**Health Science 320: Environment, Health & Technology**

**100% ONLINE, ASYNCHRONOUS**

**SPRING 2022 Syllabus**

**Instructor:** Michelle Shulfer

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**Contact Information:** Instructor is available via Zoom, phone, email, or in person.

 Zoom meetings available by appointment (please arrange via email).

**Course Description:**

An analysis of the changing global environment, its relationship to human health and technology

will be considered. Historical impact, current concerns, and future projections will be addressed. Selected topics include health effects of environmental concerns including radiation, water and air pollutants, antibiotics, emerging infectious diseases and global overpopulation. Case studies will be presented.

**Required Text:**

Nadakavukaren, Anne and Caravanos, Jack, 2020. *Our Global Environment, A Health*

*Perspective.*  8th Edition. Waveland Press, Inc., 10-digit ISBN: 1478637714 or 13-digit

ISBN 978-1478637714

**Supplemental Reading Assignments:**

Readings in addition to the text, such as journal articles, reports by governmental and nongovernmental agencies, or other online resources will be assigned most days. Supplemental readings will be accessed via Canvas.

**Course Goals:**

A goal of environmental sustainability is to improve the quality of human life while conserving

natural resources, reducing pollution, and decreasing harm to the environment. This course

seeks to facilitate your abilities to:

1. Recognize areas of interaction between human society and the natural environment.
2. Identify individual, social, cultural, and ecological factors that influence environmental sustainability.
3. Evaluate competing claims that inform environmental debates.
4. Develop and demonstrate awareness of environmental responsibility to encourage a more environmentally sustainable lifestyle for self and/or for practice as a healthcare professional.

**Online Lectures:**

Weekly online lectures (PowerPoint presentation with recorded audio) will be posted in Canvas.

The PowerPoints are available in the Home section of Canvas.

**Course Grades:**

Derived from a percentage of total points possible, it is the number of points earned/total points

possible for the course. Each point carries equal weight. Approximately half of the weekly

assignments will be graded in-full and about half will be graded for completeness. Selection of

which weeks will be graded for completeness will be done after submission and will be the same

for all students. Outline, annotated bibliography, educational presentation/video/brochure, and

final reflection paper will be graded in-full for all students.

Weekly Assignments (25 pts x 14 assignments) 350 points

Educational Brochure 75 points

Educational Presentation 100 points Unit reflections (20 points x 2) 40 points

Final Reflection 50 points

615 total points

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| **A:**  94.0-100% | **B:** 83.0-86.9% | **C:** 73.0-76.9% | **D:** 60.0-64.9% |
| **A-:** 90.0-93.9% | **B-:** 80.0-82.9% | **C-:** 70.0-72.9% | **F:** 59.9% or below |
| **B+:** 87.0-89.9% | **C+:** 77.0-79.9% | **D+:** 65.0-69.9% |  |

**Late Work:**

The course is online and asynchronous, however, please note there are due dates for each

assignment (weekly assignments, the presentation/video/brochure, and the final reflection

paper) to ensure successful completion in a timely manner. Assignments submitted:

**up to 2 days late - no penalty, 3 days – 50% of earned grade, 4 days - zero points.**

**Students are encouraged to work ahead.** No work will be accepted after May 17 at 11:59 PM.

**Overview of Course Assignments:**

Additional information will be given in Canvas for each assignment. To convey a general idea of the

requirements of this course, there will be:

