SUMCULA – Sustainable Management of Cultural Landscapes – Erasmus+ Strategic Partnership

AGREEMENT NUMBER – 2017-1-SE01-KA203-034570

Intellectual Output 1

Free-standing courses provided by partner universities
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<thead>
<tr>
<th>Course classification: compulsory electable</th>
<th>Language of education: English</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Degree of theoretical or practical nature of the subject, &quot;training character&quot;</strong></td>
<td>60% theory 40% practice</td>
</tr>
<tr>
<td><strong>Type of lesson</strong>: lecture / seminar / practice / consultation and number of hours: lecture: 2 / week (26 / semester) practice: 4 in the given semester. Additional (specific) ways and characteristics to be used in the transfer of the given knowledge (if any): case reports, thematic presentations, field trips and exercises</td>
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<tr>
<td><strong>Method of examination</strong> (colloquium / practical mark / other): practical mark</td>
<td></td>
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<tr>
<td><strong>Additional (specific) methods to be used in the knowledge test</strong> (if any): case studies, dissertations to be submitted.</td>
<td></td>
</tr>
<tr>
<td><strong>Curriculum location of the subject (number of semester):</strong> 6th semester</td>
<td></td>
</tr>
<tr>
<td><strong>Prerequisites / previous studies (if any):</strong> basic biology, ecology and human physiology</td>
<td></td>
</tr>
<tr>
<td><strong>Course description: a concise but informative description of the knowledge and skills to be acquired</strong></td>
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</tbody>
</table>

Health and wellbeing are growing areas of importance in the sport and active leisure industry, particularly regarding a wide range of nature sports. Recently there has been more consideration given to the impact that physical and mental health has on day-to-day living, as well as on sport. Increasing numbers of individuals recognise the limitations that poor mental and physical health can have on their wellness. The course outlines the environmental and technical conditions of nature sports (often referred to as outdoor sports – from a sustainability viewpoint not fully correct term), explains the classification and the vast multitude and key conceptualizations and characteristics of nature sports, the physiological and psychological aspects for exercising nature-based sports related to age, gender, social relations, socio-economic development; resolving conflicts in relation to technical development needs of nature-based sport facilities (sustainability issues – nature-based/green solutions). Particular emphasis is placed on the education and skills development of young athletes (age groups of 10 – 12, 14 – 16 and 16 – 18 years) in natural environments. Nature based sports are analysed both as main sport branches and complementary training methods for traditional indoor sports (including all built and urban environments, even stadiums). Furthermore, nature sports are assessed as possibilities for development of young athletes in regions, whose social and economic development is lagging after. The contribution of nature sports to the improvement of public health and the methods to raise awareness in these issues are also discussed.

List of the 2-5 most important compulsory or recommended literature (notes, textbooks) with bibliographic data (author, title, publication data, (possibly pages), ISBN)

**Compulsory literature:**
1. Lecture notes, ppt presentations

**Recommended literature:**


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1. Nftv. 108. § 37. lesson: an activity (lecture, seminar, practice, consultation) requiring the personal participation of the instructor to meet the study requirements specified in the curriculum, the duration of which is at least forty-five and at most sixty minutes.
2. e.g., case studies, role-plays, thematic presentations, etc.
3. e.g. continuous accountability, mid-year report
4. e.g. case studies, thematic papers, assignment works, essays, organizational plans, etc.
List of the required professional competencies, competence elements (knowledge, ability, etc.) of the development which is typically and substantially contributed by the subject

a) **knowledge**
The student after successfully completing the course:

- has a thorough knowledge of the interdisciplinary nature of natural sports and sports ecology
- knows the methods, spatial concepts, facts, main characteristics and contexts, relevant economic actors, functions and processes for the assessment of the infrastructural development of nature sports at the national and international level
- has a deep knowledge about the physiological requirements of different nature sports
- knows and is able to apply special sports pedagogical methods in the teaching of natural sports
- knows the conditions for the development and progressive socio-economic utilization of natural sports.

b) **skills**
The student is able to:

- investigate how factors affecting health and wellbeing impact on physical activity and sport’s participants.
- apply his/her knowledge and skills to assess his/her own health status and that of a chosen individual.
- using the data he/she collects, identifies strategies to improve the health and wellbeing of young athletes devoted to nature sports
- using the data he/she collects, identifies strategies to improve the health and wellbeing of general public by promoting and teaching nature sports
- based on the acquired knowledge and methods, is able to make a detailed analysis of the capabilities of the field of sports development and their integration into regional development programs

c) **attitude**

- Susceptible to the values of nature sports, including both professional and recreational applications
- He/she is committed to environmental protection and culturally sustainable sports organization and education

d) **autonomy and responsibility**

- Adheres to professional, legal, ethical and health standards and regulations, and seeks to enforce them both in the workplace and even in the wider social environment

**Course coordinator (name, position, degree):**

**Other teachers, instructor (s) involved in the teaching of the subject, if any (name, position, degree):**
<table>
<thead>
<tr>
<th>Course title: Earth System Science – Biogeochemical Cycles</th>
<th>ECTS Credit points: 3</th>
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</thead>
<tbody>
<tr>
<td>Course code:</td>
<td>Level (BSc/MSc/PhD):</td>
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<tr>
<td>Course type, number of lecture hours a week: 3</td>
<td></td>
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<tr>
<td>Method of assessment: lectures</td>
<td></td>
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<tr>
<td>Course in the curriculum (which semester is the course taught in): 3</td>
<td></td>
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<tr>
<td>Entry requirements (if any):</td>
<td></td>
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<tr>
<td><strong>Course description:</strong> Information outlining the course requirements in a concise yet descriptive manner.</td>
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</table>

**Aim:** The objectives of this course to give scientific information to the students about chemical, physical and biological processes, the pollutants, their possibilities for transport and transformation processes in the environment. The knowledge of biogeochemical circuits of elements and their compounds, the physical chemical characterization are necessary in hindering of environmental contamination and development of technological methods to keep sustainable management. The aim of acquirement of knowledge for students to evaluate and define the processes in the natural and anthropogenic environments with global and complex manner, even the creating problems in health aspect.

