

Syllabus / ENV-100

Environmental Management and Sustainable Development

Fall 2021

Lecturer: Mairambek Nurgaziev, Associate Professor (PhD)

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Class meets twice a week:

Monday 10:50 - 12:05 lecture

Wednesday 10:50 - 12:05 seminar

Course Overview

This course is an introduction to ecological, economic, political, and sociocultural perspectives on relationships between humans and the rest of the natural world. Environmental Management is concerned not only with the impact of humankind on the planet but also with the patterns of human behavior necessary to preserve and manage the environment in a self-sustaining way. Study is linked to the areas of new thinking in environmental management, environmental economics and the quest for alternative technologies. It provides students an interdisciplinary survey of the broad range of contemporary environmental issues and concepts. In the course, students will examine options for developing more sustainable communities and lifestyles in the face of local and global change.

The **aims** of this course are to enable candidates to acquire:

- Knowledge of the functioning of the natural system which makes life possible on Earth;
- An understanding that humankind is part of this system and depends on it;
- An appreciation of the diverse influences of human activity on the natural system;
- An awareness of the need for management and human responsibility to keep the system in a healthy condition if life as we know it is to continue;
- An understanding of sustainable development and management to meet the needs of the present without compromising the ability of future generations to meet their own needs;
- An understanding of how local environments contribute to the global environment;
- A sensitivity to, and a sense of responsibility and concern for, the welfare of the environment and all other life forms which share this planet;
- An awareness of their own values concerning environmental issues;
- An awareness of the values of others;
- A willingness to review their own attitudes in the light of new knowledge and experiences;
- A sound basis for further study, personal development and participation in local and global environmental concerns

Knowledge with understanding

Candidates are expected to demonstrate knowledge and understanding of:

- The wide range of processes contributing to:
 - The functioning of the Earth's natural, geophysical and ecological systems;
 - Human development within the natural system and the impact of human activity on the total environment;
- The concept of environmental interdependence, and should be able to place local environmental questions in an international or global setting;
- The implications of the unequal distribution of resources and of the unequal patterns of human development;
- The concept and practice of sustainable development;
- Ways of reducing and repairing environmental damage.

Online course tools and materials: The course will be conducted mainly using the Zoom program, if necessary, additional tools such as Webex, Whatsapp and Skype can be used. In addition, all course materials will be available in the e-course system.

Methodology: The course is presented as a series of lectures and discussion sections. All given lectures and seminars, quizzes as well as relevant textbooks and other teaching materials are available for students in the e-course of AUCA's webpage. At the end of each lecture the questions are discussed and several additional topics for independent studying during the seminars will be offered to students. Students will make two 15-minutes presentations (both individual and group presentations) on these additional topics. Every presentation will be assessed by the Instructor in accordance with the grading scheme presented below. In case of group presentation, the number of points is divided between the students prepared presentation proportionally. Majority of assignments will be intended to facilitate the work in groups. Students attend one outdoor practice and one lab work in which every student should write maximum one-page report about what each student did in the lab and field as well as got practical knowledge.

Evaluation and Assessment: The students' performance is assessed on the basis of their participation during the lectures, including the familiarity with the reading material, note-taking, making assignments, oral presentations and written exams. Students are expected to pass all the above in order to obtain a credit for the semester.

Examination: The students will take two exams: the first one is a mid-term test and the second one is an essay-type examination. The test consists of questions on short definitions and multiple-choice questions. Exam papers are composed of essay type questions, which require in-depth answers on the topics studied. No books, papers etc. can be used during the exam. Exam questions are compiled from the questions discussed during the lectures. Evidence of using additional sources of information related to the course content will be marked in the form of additional points for examination paper.

Grading scheme: All grades will be awarded in accordance with the scheme given below. *Your points for the class work cannot exceed the maximum of 40.*

Assignment Points

Mid-term test and final examination	20 and 30, total 50 (maximum)
1 presentation and one home or class assignment	10 (maximum for each), total 30
Active participation, note-taking	5 each 2
Bonus for attending classes	10

Withdrawal of grades in case of poor attendance without reason

Minus 5 for each failure to attend

A 100-95	B- 76-71	D+ 47-42
A- 94-89	C+ 70-60	D 41-36
B+ 88-83	C 59-54	D- 35-30
B 82-77	C- 53-48	F < 30

Work and Attendance: The work and attendance of all students will be monitored. Students are expected to attend all lectures and seminars. Attendance is regarded as a part of the course. This is for the benefit of the students and helps to ensure that they are coping with the work and managing to comprehend all the information and complete all the tasks given to them. Students must come to class on time not to disturb others, being more than 10 minutes late is counted as an absence. Students are not allowed to use any mobile devices or portable computers in class. Students are not allowed to use any mobile devices or portable computers in class, this is considered as a “negative” participation and participation points be deducted for that.

Documentation of reasons for absence: Any valid reasons for absence should be reported to the Instructor as soon as possible. Legitimate excuses are the following: illness, confirmed by a doctor's note next class; a death in the family; participation in conferences or seminars with preliminary notification of the Instructor and submission of the relevant supporting documents. Unless the correct procedure is followed no allowances can be made.

Lectures Outline and Reading material:

The course materials are available in the internet sources, e-course of AUCA, some of them in electronic course of AUCA library and additional sources for using by students independently are welcomed.

Relevant guest speakers will be invited to the course within the fall semester.

General Course Outline

- 1 Course Introduction, General Thoughts on Sustainability and the Environment
- 2 The Global Environment Issues
- 3-4 Environmental Issues Relevant to Central Asia
- 4-5 Population, Consumption, and Technology
- 5-6 Atmosphere and Air Pollution
- 7 *Midterm Review and Midterm Exam*
- 8-9 Water Resources and Pollution
- 9-10 Forests, Agriculture and Emission
- 10-11 Land-Based Resources: Earth Crust
- 11-12 Waste Management and Cost Management
- 12-13 Economics and Environment: Ecosystem Services
- 14-15 *Future Scenarios, Research Presentations, Final Examination*

References material for reading

1. Michael Allaby. Basics of Environmental Science, 2nd edition (2000);
2. Chris Barrow. Environmental Management and Development, 2d edition (2005);
3. Jennifer A. Elliott. An Introduction to Sustainable Development, 3rd edition (2006);
4. C. J. Barrow. Environmental Management for Sustainable Development. Second Edition (2006);
5. The Worldwatch Institute (2005) *Vital Signs 2005–2006: the trends that are shaping our future*. Earth scan, London;
6. Yang, H. and Zehnder, A.J.B. (2002) Water scarcity and food import: a case study for southern Mediterranean countries. *World Development* 30 (8), 1413–1430;
7. Werner Puschra and Sara Burke. Sustainable Development in an Unequal World. How Do We Really Get the Future We Want? September 2012.