Environmental Management Practices

**Spring semester, 2021-2022**

***The course is proposed for students in the academic year 2020-2021 as an optional one.***

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| --- | --- |
| Cooordinator | **Utkina Kateryna** |
| Credits | 3 ECTS (optional course), 24 in-class hours |
| Lecturers | **Kateryna Utkina** (Karazin Institute of Environmental Sciences, V.N. Karazin Kharkiv National University, Ukraine) |
| Level | PhD students |
| Host institution | Karazin Institute of Environmental Sciences, V.N. Karazin Kharkiv National University, Ukraine |
| Course duration | February - May |

### Summary

*This 3 ECTS course aims to development of theoretical and practical knowledge about environmental management practices and their application for various industries and companies. It provide students with information about international and UA national legislation, modern approaches and tools. The course contains individual and group assignments aimed at developing practical skills on search and selection of best environmental management practice for each specific case.*

### Target student audiences

PhD students, study program – Constructive Geography and Sustainable Use of Natural Resources; Earth Sciences (Code No. 103)

### Prerequisites

Required courses (or equivalents):

* Phylosophy of Science;
* Science Methodology;
* Environmental Policy and Management;
* Natural Resource Science.

### Aims and objectives

The main course objective is to develop basic knowledge on the patterns of functioning of various advanced environmental management practices and to develop skills on seach, selection and applying of modern environmental management practices for different cases.

The course is aimed at the following: to introduce existing approaches and ways for development of new practices (large-scale, medium-scale and small-scale ones as well as technical, organizational and institutional ones) for various industries and specific cases; to help PhD students to seach and select optimal practices for different cases taking into account specific conditions; to introduce key stadards (ISO9001 and ISO14000) into everyday activity.

### General learning outcomes:

By the end of the course, successful students will have:

*Knowledge and understanding:*

* General scientific (philosophical) competencies aimed at forming a systematic scientific worldview, professional ethics and general cultural outlook
* Ability to use methods and principles of modern scientific knowledge in their professional activities
* Skills of academic communication in a foreign language, including the presentation of research results
* Ability to generate new ideas and form new knowledge and professional practice, to solve integrated problems in the field of Earth sciences
* Ability to develop, implement and manage research projects in the field of Earth sciences
* Ability to work in an international level
* Ability to justify the choice of methods and places of observation of the environment
* Ability to develop science-based recommendations to support management decisions in conservation and restoration activities

*Skills:*

* To develop scientifically sound recommendations to support management decisions in business
* To perform environmental project management

### Overview of sessions and teaching methods

The course combines interactive group and individual self-reflective methods of teaching and learning.

The course includes in-class work (lectures, practical works and seminars) and independent work. There are two sections:

Section 1 – European legislation.

Topic 1. Management of transboundary water bodies.

Topic 2. Transboundary air pollution.

Topic 3. Biosafety and international practices for environemtnal protection.

Topic 4. Transboundary transportation of hazardous wastes.

Section 2. Environemtnal management practices: specific cases.

Topic 5. Project writing.

Topic 6. Life cycle assessment.

Topic 7. Case studies.

Topics of practical works and seminars:

* Blue Growth and Blue Economy.
* Integrated Coastal Zone Management: case study.
* Directive on Industrial Emissions.
* European eco-network: potential and options for Ukraine.
* CITES Convention: EU, UA cases, ways for integration of EU practices into UA context.
* Waste Framework Directive.
* Life cycle analysis: case studies.
* Environemntal Managemnt Practices: case studies.