**Competences/expected learning outcomes:**

The experts working on environmental science are up against the problems creating in the environmental systems in this century. Increasingly difficult to solve these occurent problems. Restriction and removal of emitted pollutants and toxic compounds amounts into the atmosphere, fresh waters, groundwaters, seas, oceans and pedosphere created by lack of knowledge, irresponsibility or convenience are scientific and social questions, as they have unconditional impact on ecological systems, living organisms, our health through the biogeochemical circuits and cultural landscapes. Acquirement of environmental scientific store of learning by students is essential important in the future for sustainable management.

**Knowledge and understanding:**

- Structural characteristics and composition of atmosphere. Interaction between molecules and energy of radiation. Photophyscis and photochemical processes.
- Anthropogenic pollutants in hydrosphere. Types of pollutants in hydrosphere and their effects. Plant nutrients, fertilizers, organic pollutants containing oxygen, hydrocarbons, halohydrocarbons, pesticides, detergents, metallic compounds, radionuclides. Description of surface waters by sum
parameters. Anthropogenic pollutants in pedosphere and anthropogenic execution in biological systems.


Circuit and chemical reactions of nitrogen. Reactions of nitrogen compounds in hydrosphere, pedosphere and biosphere.

Biogeochemical circuit of oxygene, phosphorus.
Biogeochemical circuit of sulfur.
Environmental circuit of metal elements I.
Environmental circuit of metal elements II.


Skills and abilities:

Fulfillment of this environmental course by students will contribute to their development and expansion of their thinkings about environmental contamination, anthropogenic effects on natural environmental processes and evaluation of global environmental problems.

Judgement and approach: During the semester, one test-paper has to be written and implemented with 50% of success. There is one possibility for correction. The condition of release for exam is to write a test with 90% of success. The test-paper contain 10 questions.

Literature

Compulsory readings:


Recommended readings:

Course leader: Pernyeszi Tímea Judit Ph.D.

Other contributors:

Contact: ptimea@gamma.ttk.pte.hu
Course title: Bioremediation

ECTS Credit points: 3

Course code: 

Level (BSc/MSc/PhD):

Course type, number of lessons: 3

Method of assessment: lectures

Course in the curriculum (which semester is the course taught in): 3

Entry requirements (if any): Earth system science

Course description: Bioremediation processes and technology in the environment

**Aim:** The objectives of this course to give scientific information to the students about bioremediation methods applicable in decontamination of soil and water systems in the environment. The knowledge of this scientific technological informations are also necessary in development of novel environmental-friendly technological methods to keep sustainable management in the environment.

**Competences/expected learning outcomes:**
The experts working on environmental science are up against the problems creating in the environmental systems in this century. Increasingly difficult to solve these occurent problems. Acquirerement of environmental scientific technological store of learning by students is essential important in the future for sustainable environmental management.

**Knowledge and understanding:**

**Skills and abilities:**
Fulfillment of this environmental science course by students will contribute to their development and expansion of their thinking's about environmental contamination and decontamination, anthropogenic effects on natural environmental processes, evaluation of global environmental problems and development of environmental-friendly, cost-effective remediation technological processes.

**Judgement and approach:** There will an oral examination about the environmental bioremediation. The students will be able to evaluate environmental contamination and decontamination technological processes.

**Literature**

**Compulsory readings:**


Recommended readings:

<table>
<thead>
<tr>
<th>Course leader:</th>
<th>Peryeszi Tímea Judit Ph.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other contributors:</td>
<td></td>
</tr>
<tr>
<td>Contact:</td>
<td><a href="mailto:ptimea@gamma.ttk.pte.hu">ptimea@gamma.ttk.pte.hu</a></td>
</tr>
</tbody>
</table>
Course title: Cities in history

ECTS Credit points: 

Level (BSc/MSc/PhD):

Course code: 

Course type, number of lessons: seminar, 14 hours / semester

Method of assessment: complex

Course in the curriculum (which semester is the course taught in): spring

Entry requirements (if any): 

Course description: Information outlining the course requirements in a concise yet descriptive manner.

Aim:
The aim of this course is to give an overview about temporal and spatial dimension of urbanity. It discusses the birth and development of cities from the ancient times to the 20th century and tries to introduce the variety of urbanity in the globalised world. It analyses the social conditions of the creation and recreation of urban spaces, defining the background of the birth of the different elements of urban heritage.

Competences/expected learning outcomes: 
Students will be able to recognise the heritage of different epochs in urban space, reveal the elements of the historical structure of cities. They will be able to analyse maps, written and other sources related to urban history and urban heritage.

Knowledge and understanding: 

Skills and abilities: 
During the seminar several types of sources will be processed: archive and contemporary maps, pictures, datasets and texts and videos will be given to the students. During individual and team-based tasks, students will analyse the urban patterns in different epochs. The skills to be improved are team-based cooperation, presentation, reading and processing academic papers, processing and visualisation of data.
### Judgement and approach:

Assessment based on complex evaluation: tasks during the seminars and final team-presentation will be evaluated.

### Literature

#### Compulsory readings:


#### Recommended readings:


### Course leader:

PIRISI, Gábor PhD, lecturer, Department of Human Geography and Urban Studies

### Other contributors:

TRÓCSÁNYI, András PhD, associate professor, head of the Department of Human Geography and Urban Studies

### Contact:

pirisig@gamma.ttk.pte.hu
Course title: Community development in rural and urban areas

ECTS Credit points: 

Course code:

Level (BSc/MSc/PhD):

Course type, number of lecture hours: Lecture/seminar

Methods of assessment: weekly assignments; midterm tests; presentation of a case study

Course in the curriculum (which semester is the course taught in):

Entry requirements (if any):

Course description: Information outlining the course requirements in a concise yet descriptive manner.

