any forms of plagiarism, i.e., copying of homework, class projects, or lab assignments, or any form of cheating in quizzes and exams. Under the University Code on Academic Integrity, students are obligated to report any such activities to the Instructor.

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**COURSE INFORMATION**

I. Course Description:

This course includes an interdisciplinary review of fundamental scientific principles necessary to understand basic environmental health science. Environmental health science examines the relationships and risks of the physical environment on human health. Basic science and engineering knowledge is applied to the recognition, evaluation and control of physical, chemical and biological processes that influence human health and welfare. This course is based on the premise that exposures to the environmental stressors that cause harm can be recognized through the observation of environmental quality parameters and mitigated by source controls and pollution prevention.

II. Learning Outcomes:

Student learners will be able to:

- Describe the direct and indirect human health and ecological effects of major environmental and occupational agents.
- Describe federal and state regulatory programs, guidelines and authorities that control environmental health issues.
- Specify current environmental risk assessment methods.
- Specify approaches for assessing, preventing and controlling environmental hazards that pose risks to human health and safety.
- Explain the general mechanisms of toxicity in eliciting a toxic response to various environmental exposures.
- Discuss various risk management and risk communication approaches employed in the field of environmental health sciences.

**Number of Credits: 3**

- **Prerequisites:** Basic college level courses in Biology, Chemistry and Physics

**Course-Section and Instructor: EVSC 490-452, MP Bonchonsky**

**Office Hours (virtual by appointment) ; See Canvas Website; Modality: asynchronous on line newark on webex**

Text: **Essentials of Environmental Health (Essential Public Health) 3rd Edition**

by [Robert H. Friis](#) (Author). ISBN-13: 978-1284123975, ISBN-10: 9781284123975

**University-wide Withdrawal Date:** See NJIT Academic calendar S ' 20 It will be strictly enforced.

## **POLICIES**

**All CES students must familiarize themselves with, and adhere to, all official university-wide student policies. CES takes these policies very seriously and enforces them strictly.**

**Grading Policy:** The final grade in this course will be determined as follows:

<b>Discussion Participation</b>	10%
<b>Quizzes</b>	10%
<b>Midterm</b>	30%
<b>Research Essay</b>	20%
<b>Final Exam</b>	30%

Your final letter grade in this course will be based on the following range:

<b>A</b>	➤ 90	<b>C</b>	70-74
<b>B+</b>	85-90	<b>F</b>	<70
<b>B</b>	80-84		
<b>C+</b>	75-79		

**On line course Policy:** the course is on line and asynchronous; students are expected each week to log in, listen and observe lecture materials, read text chapter in text and post discussion items each week. Other assignments, tests, and quizzes must be taken and submitted as indicated on Canvas.

**Discussion Policy:** Discussion postings are an expectation of the course. The discussion postings accrue to the participation element of the grade and are used in the determination of the final letter grade as described above.

**Exams:** There will be a quiz, a midterm exam and a final exam held on line on-line. during the semester. The exam periods are identified on your Canvas class site (dates are subject to change as will be indicated on Canvas).

**Makeup Exam Policy:** There will normally be **NO MAKE-UP QUIZZES OR EXAMS** during the semester. In the event that a student has a legitimate reason for missing a quiz or exam, the student should contact the Dean of Students office and present written verifiable proof of the reason for missing the exam, e.g., a doctor's note, police report, court notice, etc. clearly stating the date AND time of the mitigating problem. The student must also notify the CES Department Office/Instructor that the exam will be missed so that appropriate steps can be taken to make up the grade.

## **ADDITIONAL RESOURCES**

**Accommodation of Disabilities:** Office of Accessibility Resources and Services (*formerly known as Disability Support Services*) offers long term and temporary accommodations for undergraduate, graduate and visiting students at NJIT.

If you are in need of accommodations due to a disability please contact Chantonette Lyles, Associate Director at the Office of Accessibility Resources and Services at **973-596-5417** or via email at [lyles@njit.edu](mailto:lyles@njit.edu). The office

is located in Fenster Hall Room 260. A Letter of Accommodation Eligibility from the Office of Accessibility Resources Services office authorizing your accommodations will be required.

