

AMERICAN UNIVERSITY OF BEIRUT
Faculty of Health Sciences
Department of Environmental Health

ENHL 220
Fundamentals of Environmental Health Sciences

Spring 2023-2024

Course Syllabus

Course Description in the Catalogue:

ENHL 220 (3 credits): A course that explores the interdisciplinary nature of environmental health sciences. It explains fundamental scientific concepts relating to the various environmental components and focuses on the relationship between the environment and human health. Using lectures, case studies and critical thinking exercises, the course covers a variety of topics including air, water and soil pollution, energy, waste management, climate change, biodiversity and sustainable development. It also highlights the relationship between population growth, economics, politics, ethics and the environment.

Course Instructor:

Dr. Joumana Nasr

Office: Van Dyck Hall, 4th floor, Room 413

Ext.: 4631

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Office Hours:

Tuesdays & Thursdays between 8.45 am and 10.00 am or by appointment

Time & Delivery Mode of the Course:

(N.B: the timings below should be reserved for the course, throughout the semester)

Days: Tuesdays and Thursdays

Time: 11.00 – 12.15

Location of the Class Sessions: Van Dyck Building- Room 203.

Course Delivery Mode: The course abides by AUBs' announcements and updates relating to the AUB courses' delivery mode.

Learning Outcomes:

At the end of this course, students will be able to:

- 1. Recognize the various environmental components, ecological settings and their interactions.
- 2. Explain fundamental scientific concepts relating to the different environmental components
- 3. Describe how the natural environmental systems function
- 4. Understand the relationship between the earth's life support systems and humans
- 5. Identify various environmental problems and risks.
- 6. Describe different preventive and mitigation measures to manage environmental problems
- 7. Explain the determinant factors of sustainable development.
- 8. Analyse critically environmentally problematic situations and propose sound mitigation measures
- 9. Understand ethical perspectives and practices in the various areas of environmental health

Assessment of the Learning Outcomes:

Course Learning Outcome	Assessment of the Learning Outcome
1. Recognize the various environmental components, ecological settings and their interactions	Exams, Term Paper
2. Explain fundamental scientific concepts relating to the different environmental components	Exams, Term Paper
3. Describe how the natural environmental systems function	Exams, Term Paper
4. Understand the relationship between the earth's life support systems and humans	Exams, Term Paper
5. Identify various environmental problems and risks.	Exams, Term Paper
6. Describe different preventive and mitigation measures to manage environmental problems	Exams, Term Paper
7. Explain the determinant factors of sustainable development.	Exams, Term Paper
8. Analyse critically environmentally problematic situations and propose sound mitigation measures	Term Paper
9. Understand ethical perspectives and practices in the various areas of environmental health	Term Paper

Teaching Strategy:

- The course mainly consists of lectures. Moreover, to enhance the learning process, the course includes case studies and critical thinking questions.
- The course will be delivered as follows:
 - ✓ Lectures:
 - The lectures will be explained in class and will be posted on Moodle in the form of regular Power Point (PP).
 - Students are expected to attend the in-person class sessions and study using the posted regular power point lectures.
 - ✓ Case studies & critical thinking questions:
 - Case studies & critical thinking questions will be discussed in class, as part of the course (as per the course outline on page 6).
- Timed Exams (midterm exam & final exam) and a term paper will be used to evaluate the students' performance.

Course Requirements, Policies & Evaluation:

Students' Background:

Students (sophomores, juniors and seniors), coming from different backgrounds, can register this course.

Studying Method:

- Students should study for the course from/using the posted lectures (in the form of regular Power Points), which are extensively written.
- After a Power Point lecture is posted on Moodle, the student is required to check it, understand it and study it.
- For the case studies and critical thinking questions, students should go over their class notes, after the class discussions (as per the course outline on page 6)

Course Evaluation:

- Midterm Exam (timed exam): 40% (*individual grade*)
- Final Exam (timed exam): 35% (*individual grade*)
- Term Paper: 20% (*group grade*)
- Attendance & Participation: 5% (*individual grade*)

N.B.

1) Failure to take a scheduled timed exam or submit the term paper on time will result in a **zero** being recorded for that exam/term paper. Make-up exams will be given only to students who ask for it and provide a valid excuse with documentation. Midterm make-up exams will be scheduled within approximately 10 days of the original examination date.

2) A student who misses a class/course session, for any reason, is responsible for the material covered in class and for the announcements mentioned in class. Moreover, he/she is responsible to study the corresponding lecture/material and get back to the course instructor in case of any question relating to the lecture/material.