Short description and aims:

Proactive and self-organised local communities play an essential role in the sustainable development of urban and rural areas. However, their establishment and continuance require energy, professional knowledge and facilitation from all participants in the development process. Therefore, the goal of the course is to introduce students to the fundamental theories and practices of community development. Besides an overall understanding of community development, it is also essential to study the particular interventions at all levels of development policies; we need to learn how these interventions facilitate networking, social acceptance, civil participation, social justice and trust-building, and how much they contribute to creating a social context rich in resources. By providing fundamental knowledge on community development, the course aims to enhance students’ ability to study and understand various processes of it.

Competences/expected learning outcomes:

- students learn fundamental theories and practices of local community development
- going through an awareness-raising process, students will be more sensitive and tolerant to the cultures of social groups other than their own.
- Students will be able think critically about social processes and problems regarding communities
- Students will be familiar with the most important literature on participatory action research and community planning

Knowledge and understanding:

Students will learn about the essential role community development, community planning and participatory approaches play in sustainable rural and urban development. They will learn about the most important theoretical approaches promoting participation in development. With the help of “good practices”, case studies, and situational exercises students will understand how indispensable “practical theory” is in community development.

Schedule:

1. What is a community? Introduction to communities – a historical view.
2. Role of local communities in sustainability – theoretical approaches, ecological perspectives.
3. The theory of integrated rural development and the place of community planning in rural development and sustainability.
4. Exploring communities – a methodological perspective. Methods of planning and analysis (SWOT analysis, vision- and strategy-planning etc.)
5. Visual and artistic methods in community planning (drawing, community film making, etc.)
6. Participatory action research (art-based action research, self-reflective action research, action research reacting to social problems, etc.)
7. Basic psychological knowledge in community development (transpersonal psychology, Gordon etc.)
8. Facilitator’s knowledge and skills
9. Professional brainstorming: the “open space” method
10. Drama pedagogy methods in community development
11. A visit to a local community. Fieldtrip
12. Case study: the Kóspallag country house – community organisation (alternative food-systems)

Skills and abilities:
Students will be able to
- use basic methods of planning and community development
- mediate between different social- or opinion groups
- reach a dialogue and articulate their opinions
- to present a case study using the relevant presentation techniques

Teaching methods:
The course applies complex methodological approaches to communicate its subject matter to students, with a minimum number of frontal lectures and a combination of formal and informal methods. Lectures on theory are always closed by discussions based on the assigned readings.

Assessment:
Weekly assignments as detailed with methods above; midterm test; student reports: presentation of a case study

Literature

Compulsory readings:


Course leader: Szilvia Nyers assistant lecturer, Balogh Pál Géza assistant lecturer

Other contributors:

Contact:
Course title: *Geography of urban and rural spaces*

Course code: 

ECTS Credit points: 

Level (BSc/MSc/PhD): 

Course type, number of lessons: lecture, 11 hours / semester

Method of assessment: oral exam

Course in the curriculum (which semester is the course taught in): autumn

Entry requirements (if any): 

**Course description:** Information outlining the course requirements in a concise yet descriptive manner.

**Aim:**

The aim of the course is to give an introduction of the fundamental terms, concepts and models regarding the spatiality of human settlements.

**Competences/expected learning outcomes:**

Students will have an overlook about the differences and similarities in the urbanisation of the different regions around the globe. They will be able to recognise, analyse and interpret the spatial processes, patterns of functions, morphology and social groups in urban and in rural space, classify and evaluate settlements.

**Knowledge and understanding:**


**Skills and abilities:**

During the course the students’ skills in individual reading and interpreting scientific papers will be improved, and also their abilities in team-based problem solving, presentation and scientific writing.

**Judgement and approach:**

During the semester an essay needs to be written by each student individually with a length of 15-18,000 characters. The topic is one problem related with urban or rural development (listed by the instructors), and how it appears in a specific settlement (can be chosen individually). Essays need to be prepared by full regards of the formal prescriptions of a scientific paper, including structure, citations and references, data and illustrations. The evaluation of the content of the essay is an element of the oral exam. The final mark for the course will be given by the instructor on the oral exam.

**Literature**
### Compulsory readings:


### Recommended readings:


### Course leader:

TRÓCSÁNYI, András PhD, associate professor, head of the Department of Human Geography and Urban Studies

### Other contributors:

PIRISI, Gábor PhD, lecturer, Department of Human Geography and Urban Studies

### Contact:

troand@gamma.ttk.pte.hu
<table>
<thead>
<tr>
<th>Course title: Introduction to GIS</th>
<th>ECTS Credit points: 3</th>
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<tbody>
<tr>
<td>Course code:</td>
<td>Level (BSc/MSc/PhD):</td>
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</table>

Course type, number of lecture hours a week: 3

Method of assessment: project work

Course in the curriculum (which semester is the course taught in):

Entry requirements (if any):

Course description:

Course outline / Milestones

1. Disclose the course description to students. Downloading and installing Qgis, start and quit the application, file formats.
2. Vector layer, attribute table, query.
3. Vector layer style.
4. Raster layer settings query.
5. Georeferencing, digitizing.
6. Vector analysis.
7. Vector analysis.
8. Raster analysis.
10. Preparation for field survey.
11. Field survey.
12. Processing of field data.
13. Tematic mapping of field data.