1. Weekly Learning Activities (Homework) to check on understanding and to help students focus on important aspects of each weekly lecture and reading materials. A part of each weekly assignment will strive to provide an exercise that can be translated into real-world action to improve the health of the environment/people.
2. Educational Presentation & Brochure on an instructor approved environmental topic of your choice. Although this project will be done for a general public audience, it requires a higher level of understanding of the material. Presentations such as PowerPoint lectures with recorded audio will be 15-20 minutes in length. Brochures will be a standard tri-fold format as can be found in Word templates.
3. Reflection Paper (1 page, single spaced) examining one or more Course Goals, which is more than a simple description of the learning experience. Prompt is: “What key concept or piece of information did you learn in this course AND how did/will you apply it to be more environmentally sustainable as a responsible citizen and/or as a healthcare professional?” The reflection paper will apply the learning experience to understanding of self, others, and/or the course concepts. It will convey meaningfulness of the experience to the student and to course learning objectives. It may connect past experiences or personal goals to the learning experience and should demonstrate ability of the student to develop a new way of thinking, and/or ability to question their own biases, stereotypes, preconceptions, or assumptions.

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| **Course Schedule SPRING 2022***This schedule is tentative & subject to modifications during the course*

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|  | **Topic** | **Learning Activity** |
| **Week 1**Jan. 24-31 | What is the environment?Health Issues in Rural Environments | Read:* Textbook: pg. 113 and Section 5-1 *Microbial Killers* on pgs. 115-116
* *10 Facts on Preventing Disease Through Healthy Environments*

Watch:* Topic 1: Environmental Health Lecture
* *Determinants of Health: A Framework for Reaching Healthy People 2020 Goals*
* *What is Environmental Science*?

**Complete:*** **Assignment 1 due no later than Jan. 31 at 11:59pm**
* **Read about brochure project & review evaluation rubric**
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| **Week 2**Jan. 31-Feb. 7 | Air Quality/Pollution | Read:* Textbook: Chap. 11, pgs. 319-355, and *Ozone Depletion*, Chap. 9, pgs. 263-265

Watch:* Topic 2: Air Quality Lecture
* *NASA Study: First Direct Proof of Ozone Hole Recovery to Chemical Ban*

**Complete:*** **Assignment 2 due Feb. 7 at 11:59pm**
* **Submit brochure topic for approval anytime during week 3**
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| **Week 3** Feb. 7-14 | Water Quality/Pollution | Read:* Textbook: Chap. 13 pgs. 371-392, Chap. 14 pgs. 393-430, Chap. 15 pgs. 434-436
* *Municipal Drinking Water Safety: The link between groundwater, pathogens, and public health*

Watch:* Topic 3: Water Quality Lecture

Listen:* NOAA Ocean Podcast: Episode 14 *Garbage Patches: Gyres Take our Trash Out to Sea*

**Complete:*** **Assignment 3 due Feb. 14 at 11:59pm**
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| **Week 4** Feb. 14 - 21 | Global Climate Change | Read:* Textbook: Chap. 10 pgs. 269-301
* Green New Deal Resolution

Watch:* Topic 4: Global Climate Change Lecture
* *Cap and Trade Explained in Two and a Half Minutes*
* *Carbon Tax and Cap and Trade*

Listen:* Audio Introduction to Rep. Ocasio-Cortez’s Green New Deal

**Complete:*** **Assignment 4 Feb. 21 at 11:59pm**
* **Global Climate Change Reflection**
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| **Week 5** Feb. 21 - 28 | Work on Brochure (In place of a Topic 5.) | Read:* Review instructions for Brochure project & evaluation rubric
* **Educational brochure due March 14 at 11:59pm**
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| **Week 6** Feb. 28 – Mar.7 | Emerging Infections and Antibiotics | Read:* Textbook: *Microbial Killers* on pgs. 115-116, *Vectors of Disease* pgs. 172-178, *Battling Malaria* pgs. 181-182, *Dengue Fever Spreads as the World Warms* pgs. 188-189, and *Abusing a Valuable Resource*: pgs. 206-207

Watch:* Topic 6: Emerging Infections and Antibiotics Lecture
* *Systems Thinking: A Cautionary Tale (Cats in Borneo)*
* *GMO Mosquito Control*

**Complete:*** **Assignment 6 due March 7 at 11:59pm**
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| **Week 7** Mar. 7 - 14 | Medical Waste | Read:* Textbook: *Personal Care Products Down the Drain*, pgs. 422-423 and Medical Waste Tracking Act on pg. 455

