

Oakland University
School of Health Sciences
Environmental, Health, and Safety Program

Course Syllabus:
EHS 4440 Environmental Standards- Winter 2018

Instructor and Class Meeting Information:

Instructor: **Darryl C. Hill, Ph.D., CSP**

Office Hours: Instructor will be available by e-office hours

Email: dhill@oakland.edu

Phone: 414-524-2882 (office); 414-477-6924 (cell); 513-684-8702 (cell)

Office Hours: Instructor will be available after class or by appointment for consultation.

Class Sessions: **Online, WebEx are 6:30pm ET – until, various Fridays and 10:30am – 12noon various Saturdays, (1st WebEx – Sat., Jan. 6, 2018, 10:30am ET)**

Class Location: NA

Required Text:

Kubasek, Nancy K., Silverman, Gary S., *Environmental Law, 8th edition*, Prentice Hall, Upper Saddle River, NJ, 2014 (**abbr. EL**)

Optional:

U.S. Department of Transportation (DOT), *49 CFR Parts 100-185, Hazardous Materials Regulations*, Mancomm (previously Mangan Communications) Davenport, IA.

Course Description: A general introductory course in environmental pollution, controls, and applicable standards. Legislation discussed includes Clean Air Act, Clean Water Act, Superfund, and the Resource Conservation and Recovery Act. The course examines important aspects of environmental science and technology and the impact on society. The technical foundation and policy choices underlying the key standards are examined, which includes a review of pollution sources, controls, measurement technologies, government intervention, and principles of risk assessment.

Learning objectives: See attached

Course Objectives:

1. To provide students with a comprehensive understanding of environmental pollution control and major regulations

2. To provide an understanding of the relationship between corporate profits and sustainable development
3. To assist students in understanding the role of government in environmental affairs and the importance of corporate, community, and citizen accountability
4. To assist students in understanding the current state of the environment and how to make the determination
5. To provide students with basic understanding of environmental risk and sustainability

Class Format: The WebEx sessions will constitute an overall synthesis of the text. Because of my desire to supplement the textbook material, the coverage in class will by no means exactly follow the order of the material presented in the textbooks. The lectures are intended to expand upon and / or illustrate basic points in the chapters.

- I. **Exams** – The two (2) exams will be based upon WebEx sessions, textbook material, online activities, discussion forums and handouts. The midterm exam is **Feb. 16 (Moodle)**. The final examination is **April 13 (Moodle)**. There are no make-up exams except for emergencies – i.e. family death, hospitalization w/note. Arrangements can be made to take exams prior to the scheduled class session, if there is an employer or personal conflict with either date.
- II. **Quiz** - Quiz will evaluate the student understanding for course objectives and student learning outcomes. There are no make-ups for a missed quiz.
- III. **Online Activities** – An online activity will comprise of critical thinking questions based primarily upon lectures and textbook. Each online activity is worth 10 points. Assignments will not be accepted after the due date/time.
- IV. **Discussion Forum** - A discussion forum is application-based resulting from environmental concepts, principles and key terms. The forums provide opportunity for problem solving and peer review and critique. Feedback is periodically provided by the instructor to allow further discussion and critical analysis. Each forum discussion is worth 5 pts.
- V. **Presentation** – Presentation skills are a necessity in today’s business world. A short oral presentation (10-12 minutes) will be required and must include some form of visual aid, such as a PowerPoint presentation. Students can choose from two (2) options:
 1. Case Study: A recent environmental incident, violation or condition can be presented. Information must be sufficient to explain the violation (if applicable), the environmental impact and corrective actions.
 2. Choose a regulation, state or federal, summarize the requirements, and provide an example of application (compliance). More detail must be given than what is presented in class. A re-statement of class notes, lecture will result in a very low grade / points.

The presentations will be given during two (2) class periods as outlined in the course syllabus. Students are required to participate for the presentation.

- VI. **Research Paper** - A research paper (6-8 pages excluding title page & references) will be required. The topic of the paper must be a recent environmental issue or event. The paper must provide a clear description of the event / issue, identify which, if any environmental regulations or policy applies, and provide an objective assessment (critical analysis) in support or against current / past policies. The paper must be typed, double-spaced and properly referenced using APA format.