Mid-semester works

1. Download and install Qgis, start and quit the application. Open raster and vector layers in various format. Layer handling, set layer properties.
2. Attribute table management (open, edit, save, query and extend attribute table).
3. Join attribute table; display point, line and polygon layers.
4. Open raster layer, edit style, histogram creation.
5. Georeferencing raster image, point, line and polygon digitizing.
7. Vector map analysis: create buffer zone, selection by another map.
8. Raster map analysis: boole algebra.
12. Download and import field data, compare field data to available datasets.
13. Thematic map creation, export and print thematic maps.
Aim:
1. To provide an understanding of geoinformatics and Qgis software.
2. To provide a quantitative discussion of basic nomenclature of geoinformatics and methods of data analysis.

Competences/expected learning outcomes:

Knowledge and understanding:
On successful completion of this course students are expected to be able to comprehend fundamental concepts of GIS, to have an understanding of GIS techniques, to be familiar with Qgis software and vector and raster geo data processing.

Skills and abilities:
On successful completion of the course students are expected to be able to evaluate georeferencing tool of Qgis, to able to digitize vector data and present thematic maps. Student comprehend basic field survey techniques and able to collect data.

Judgement and approach:
Students can receive 0-5 more points during each lecture. Seminar points will be summed at the end of the semester. Students have to participate on at least 10 seminars, therefor he or she can have minimum 0 and maximum 50 points. If the student participates on more than 10 seminars than 10 highest seminar points will be summed (cumulative points) at the end of the semester. Percentage of cumulative and maximum points will be calculated. Grading percentages may vary according to the position of the Gauss curve, but the approximate ranges are the followings:
- just less than 50% = 1
- 50 to 64.99% = 2
- 65 to 74.99% = 3
- 75 to 84.99% = 4
- 85+% = 5

Attendance at all activities will be monitored. Students who fail to attend the activities, or to complete the summative or formative assessment specified above, will not gain the credit for the course.

Literature

Compulsory readings:

Recommended readings:

Course leader: István Péter Kovács, PhD

Other contributors:

Contact: vonbock@gamma.ttk.pte.hu
1. Course title: Hydrogeography

2. Code:

3. Type (lecture, seminar, laboratory): laboratory

4. Total of contact hours: 43 hours

5. Number of credits (ECTS): 4

6. Pre-requisites (max. 3): none

7. Announced: ☐ autumn semester, ☒ spring semester, ☐ both semesters

8. Limit for participants: no

10. Instructor-in-charge (faculty, institute and department):

   József DEZSŐ, PhD (FS, Institute of Geography, Department of Physical Geography and Environment)

11. Instructor(s) and percentage:

<table>
<thead>
<tr>
<th>Instructor</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>József DEZSŐ</td>
<td>90%</td>
</tr>
<tr>
<td>Szabolcs CZIGÁNY</td>
<td>10%</td>
</tr>
</tbody>
</table>

12. Language: English

13. Course objectives and learning outcomes:

The course combines theoretical and experimental elements aimed at providing practical experience in the measurement and analysis of hydrological processes; methods of analysis applicable to solving practical problems related to environmental, land use, low input management problems. Aims:

1. To provide an understanding of the water cycle
2. To provide a quantitative discussion of water bodies
3. To apply water concepts to contemporary problems in water resources management

This course familiarizes students with selected hydrological measurement and analytical techniques. Learning outcomes: Students are going obtain skills on different kind of investigation procedures.

14. Course outline / Milestones

Week 1  Lesson: History of hydrogeography
         Practice: OSH (occupational, safety and health) training, handling documentation and storage of the water samples

Week 2  Lesson: classification of water bodies
         Practice: evaluation water quality categories

Week 3  Lesson: distribution of precipitation and catchment areas
         Practice: measuring and evaluating precipitation

Week 4  Lesson: vapour concentration
         Practice: measurement of water vapour concentrations

Week 5  Lesson: theory of transpiration
         Practice: measurement of transpiration

Week 6  midterm exam

Week 7  Lesson: evapotranspiration
Practice: measurement of evapotranspiration
Week 8 Lesson: soil moisture, the WRC curves
Practice: measuring of the saturated soil moisture content, capillarity
Week 9 Lesson: measurement of water potential
Practice: measuring unsaturated liquid flows
Week 10 Lesson: calculating in situ subsurface flow, infiltration
Practice: measurement of subsurface flow, infiltration (field exercises)
Week 11 Lesson: Water stage/level measurements. The concept of Hydraulic head. Evaluating time series data
Practice: measuring water levels
Week 12 Flow measurement of water courses I. (field exercises)
Week 13 Determine water balance, volume at lake. (field exercises)
Week 14 Final exam

15. Mid-semester works
Writing laboratory and field reports

16. Summative assessment, formative assessment
Evaluation is based on homework and lab report points (30%), one midterm exam (30%) on week 8 and one final written exam at the end of the semester (40%); Exams: both theory and calculations. Calculator and equation card (prepared individually by the students) are required. Grading percentages may vary according to the position of the Gauss curve, but the approximate ranges are the followings:
0 to 49.99%: 1
50.00 to 64.99%: 2
65 to 79.99%: 3
80 to 89.99%: 4
90+: 5

17. Reading assignments:

18. Recommended texts:

Date | Prepared | Endorsed
--- | --- | ---
10. December, 2017 | József DEZSŐ PhD instructor-in-charge | András TRÓCSÁNYI PhD leader of the program
Course title: Introduction to Geology
ECTS Credit points: 3
Level (BSc/MSc/PhD):

Course code:

Course type, number of lessons: lecture, 26 hours

Method of assessment: Evaluation is based on midterm exams and homework points.

Course in the curriculum (which semester is the course taught in): autumn

Entry requirements (if any): none

Course description: Information outlining the course requirements in a concise yet descriptive manner.