### Course workload

The table below summarizes course workload distribution:

|  |  |  |  |
| --- | --- | --- | --- |
| **Activities** | **Learning outcomes** | **Assessment** | **Estimated workload (hours)** |
| **In-class activities** |
| Lectures  | Understanding of basics, concepts, methodology and tools of application of environmental management practices for specific cases | Class participation | 4 |
| Practical works | Ability to perform seach, analysis, selection and integration of EU legislation, concepts and approaches into UA context.Ability to perform seach, analysis, selection and integration of advances environmental management practies for industries and companies.Ability to develop and write project proposals.Ability to perform life cycle assessment | Paper assignments and presentations | 6 |
| Seminars | Understanding of key topics proposed for analysis and discussion  | Class participation and preparedness for assignments | 14 |
| **Independent work** |
| Individual assignments:* Development of presentations
* Writing paper assignments
 | Ability to find related literature and data, to interpret data, to identify factors, to perform analysis and visualization of information. | Quality of presentations and paper assignments | 40 |
| Reading and discussion of assigned papers for seminars and preparation for lectures, oral interviews and tests | Familiarity with and ability to critically and creatively discuss key concepts, tools and methods as presented in the literature | Class participation, creative and active contribution to discussion, quality of test and interviews | 26 |
| ***Total*** |  |  | ***90*** |

### Grading

The following table defines the criteria for evaluating the student's work in studying the materials of the course. As a result, the student is able to get a maximum score of 100 points. The minimum number of points required is 50 points.

In the course of studying the course a student receives points for performing various tasks.

|  |  |  |
| --- | --- | --- |
| **Educational activity** | **Max** | **Min** |
| In-class discussions during lectures | 4 | 2 |
| Practical work 1  | 8 | 4 |
| Practical work 2  | 9 | 5 |
| Practical work 3  | 10 | 5 |
| Seminar 1 | 5 | 2 |
| Seminar 2 | 6 | 3 |
| Seminar 3 | 6 | 3 |
| Seminar 4 | 6 | 3 |
| Seminar 5 | 6 | 3 |
| Final control  | 40 | 20 |
| Total  | 100 | 50 |

At the end of the course the student will have an exam. Grading system is presented below:

|  |  |
| --- | --- |
| **Scores** | **Mark** |
| 90 – 100 | Excellent |
| 70-89 | Good |
| 50-69 | Satisfactory |
| 1-49 | Not passed |

### Course schedule

*Dates and time will be provided later.*

The overall schedule is provided below:

|  |  |  |  |
| --- | --- | --- | --- |
| **Day** | **Time** | **Topic** | **Lecturer** |
| Day 1 | 2 hours  | Lecture 1 | K.Utkina |
| Day 2 | 2 hours  | Practical work 1 | K.Utkina |
| Day 3 | 2 hours  | Seminar 1 | K.Utkina |
| Day 4 | 2 hours  | Seminar 2 – part 1 | K.Utkina |
| Day 5 | 2 hours  | Seminar 2 – part 2 | K.Utkina |
| Day 6 | 2 hours  | Seminar 3 | K.Utkina |
| Day 7 | 2 hours  | Lecture 2 | K.Utkina |
| Day 8 | 2 hours  | Practical work 2 | K.Utkina |
| Day 9 | 2 hours  | Practical work 3 | K.Utkina |
| Day 10 | 2 hours  | Seminar 4 | K.Utkina |
| Day 11 | 2 hours  | Seminar 5 – part 1 | K.Utkina |
| Day 12 | 2 hours  | Seminar 5 – part 2 | K.Utkina |
| Day 13 | 2 hours  | Final test | K.Utkina |

### Course assignments

The course includes the following practical works and seminars:

|  |  |
| --- | --- |
| **Topic** | **Number of hours** |
| Seminar 1 Blue Growth and Blue Economy | 2 |
| Practical work 1Integrated Coastal Zone Management: case study | 2 |
| Seminar 2Directive on Industrial Emissions | 4 |
| Seminar 3European eco-network: potential and options for Ukraine | 2 |
| Seminar 4CITES Convention: EU, UA cases, ways for integration of EU practices into UA context | 2 |
| Practical work 2Waste Framework Directive; integration into UA legislation | 2 |
| Practical work 3Life cycle analysis: case studies | 2 |
| Seminar 5Environemntal Managemnt Practices: case studies | 4 |

### Literature

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