Watch:* Topic 7: Medical Wastes Lecture
* *The Drugs We Wash Away: Pharmaceuticals, Drinking Water and the Environment*

**Complete:*** **Assignment 7 due March 14 at 11:59pm**
* **Educational brochure due March 14 at 11:59pm**
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| **Week 8** Mar. 14 - 21 | PesticidesChildhood Exposures to Toxicants | Read:* Textbook: Textbook: Chap. 8, *Pesticides and Resistance* pgs. 178-186, *Environmental Contamination* pgs. 187-201, and selected toxic substances in Chap. 6, pgs. 137-168
* Summary of the Toxic Substances Control Act (TSCA)

Watch:* Topic 8: Pesticides and Toxic Substances Lecture

**Complete:*** **Assignment 8 due March 21 at 11:59pm**
* **Peer Review of assigned brochures**
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| **SPRING BREAK**Mar. 21-27 |  |  |
| **Week 9** Mar. 28 – Apr. 4 | Carcinogens and Radiation | Read:* Textbook: Chap. 5, *Cancer* pgs. 124-136, and Chap. 9, *Radiation* pgs. 233-263
* Case Study: *Stephen’s Story*

Watch:* Topic 9: Carcinogens and Radiation Lecture

Listen:* *Dark Lives Of “The Radium Girls” Left a Bright Legacy For Workers, Science*

**Complete:*** **Assignment 9 due April 4 at 11:59pm**
* **Submit presentation outline for approval sometime during week 9**
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| **Week 10** Apr. 4 - 11 | Work on Online Presentation  | Read:* Instructions for online Presentation
* View Presentation Rubric
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| **Week 11** Apr. 11 - 18 | Genetically Modified Organisms   | Read:* Textbook: *Can GMOs End World Hunger?* pgs. 81-82 and *The Promise of Golden Rice* pgs. 71-72

Watch:* Genetically modified organisms intro video
* *Genetically Modified Food: A Debate*

**Complete:*** **Assignment 11 due April 18 at 11:59pm**
* **Informed debate reflection**
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| **Week 12** Apr. 18 - 25 | Food Quality | Read:* Textbook partial Chapter 8 pgs. 203-212
* Intro and larger font areas of The Food Trust: *Access to Healthy Food and Why It Matters*

Watch:* Topic 12: Food Quality Lecture

Listen:* Science Friday: “Borax: It’s What’s For Dinner”

**Complete:*** **Assignment 12 due April 25 at 11:59pm**
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| **Week 13** Apr. 25 – May 2 | Food, Drug and Cosmetics | Read:* *Sulfanilamide Disaster*

Watch:* Topic 13: Food and Drug Administration Lecture
* *American Chamber of Horrors*

**Complete:** * **Assignment 13 due May 2 at 11:59pm**
* **Post your completed online presentation as directed by the instructor by May 9 at 11:59 pm**
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| **Week 14** May 2 - 9You may choose Topic 14 ORTopic 15for this assignment | **Topic 14**OverpopulationNatural Disaster Refugees **Topic 15**Environmental and Health Inequities and Disparities  | Read:* Chapters 2 & 3: pgs. 31-62, 63-83 and Paul Ehrlich on pg. 302

Watch:* Topic 14: Population Lecture
* *The Population Bomb?*
* *Week 15 The Uprooted*

**Complete:*** **Assignment 14 due May 16 at 11:59pm**
* **Post your completed online presentation as directed by the instructor by May 9 at 11:59 pm**
* **Complete peer reviews of 3 presentations**

Read:* *Can We Create a Fair Shot at Health?*
* CDC Health Disparities Summary
* Environmental Justice FY 2017 Progress Report