Aim: Geology is the core discipline of the earth sciences and encompasses many different phenomena, including plate tectonics and mountain building, volcanoes and earthquakes, and the long-term evolution of Earth’s atmosphere, surface, and life. Because of the ever-increasing demand for resources, the growing exposure to natural hazards, and the changing climate, geology is of considerable societal relevance. This course introduces students to the basics of geology. Through a combination of lectures, labs, and field observations, we will address topics ranging from mineral and rock identification to the origin of the continents, from geologic mapping to plate tectonics, and from erosion by rivers and glaciers to the history of life.

Competences/expected learning outcomes:
The subject matter examined in the course covers the basics of geology and the objectives of the course are to provide students with a general understanding of this discipline. The course will focus on the chemistry and properties of minerals, the composition of igneous, sedimentary and metamorphic rocks and some of the earth processes responsible for rock and mineral formation.

Knowledge and understanding:
- Students will be better able how to observe and think about landscapes and other aspects of Earth;
- Students will better understand the relevance of geology to their local geologic setting and the larger societal issues, like resources;
- Students will understand main geologic concepts and demonstrate an ability to apply geologic concepts;
- Students will become more informed citizens and leave class with an interest in learning more.

Skills and abilities:
Observation, data collection, analysis and interpretation • Ability to prepare, process and present data • Present and interpret information in a range of different mediums, e.g. textual, numerical, oral, graphical • Written and verbal communication skills • Report writing skills • Problem-solving skills and lateral thinking • The ability to recognize patterns and understand complex systems

Judgement and approach:
Demonstrate the ability to make assessments in the main field of study informed by relevant disciplinary, social and ethical issues and also to demonstrate awareness of ethical aspects of research and development work demonstrate insight into the possibilities and limitations of research, its role in society and the responsibility of the individual for how it is used, and demonstrate the ability to identify the personal need for further knowledge and take responsibility for his or her ongoing learning.
## Literature

**Compulsory readings:** Earle, S. (2015) *Physical geology* (e-book) [https://opentextbc.ca/geology/](https://opentextbc.ca/geology/)

**Recommended readings:** Teaching materials and course documentation will be posted on the Neptune MeetStreet website

**Course leader:** Dr. János Kovács

**Other contributors:** Dr. Krisztina Sebe

**Contact:** [jones@gamma.ttk.pte.hu](mailto:jones@gamma.ttk.pte.hu) (J. Kovács)
### Course title: Local societies in context

**Course code:**

**ECTS Credit points:**

**Level (BSc/MSc/PhD):**

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**Course type, number of lecture hours:**

**Method of assessment:** active participation in classes, multiple choice / short answer questions

**Course in the curriculum (which semester is the course taught in):**

**Entry requirements (if any):**

**Course description:** Information outlining the course requirements in a concise yet descriptive manner.

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**Aim:**

This lecture introduces the spatial context of social phenomena. After a brief introduction to the classical (Chicago School: human ecology and urbanism) and contemporary theories of urban and rural society, some of the most influential processes (glocalization, rural exodus, residential segregation, suburbanisation, gentrification etc.) will be discussed.

The course offers a methodological introduction to qualitative and quantitative research methods used in rural and urban research projects.

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**Competences/expected learning outcomes:**

**Knowledge and understanding:**

- understanding global problems in local context
- understanding social problems and challenges in spatial context
- understanding social aspects of sustainability
- strengthen methodological knowledge base for urban and rural research and projects

**Skills and abilities:**

- supporting the identification of local human stakeholders and human resources
- supporting local strategic development planning
- ability of analyse sustainability issues in a complex, multiple-sided way

**Judgement and approach:**

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**Literature**
**Compulsory readings:**

**Recommended readings:**
Tartaglia, Stefano – Rossi, Monica (2015): The local identity functions in the age of globalization: a study on a local culture In. Mannarini, Terri (edt.): Community Psychology in Global Perspective - Special Issue: Culture and Community Interactions, Vol 1. (1).

**Course leader:** Kyra Tomay PhD, Tamás Ragadics PhD

**Other contributors:**

**Contact:** tomay.kyra@pte.hu ; ragadics.tamas@pte.hu
1. **Course title:** Meteorology and Climatology

2. **Code:**

3. **Type (lecture, seminar, laboratory):** lecture

4. **Total of contact hours:** 39 hours

5. **Number of credits (ECTS):** 4

6. **Pre-requisites (max. 3):** none

7. **Announced:** ☐ autumn semester, ☒ spring semester, ☐ both semesters

8. **Limit for participants:** no

10. **Instructor-in-charge (faculty, institute and department):**

    István GERESDI, PhD (FS, Institute of Geography, Department of Geology and Meteorology)

11. **Instructor(s) and percentage:**

    | Instructor(s) | Percentage |
    |--------------|------------|
    | István GERESDI | 100 % |

12. **Language:** English

13. **Course objectives and learning outcomes:**

    **Aims:**
    To provide an understanding of the structure of the atmosphere, the physical processes impact the weather and the climate

    **Knowledge:**
    On successful completion of this course students are expected to understand the basic concepts about the atmosphere and they be familiar with phenomena occur in the atmosphere

    **Subject-specific skills:**
    *On successful completion of the course students are expected to be able to*

    *give explanation about the different atmospheric phenomena. They are able to involve critically in the debates about the climate changes. They are able to apply their knowledge in the other fields of the earth sciences.*

14. **Course outline / Milestones**

    **Week 1**  Introduction; history of the meteorology
    **Week 3**  Physics about the atmospheric motions. Different types of atmospheric motions: geostrophic, gradient and cyclostrophic winds. Effect of surface friction on the atmospheric motion.
    **Week 4**  Cloud and precipitation formation. Characteristics of the different type of precipitations.
    **Week 5**  Global circulation in the atmosphere. Formation of Hadley’s cell, polar fronts and jets. The hydrological cycle. Observation of vapor content in the atmosphere. Residence time of vapor in different reservoir. Potential evaporation and aridity index.
Week 6  Weather of tropics. The tropical monsoon, characteristics and evolution of the tropical cyclones.