3) Plagiarism & Academic Integrity: The American University of Beirut has a strict anti-cheating and anti-plagiarism policy. Please familiarize yourself with definitions and penalties. “Students who fail to properly credit ideas or materials taken from another commit plagiarism. Putting your name on a piece of work—any part of which is not yours— constitutes plagiarism, unless that piece is clearly marked and the work from which you have borrowed it is fully identified. Plagiarism is a violation of the university’s academic regulations and is subject to disciplinary action”. (AUB Catalogue). *Moreover, Kindly note that all work submitted in this course must be your own. Contributions from anyone or anything else, including Artificial Intelligence (AI) sources, constitutes an academic integrity violation.*

Course Material Included in the Exams:

*Course Material Included in the Midterm Exam: (Date of the Midterm Exam: **Tuesday March 5, 2024**)*

- Introduction to Environmental Science
- Ecology & Ecosystems
- Communities, Populations & Species Interaction
- Sustaining Biodiversity: The Species Approach
- Sustaining Terrestrial Biomes & Biodiversity
- Aquatic Bodies and Biodiversity and Their Sustainability
- The Human Population & Its Impacts
- Food Production, Soil & Agriculture

*Course Material Included in the Final Exam: (Date of the Final Exam: **to be assigned by the registrar**)*

- Geology & Non-renewable Mineral Resources
- Renewable & Non-renewable Energy
- Environmental Hazards & Human Health
- Water Systems & Availability
- Water Pollution
- Wastewater Treatment and Reuse
- Air Pollution
- Climate Change & Ozone Depletion
- Solid & Hazardous Waste
- Case Studies & Critical Thinking Questions

The Term Paper:

- Students will divide themselves/be divided into small groups (called: term paper groups) to work on the term paper. The list of students, registered in this course, will be shared on Moodle to facilitate the group’s members’ selection process.
- The topics of the term papers will be posted on Moodle, early in the semester. The groups will be given the chance to select the topic of their interest (as much as possible), during the class session of Tuesday February 6, 2024. During that session, the remaining topics will be distributed using a draw.
- The rubric of the term papers will be posted on Moodle and then discussed, with the groups, during the class sessions of Thursday February 8, 2024 (with some of the term paper

groups) & Tuesday February 13, 2024 (with the rest of the term paper groups) (check the course outline on page 6).

- After the discussion of the rubric, during the class sessions of February 8 & 13, 2024, the groups will have to work on their term papers, throughout the semester.
- In case any of the groups got further specific questions relating to the term paper, at any point during the semester, the group can get back to me with the specific questions.
- If group members feel that one of them is not doing his/her part of the work in the group and is not being cooperative, they should inform the course instructor, by sending a clear and detailed e-mail (copying all group members), **early in the semester**.
- Date for the Submission of the Term Paper on Moodle: **Thursday April 11, 2024**.

Course Drop Date:

The last day for a student to withdraw from this course is **Thursday April 11, 2024**. By that time, any student with a grade below 60 is advised to withdraw.

Code of Conduct:

Any attempt of cheating, plagiarism, disruption, dishonesty or any other misconduct would be dealt with according to the AUB rules and regulations (check the AUB Students' Code of Conduct).

Students' Comments on Course Procedures and Policies:

Students' feedback on any aspect of this course is welcomed. It is recommended to discuss your comments with me individually.

Students with Special Needs:

"AUB strives to make learning experiences accessible for all. If you anticipate or experience academic barriers due to a disability (such as ADHD, learning difficulties, mental health conditions, chronic or temporary medical conditions), please do not hesitate to inform the Accessible Education Office. In order to ensure that you receive the support you need and to facilitate a smooth accommodations process, you must register with the Accessible Education Office (AEO) as soon as possible: accessibility@aub.edu.lb; [+961-1-350000](tel:+961-1-350000), x3246; West Hall, 314".

Non-Discrimination – Title IX – AUB:

AUB is committed to facilitating a campus free of all forms of discrimination including sex/gender-based harassment prohibited by Title IX. The University's non-discrimination policy applies to, and protects, all students, faculty, and staff. If you think you have experienced discrimination or harassment, including sexual misconduct, we encourage you to tell someone promptly. If you speak to a faculty or staff member about an issue such as harassment, sexual violence, or discrimination, the information will be kept as private as possible, however, faculty and designated staff are required to bring it to the attention of the University's Title IX Coordinator. Faculty can refer you to fully confidential resources, and you can find information and contacts at www.aub.edu.lb/titleix. To report an incident, contact the University's Title IX Coordinator Ms. Mitra Tauk at 01-350000 ext. 2514, or titleix@aub.edu.lb. An anonymous report may be submitted online via Ethics Point at www.aub.ethicspoint.com.