Watch:* Topic 15: Health Disparities Lecture

Listen:* *How COVID-19 Patients are Affected by Health and Other Disparities*

**Complete:*** **Assignment 15 due May 16 at 11:59pm**
* **Post your completed online presentation as directed by the instructor by May 9 at 11:59 pm**
* **Complete peer reviews of 3 presentations**
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| **Week 15** May 9 - 16 | Online Presentation Peer Reviews  | **Complete:** * **Post your completed online presentation as directed by the instructor by May 9 at 11:59 pm**
* **View 3 assigned presentations and evaluate them using the presentation rubric between May 10 at 8 AM – May 16 at 11:59 PM**
* **Final Reflection Paper due no later than Wednesday, May 18 at 11:59 PM**
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| **Week 16**  | **Final Assessment** Reflection Paper | Read:* Instructions for Final: Reflection Paper
* Reflection Paper Rubric

**Complete:*** **Final Reflection Paper due no later than Wednesday, May 18 at 11:59 PM**
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**Students with Disabilities**In compliance with the Americans with Disabilities Act, students are encouraged to register with UWSP Disability and Assistive Technology Center (DACT) for assistance with accommodations. It is the student's responsibility to work with DATC to document permanent or temporary disability in order to determine eligibility and receive reasonable accommodations. The college cannot assume responsibility for providing accommodations or services to students who have not identified themselves as having a qualifying disability. Contact DACT at datctr@uwsp.edu, 715-346-3365, Room 609 Albertson Hall, 900 Reserve Street, Stevens Point, WI 54481.**Academic Honesty & Misconduct**Academic honesty is a core principle of learning and scholarship. When you violate this principle, you cheat yourself of the confidence that comes from knowing you have mastered the targeted skills and knowledge. You also hurt all members of the learning community by falsely presenting yourself as having command of competencies with which you are credited, thus degrading the credibility of the college, the program, and your fellow learners who hold the same credential.All members of the learning community share an interest in protecting the value, integrity, and credibility of the outcomes of this learning experience. We also have the responsibility to censor behaviors that interfere with this effort. The following behaviors will be subject to disciplinary action:**Plagiarism** - presenting someone else's words, ideas, or data as your own work.**Fabrication** - using invented information, falsifying research or other findings.**Cheating** - misleading others to believe you have mastered competencies or other learning outcomes that you have not mastered. Examples include but are not limited to: 1. Copying from another learner's work2. Allowing another learner to copy from your work3. Collaborating on an assessment (graded assignment or test) without permission from the instructor4. Copying answers or other materials from the internet (e.g. Quizlet)5. Taking a test for someone else or permitting someone else to take a test for you**Turnitin** will be used to scan all materials submitted by students. Turnitin shows similarity to other materials, such as online content and past student papers and assignments. Students are not allowed to copy material from others (internet or other students). In addition, students are not allowed to turn in work that they completed for a another course.**Academic Misconduct** - other academically dishonest acts such as tampering with grades, taking part in obtaining or distributing any part of an assessment, or selling or buying products such as papers, research, projects or other artifacts that document achievement of learning outcomes. Academic dishonesty is not acceptable. UWSP subscribes to the definitions of academic dishonesty provided by the National Association of Student Personnel Administrators. Academic misconduct in the University of Wisconsin System is defined by UWS Chapter 14. The complete text of the chapter is available to you from the Dean of Students or you can visit for more information. |

**Emergency Preparedness:** See UW-Stevens Point Emergency Procedures at [www.uwsp.edu/rmgt/Pages/em/procedures](http://www.uwsp.edu/rmgt/Pages/em/procedures) for details on all emergency response at UW-Stevens Point including Medical Emergencies (Red Phones), Fire, Tornado, other Severe Weather or Active Shooter.

*The course facilitator reserves the right to make changes to syllabi, or course content at their discretion anytime during the semester. Any significant change will be documented in a revised syllabus and posted on CANVAS. It is the students’ responsibility to know what changes have been made. It is also the student’s responsibility to check official UWSP email, and/or CANVAS frequently for course announcements.*