Week 7  Characteristics of the mid-latitude cyclones and anticyclones. Weather at cold fronts and warm fronts. Effect of topography on the local weather. Foehn and bora; anabatic and katabatic wind; sea and land breezes. Characteristics of the thunderstorm, formation of gust front and tornados.

Week 8  Optical and electrical phenomena in the atmosphere (rainbow, halo, circle around moon, lightning). Observation of the atmosphere. Surface observation, radio sounding, remote sensing (radar and satellite).

Week 9  Weather forecast.

Week 10 The climate system (the components of the climate system, constraints). External and internal factors.

Week 11  The climate of the Earth. The climate zones, the deviations from the zonal pattern. Trewartha type climate classification.

Week 12  Climate of Hungary (the spatial and temporal distribution of the characteristics of the climate. Antropogén factors in climate change. Forecast of climate.

Week 13  Oral presentation about a selected atmospheric phenomenon.

15. Mid-semester works

Students have to choose an atmospheric phenomenon, and they have to present an oral presentation about 5 – 10 minutes long. The date of the presentation is the 13th week of the semester.

16. Summative assessment, formative assessment

Oral presentation about the selected atmospheric phenomenon.

After passing a written test (with success of at least 70%) oral examination.

17. Reading assignments:


18. Recommended texts:

Date | Prepared | Endorsed
---|---|---
13 November, 2017 | István GERESDI PhD instructor-in-charge | András TRÓCSÁNYI PhD leader of the program
# Course title: Programme Evaluation

**ECTS Credit points:**

Level (BSc/MSc/PhD):

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<table>
<thead>
<tr>
<th>Course code:</th>
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| Course type, number of lecture hours: Lecture/seminar |

| Methods of assessment: weekly assignments; midterm tests; submission: programme evaluation draft |

| Course in the curriculum (which semester is the course taught in): |

| Entry requirements (if any): |

**Course description:** Information outlining the course requirements in a concise yet descriptive manner.

---

**Aim:**

Programme evaluation is a key to sustainable development as it identifies what works and how; what does not; and what modifications could improve the programme. The goal of the course is to introduce students into the complex evaluation of ecological sustainability programmes and interventions. The course will familiarize students with the different paradigms, models, levels, logic, and a variety of methods of programme evaluation. A special emphasis will be laid on community-based participatory research and other types of developmental-collaborative approaches.

---

**Competences/expected learning outcomes:**

**Knowledge and understanding:**

1. What is programme evaluation? Main objectives of evaluation research. The central role of programme evaluation in programme development and in the replication and multiplication of good practices. Essential links (feedbacks) between professional practice and programme evaluation.
2. Differences between project monitoring and programme evaluation. Limitations of monitoring.
4. Approaches, levels and areas of evaluation (internal, external, complex; preformative, formative, summative; outcome, process etc.)
5. Systemic thinking in evaluation research. The Trident framework and its three main constituents (outcome, process & stakeholder perspectives)
7. Process evaluation and methodological improvements (reconstitutive ethnography; shadowing and other methods of observation; case studies, critical incident analysis and other consultative methods; use of focus groups etc.)
9. Limitations of the different methods. Sources of possible distortions/bias in data collection (e.g., respondents’ priorities and worries, cultural differences; technical issues as sources of bias in questionnaires and interviews; researchers’ own interests as a source of distortion.. Practising dialogic approaches and critical-reflective thinking to minimize bias.
10. Design and model building.
a. Combining internal and external evaluation
b. Mixed methods evaluation designs

11. Interpreting the results. Avoiding fallacies in interpretations.
13. Communicating evaluation results. The importance of steering groups.

Skills and abilities:

On completion of the course, students are enabled to

- identify the relevant questions of evaluation in a complex project
- apply strength-based, developmental approaches in evaluation
- understand stakeholder priorities and communicate accordingly in order to motivate them to participate in the evaluation
- identify possible risks involved in the evaluation
- apply the Trident framework and select the appropriate methods for evaluation
- communicate preliminary and final results to stakeholder groups and to decision-makers
- write a research report on findings
- creatively apply and renew frameworks and methods acquired during the course
- design a program with respect to evaluation ethics
- work in research teams

Teaching methods:

Short introductory lectures (possibly: webinars); joint discussions led by the lecturer; accomplishing tasks individually and in teamwork (outlining some solutions to possible problems frequently occurring in programme evaluation; professional reflections on the contents of the class/tasks/on teamwork)

Assessment:

- weekly assignments as detailed with methods above; two midterm tests; designing a programme evaluation (4-5 pages evaluation plan)

Literature

Compulsory readings:

Recommended readings:

Course leader: Marta B. Erdos, Ph.D, Associate Professor

Other contributors:

Contact:
Course title: Social inequalities: local, regional, global

ECTS Credit points: 

Course code: 

Course type, number of lecture hours: seminar

Method of assessment: regular, active participation, case study

Course in the curriculum (which semester is the course taught in): third semester

Entry requirements (if any): Local communities

Course description: Information outlining the course requirements in a concise yet descriptive manner.

Aim:
The aim of the course is to highlight that there are systematic differences among and within different countries and regions concerning wealth and power, and to identify the main patterns of different dimensions of global, regional and local inequalities, such as demography, education, housing and poverty. Methods of comparable measurement and its critics will be discussed as well as the most well-known theories that try to explain causes of inequality on the global (modernisation theory, dependency theory, world-system theory) level. After the global and regional perspective we will zoom into the local level: processes of segregation, suburbanization, gentrification and displacement will be discussed: its causes and consequences, theories and measurement as well as policies that foster/try to eliminate the above mentioned phenomena.