For further information regarding self-identification, the submission of medical documentation and additional support services provided please visit the Accessibility Resources and Services (OARS) website at:

- <http://www5.njit.edu/studentsuccess/disability-support-services/>

**Important Dates** (See: [Spring 2022 Academic Calendar, Registrar](#))

Date	Event
January 18, 2022	First Day of Classes
January 24	Last Day to Add/Drop Classes
April 4	Last Day to Withdraw
March 14-19	Spring Break - University Closed
May 3	Last Day of Classes
May 6-8	Final Exam Period

## Course Outline

Lecture	Topic	Assignment
1	Introduction to Environmental Health Sciences, EHS History, and regulatory patterns.	Dates as shown on Canvas site Chap 1 pp 3-27; readings as shown on Canvas
2	Disease transmission and Environmental Factors	Chap 5 pp 97-126; other readings and material as shown on Canvas
3	Environmental Health and Water Systems	Chap 9 pp 211-238 other readings and material as shown on Canvas
4 Quiz 2/12-2/13 2022	Environmental Health Application to Solid Waste (domestic) (Quiz 1...see Canvas for date)	Chap12 pp 311 331 other readings and material as shown on Canvas
5	Hazardous Waste Impacts to Health and Controls	See readings posted on Canvas
6	Ionizing and Non Ionizing Radiation	Chap 8 pp 181-206; other readings and material as shown on Canvas
7	Persistent Organic Pollutants and Environmental Health	Chap 7 pp1 53-177; other readings and material as shown on Canvas
8 MIDTERM	Review and Midterm	See Canvas (Midt 3/11-3/13/22)
9	Metals and Environmental Health	Chap 6 pp129-151; other readings and material as shown on Canvas
10	Environmental Health Aspects of Food and Populations	Chap 11 pp 273-308; other readings and material as shown on Canvas

11	Hazard Recognition/Toxicology and Risk Assessment	Chap 3 pp 51-68; other readings and material as shown on Canvas
12 Essay Due	Environmental Health Application to Specific Hazardous Agents: e.g., Chlorinated Hydrocarbons, Metals (Research Essay due this week see Canvas)	See readings posted on Canvas Essay Due April 17/2022
13	Environmental Health Issues in Ambient and Indoor Air Quality	Chap10 pp 241-269; other readings and material as shown on Canvas
14	Occupational Health and Safety	Chap 13 pp 333-362; other readings and material as shown on Canvas
15 FINAL	Review and Final	See Canvas (Final 5/6-5/8/22)

*Updated by MPB - 2022*

## Spring 2022 Academic Calendar

January	17	Monday	Martin Luther King, Jr. Day
January	18	Tuesday	First Day of Classes
January	22	Saturday	Saturday Classes Begin
January	24	Monday	Last Day to Add/Drop a Class
January	24	Monday	Last Day for 100% Refund, Full or Partial Withdrawal
January	25	Tuesday	W Grades Posted for Course Withdrawals
January	31	Monday	Last Day for 90% Refund, Full or Partial Withdrawal, No Refund for Partial Withdrawal after this date
February	14	Monday	Last Day for 50% Refund, Full Withdrawal
March	7	Monday	Last Day for 25% Refund, Full Withdrawal
March	14	Monday	Spring Recess Begins - No Classes Scheduled - University Open
March	19	Saturday	Spring Recess Ends

April	4	Monday	Last Day to Withdraw
April	15	Friday	Good Friday - No Classes Scheduled - University Closed
April	17	Sunday	Easter Sunday - No Classes Scheduled - University Closed
May	3	Tuesday	Friday Classes Meet
May	3	Tuesday	Last Day of Classes
May	4	Wednesday	Reading Day 1
May	5	Thursday	Reading Day 2
May	6	Friday	Final Exams Begin
May	12	Thursday	Final Exams End
May	14	Saturday	Final Grades Due
May		TBA	Commencement