Course Evaluation:

Quiz	10 pts
Midterm Exam	15 pts
Online Activities (2)	20 pts
Discussion Forum (3)	15 pts
Paper / Presentation	20 pts
Final Exam	<u>20 pts</u>
Total	100 pts

Grading System: The OU EHS Program grading scale will be adopted for the course

Class Schedule

Week	Discussion Topic / Assignment
1 (Jan. 6)	<p>WebEx #1 (recommended) - Introduction / Course & Learning Objectives / Schedule / Evolution of Federal Regulations / Environmental Risk Analysis</p> <ul style="list-style-type: none">○ Designing Intervention○ EPA Issues○ Environmental Risk Calculations <p>Environmental Impact & Economic Assessment</p> <ul style="list-style-type: none">○ Environmental Impact○ Socioeconomic Impact Assessment <p>Introduction to the Law</p> <ul style="list-style-type: none">○ American Legal System○ The Litigation Process and Environmental Disputes○ Administrative Law <p>Environmental Law / Fate and Transport of Pollutants</p> <ul style="list-style-type: none">● Environmental Policy Evolution● Sources of Air Pollution● Effects of Air Pollution● Atmospheric Dispersion● Properties of Pollutants● Control of Pollutants● Chemical and Hazard Classification/Distinction <p>Reading Assignment: EL – Chp. 1, 2, 3, 4, 5</p>
2	Online Activity #1
3	<p>WebEx Session #2 - Resource Management of Water & Energy</p> <ul style="list-style-type: none">● Energy Policy● Energy Consumption, Production and Penalties● Coal● Natural Gas● Nuclear Energy● Renewable Fuels● Water Quality Measurement / Water Supply● Sources and Effects of Water Pollution● Measuring Water Quality● Hydrologic Cycle <p>Reading Assignment: EL – Chp. 6, 9</p>
4	Discussion Forum #1

- 5 **WebEx Session #3 - Toxic Substances / Hazardous Materials**
- TSCA, FIFRA
 - International Regulations
 - Toxic Torts
- Solid and Hazardous Waste / Hazardous Waste Management
- RCRA
 - CERCLA
 - Emergency Response Plans and Right to Know
 - Brownfields
- Reading Assignment: EL – Chp. 7, 8
Midterm Review
- 6 Online Activity #2
- 7 **MIDTERM EXAM (Moodle)**
- 8 **NO CLASS – Winter Recess**
- 9 **WebEx #4 - Sustainability / Environmental Management Systems**
- ISO 14001
- 10 **WebEx Session #5 - Natural Resources / International Environmental Law**
- Public Lands
 - Global Crisis
 - Overpopulation
 - Institutions
- Reading Assignment: EL - Chp. 10, 11
- 11 Discussion Forum #2
- 12 Quiz
- 13 Discussion Forum #3
- 14 **WebEx Session #6 (mandatory) - Student Presentations**
- 15 **WebEx Session #7 (mandatory) - Student Presentations**
Student Papers Due
Final Exam Review
- 16 **FINAL EXAM**

**EHS 4440 – Environmental Standards
Learning Objectives**

- o Discuss the evolution of federal regulations to the US Environment
- o List five concerns specific to the EPA
- o Explain the dominant types of air pollution in the US
- o Discuss the sources and effects of air pollution
- o Discuss the NAAQS and HAP pollutants
- o Explain the atmospheric dispersion concept and how it relates to the pollutants at night
- o Explain the Clean Air Act evolution model and its usefulness to a company
- o Discuss the United States resistance to the Kyoto Protocol
- o Based upon recent studies and research – explain if climate change / global warming is a serious threat to human health and safety
- o Explain the effect of pollution on oceans
- o Explain the hydrologic cycle and its importance to aquatic life
- o List and explain five major water pollution acts
- o Explain the primary elements of the Safe Drinking Water Act
- o Outline the elements of an environmental impact statement based upon socioeconomic assessment guidelines
- o Discuss Solid Waste Management hierarchy and the roll of pollution prevention within municipalities
- o Discuss the landfill siting process
- o List and discuss advantages and disadvantages for landfill disposal and incineration
- o Explain the magnitude of the Hazardous Waste problem globally and in the United States
- o Discuss how a solid waste may be classified as a hazardous waste
- o Explain the “mixture rule” as it relates to solid / hazardous waste
- o Discuss CERCLA, RCRA, TSCA, CAA and CWA