Competences/expected learning outcomes:

Knowledge and understanding:
- understanding social problems and inequalities in spatial context
- strengthen methodological knowledge in the field of urban and rural researches and projects
- being familiar with the social aspects of different urban/rural policies

Skills and abilities:
- helps to formulate a special development plan supporting social integration and landscape development

Judgement and approach:

Literature


Recommended readings:


<table>
<thead>
<tr>
<th>Course leader:</th>
<th>Kyra Tomay PhD</th>
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</thead>
<tbody>
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<td>Other contributors:</td>
<td></td>
</tr>
<tr>
<td>Contact:</td>
<td><a href="mailto:tomay.kyra@pte.hu">tomay.kyra@pte.hu</a></td>
</tr>
</tbody>
</table>
**Course title:** Stakeholder management  

**ECTS Credit points:**  

**Level (BSc/MSc/PhD):**

<table>
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<th>Course type, number of lecture hours: Lecture/seminar</th>
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<tr>
<td>Methods of assessment: weekly assignments, student presentation</td>
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<tr>
<td>Course in the curriculum (which semester is the course taught in):</td>
</tr>
<tr>
<td>Entry requirements (if any):</td>
</tr>
</tbody>
</table>

**Course description:** Information outlining the course requirements in a concise yet descriptive manner.

**Aim:**

In an age of instant communication, the need for decision-makers to effectively communicate with the wider community cannot be underrated. Stakeholder management promotes a better understanding of the possible impact of decisions of development policies and the success of their implementation.

The aim of the course is to examine key concepts and theories in stakeholder management, introduce students into various (internal and external) stakeholder groups, familiarize them with the different methods and techniques, meanwhile explore the shifting paradigms of environmental problem solving within the frameworks of the current social-economic institutions. Related topics also discuss ethics, planning and conflict management.

The course particularly pays attention to the question how social science can understand the quite difficult and complex issues of the current ecological challenges our modern societies have to face to, especially in the Central and Eastern European region where democratic systems are young and vulnerable.

**Topics:**

1. Introduction  
2. Theories of stakeholder management  
3. Sustainable development and society  
4. The concept of good governance and its challenges  
5. Rules and frameworks of participation  
6. NGOs’ role in development policy  
7. Politics of solidarity (the meaning of subsidiarity on local-, regional- and national level, the principals of subsidiarity)  
8. Conflicts of interests and values (the nature of “environmental” conflicts)  
9. Project class (new stakeholders, new mechanism of redistribution and resource allocation)  
10. Tools and techniques: power/interest matrix, stakeholder grid, risk management  
11. The planning process and evaluation  
12. Implementation of developing policies: good practices and failures  
13. Dilemmas and differences in Central and Eastern Europe  
14. Discussion and conclusion / Student presentations

**Competences/expected learning outcomes:**

**Knowledge and understanding:**
Students will
- understand different needs, problems and risks by adopting a multidisciplinary approach;
- contribute to shaping special policies by critically evaluating existing practices and comparing international models and best practices;
- define stakeholder management;
- understand the fundamental principles of effective stakeholder management;
- ready to evaluate engagement activities and relationships;
- recognize and respond to stakeholder issues and conflict;
- apply stakeholder management techniques through case studies and examples.

**Skills and abilities:**

Students will be able to
- critically analyse present-day solutions to improve social and environmental security;
- facilitate communication and collaboration among the different participators (state, NGO, business) as key actors of development;
- apply different approaches in stakeholder engagement;
- practically identify key stakeholders and their interests;
- understand stakeholder priorities and analyse their needs and interests;
- identify and manage the risks involved in stakeholder engagement;
- create an effective engagement strategy by using the planning process;
- identify the relevant questions of evaluation in a complex project;
- creatively apply and renew frameworks and methods acquired during the course.

**Teaching methods:**
- Lectures
- Classroom discussions
- Groupwork

**Assessment:**
- Weekly responses to pre-determined topics or readings

All students are expected to prepare for and to actively participate in class discussions. Prior to each class, students are going to be asked to post a brief reaction—no longer than 100-200 words—to the “discussion board”, to be available for reading by all members of the class. Every student welcome to read and respond to the comments of the other class members (What one or two key issues, questions or concerns would you particularly like to discuss in class?)
- Student presentations

**Literature**

**Compulsory readings:**


Recommended readings:


Course leader: Dr. Viktor Glied, PhD Assistant professor

Other contributors: Viktória Borda fellow researcher

Contact:
<table>
<thead>
<tr>
<th>1. Subject name:</th>
<th>SUSTAINABILITY AND CHANGING LANDUSE OF ISLANDS AND ISLAND-LIKE TERRITORIES</th>
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<tr>
<td>2. Code:</td>
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<tr>
<td>3. Contact hours (lecture + practical exercise) per week (semester)</td>
<td>2</td>
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<tr>
<td>4. credits:</td>
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</tr>
<tr>
<td>5. pre-requisites of admission (max. 3):</td>
<td>–</td>
</tr>
<tr>
<td>6. Institution and lecturer responsible for this subject:</td>
<td>Institute of Regional Development</td>
</tr>
<tr>
<td></td>
<td>Dr. habil Iván Zádori Ph.D, associate professor</td>
</tr>
<tr>
<td>7. Role and purpose of the subject in the course of SUMCULA (short description of the subject):</td>
<td>Permanently changing economic, social and environmental situations, sustainability challenges and reactions are not new in case of islands and island-like territories but there is a basic difference between the earlier periods and the present situation: in the earlier periods of human history sustainability depends mainly on the geographic situation and natural resources, today the economic performance and competitiveness could result the success of islands and island-like territories. Unsustainable economic, social and environmental situations could be manageable well if a given land or territory finds a market niche where it could operate successfully with products and services that are interesting and marketable for the outside world. This course is focusing on the main dimensions of past and present sustainability challenges of the islands and island-like territories. Although the examined islands and island-like territories sometimes have very similar environmental, social and economic features, the past and present economic and social situation, landuse, the diversity and different economic development paths of these islands and island-like territories are mainly determined by the size, the geographical location, institutions and the present effects of the earlier territorial control of greater counterparts. During the semester the primarily focus is to understand the past and present economic, social and environmental challenges, the sustainability questions of changing landuse and possible future development paths for islands and island-like territories.</td>
</tr>
<tr>
<td>8. Personnel requirements for the education of this subject (eg. scientific qualification and experience on the lecturer’s part):</td>
<td>scientific qualification</td>
</tr>
</tbody>
</table>
| 9. Subject contents, topics: | - Background – sustainability challenges of islands and island-like territories  
- Island-features  
- Competitiveness and economic performance of islands and island-like territories  
- Social and environmental challenges of islands and island-like territories  
- Changing landuse of islands and island-like territories  
- (Dis)advantaged islands and island-like territories  
- Case studies (Islands of the English Channel, Hong Kong, Macau, Cumberland Island, etc.) |
- Presentations of the students, discussion
- Conclusions