Course Outline:

Session Number	Lecture Number	Day	Date	Topic	Corresponding Learning Outcomes
1	----	R	18.1.24	Syllabus	-----
2	1	T	23.1.24	Introduction to Environmental Science	1-2-3-4-5-7
3	2	R	25.1.24	Ecology & Ecosystems	1-2-3-4-5-6
4	3	T	30.1.24	Communities, Populations & Species Interaction	1-2-3-4-5-6
5	4	R	1.2.24	Sustaining Biodiversity: The Species Approach	1-2-3-4-5-6-7
6	----	T	6.2.24	Distribution of Topics & General explanation of Term Paper Rubric	-----
7	----	R	8.2.24	Groups' discussion of Term Paper Rubric	-----
8	----	T	13.2.24	Groups' discussion of Term Paper Rubric	-----
9	5 & 6	R	15.2.24	Terrestrial Biomes & Biodiversity AND Sustaining Terrestrial Biomes & Biodiversity	1-2-3-4-5-6-7
10	7	T	20.2.24	Aquatic Bodies and Biodiversity and Their Sustainability	1-2-3-4-5-6-7
11	8	R	22.2.24	The Human Population & Its Impacts	4-7
12	9	T	27.2.24	Food Production, Soil & Agriculture	1-2-3-4-5-6-7
13	----	R	29.2.24	TBA	-----
14	----	T	5.3.24	MIDTERM EXAM (at 11.00 a.m) Timed exam	-----
15	10	R	7.3.24	Geology & Non-renewable Mineral Resources	1-2-4-5-6-7
16	11	T	12.3.24	Renewable & Non-renewable Energy	1-2-4-5-6-7
17	12	R	14.3.24	Environmental Hazards & Human Health	4-5-6-7
18	13	T	19.3.24	Water Systems & Availability + <i>Reading: Drivers of Water Scarcity in the MENA Region</i>	1-2-3-4-5-6-7
19	14	R	21.3.24	Water Pollution	1-2-3-4-5-6-7
20	15	T	26.3.24	Wastewater Treatment and Reuse	5-6-7
21	16	R	28.3.24	Air Pollution	1-2-3-4-5-6-7
22	17	T	2.4.24	Climate Change & Ozone Depletion	1-2-3-4-5-6-7
23	18 & 19	R	4.4.24	Solid & Hazardous Waste AND Environmental Ethics	5-6-7 9
24	----	T	9.4.24	Case Study 1	2-3-4-5-6-7-8
25	----	R	11.4.24	Case Study 1 (cont'd) Submission of the Term Paper	2-3-4-5-6-7-8
26	----	T	16.4.24	Case Study 2	2-3-4-5-6-7-8
27	----	R	18.4.24	Critical Thinking Questions	2-3-4-5-6-7-8
28	----	T	23.4.24	TBA	-----
29	----	R	25.4.24	TBA	-----

* This is the best forecast I can make for the course, for the time being. Changes (delivery mode, course outline...etc...), if any, will be introduced in due time.

* The date and time of the timed Final Exam will be assigned by the registrar.

* TBA: To be assigned. / *T: Tuesday/ *R: Thursday

Important Information:

- The Midterm Exam is a timed exam, which will be held on **Tuesday March 5, 2024** (in class, during class time).
- The Final Exam is a timed exam (date, time and location will be assigned by the registrar).
- The Term Paper should be submitted on Moodle on **Thursday April 11, 2024**.
- Checking the AUB e-mail and Moodle on daily basis is a must. Students are responsible for any announcement/information sent to them by e-mail or posted on Moodle.
- This is the best forecast I can make for the course, for the time being. Changes (delivery mode, course outline ...etc....), if any, will be introduced in due time.
- The course instructor reserves the right to do group members' changes, after students decide on their term paper groups, if need be.
- Make sure to familiarize yourself with the students' code of conduct and AUB rules and regulations.
- Online sessions may be scheduled whenever needed.
- The course, in all its aspects, follows AUB rules and regulations and abides by AUB's announcements and updates relating to the AUB courses' delivery mode.
- By signing up for this course, you confirm that you have read and accepted the information mentioned in this syllabus.

Main Reference Textbook Used in the Preparation of the Lectures:

The main reference used for the preparation of most of the course's lectures is the textbook:

- Tyler Miller, G. & Spoolman, S. (2021). *Living in the Environment* (20th Ed.) Canada: Cengage Learning – National Geographic Learning.
- Tyler Miller, G. & Spoolman, S. (2018). *Living in the Environment* (19th Ed.) Canada: Cengage Learning – National Geographic Learning.

And their other different editions.

*Enjoy the Semester
&
Good Luck*