10. Number and type of students’ tasks to be tackled individually: oral presentation during the semester

11. Proportion of in-class/out of class study load in % (based on credit-value): 60–40%.

12. Method of evaluation: (to be underlined)
   - mid-semester written tests;
   - oral presentation(s) during the semester
   - oral colloquium
   - written examination
   - practical skills evaluation
   - final exam
   - written essay

13. How the final note is calculated from the above:
   - Assignment 1 (essay, 7-8 pages): 60%
   - Assignment 2 (oral presentation, 20 min. with ppt): 30%
   - Active participation: 10%

14. Field exercises prescribed for the subject: –

15. Rationale
   Including Aims: Developing students’ comprehensive understanding of the past and present economic, social and environmental challenges of islands and island-like territories.
   Promoting students’ understanding about the sustainability questions of changing landuse and possible future development paths for islands and island-like territories.
   Improving students’ ability to conduct their own research results.

16. Learning Outcomes: Knowledge
   The course develops students’ comprehensive understanding of the past and present economic, social and environmental challenges and answers of islands and island-like territories.

17. Learning Outcomes: Skills
   The course improves students’ ability to conduct independent research.
   The course improves students’ presentation skills.

18. Teaching and Learning Strategies:
   Active participation of students is required. Applied teaching methods: lecture; discussions; group works, presentation, writing assignment. The language of the instruction and assessment is English.
19. Compulsory and recommended literature for this subject:

**Compulsory:**

**Recommended:**

20. Infrastructural pre-requisites of the subject (PC-projector, overhead projector, TV, video, flipchart, other): PC-projector

21. Methods of quality assurance for the subject, policy of developing the subject:
The policy of quality assurance for this subject is part of the ISO 9001:2000 system applicable to the entire faculty. The lecturer responsible for this subject is in charge of relevant tasks, such as determining and revising topics and compulsory literature, determining enrolment criteria and selecting methods of evaluation. The basic tool of revision is literature and where applicable, changes in organisational and company practice. The lecturer responsible for the subject exercises his right in applying necessary revisions about which the course director has to be informed. Especially with subjects of great practical relevance and where observing changes in company practice is of key importance, the lecturer responsible for the subject has to involve practicing experts into the process of revision of the syllabus.

<table>
<thead>
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<tbody>
<tr>
<td>11.01.2019</td>
<td>Dr. habil Iván Zádori Ph.D</td>
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<td></td>
<td>lecturer</td>
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controlled:

approved:

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2. Subject name: GLOBAL EDUCATION

2. Code:

3. Contact hours (lecture + practical exercise) per week (semester) 2

4. credits: 3

5. pre-requisites of admission (max. 3): –

6. Institution and lecturer responsible for this subject:

Institute of Regional Development
Dr. habil Iván Zádori Ph.D, associate professor
Dr. habil Zsolt Nemeskéri Ph.D professor

7. Role and purpose of the subject in the course of SUMCULA (short description of the subject):

Global economic, social and environmental processes of the second half of the 20th century have resulted more and more intensive efforts in different fields and different levels to react the challenges and negative feedbacks of the activities of humankind and lead to rethink the role, purpose and aims of the education all over the world. In an optimal situation learning processes could produce informed and active citizens who are able to solve the problems with creativity, who understand the working mechanisms of nature and the environment, society, law and the economy, understand the connections between these elements and make responsible decisions in their individual and public actions. This course is focusing on the main aspects of global education and global citizenship in the present interdependent and interconnected world. Global education also could affect and influence individuals, local communities and societies to make important steps to implement the sustainable management of cultural landscapes.

8. Personnel requirements for the education of this subject (eg. scientific qualification and experience on the lecturer’s part): scientific qualification

9. Subject contents, topics:

- **Planet** – an understanding of the working mechanisms of global ecosystems;
- **Economic, social and environmental activities of humankind** – an understanding of the historical background behind the past and present economic, social and environmental processes;
- **Interdepended and interconnected world** – an understanding of the evolution, the effects and impacts of globalization;
- **Basic concepts and perspectives of Global Education** – an understanding of the evolution, role, significance and relevancy of education in a globalized world;
- **Identity and cultural diversity** – an understanding of role of cultural background and the links between cultures;
- **Social justice and human rights** – an understanding of the impact of inequality and discrimination, the importance of consciousness and responsibility;
- **Peace building and conflict resolution** – an understanding of the importance of building and maintaining positive and trusting relationships and ways conflict can be prevented or peacefully resolved;
- **Sustainable futures** – an understanding of the ways how human communities meet the needs of the present without compromising the ability of future generations to meet their needs;
- **Global citizenship** – an understanding of the concept that enables people to develop the core competencies which could result active and responsible citizens;
- **Sustainable management of cultural landscapes and global education** – how global education could affect and influence individuals, local communities and societies to make important steps to implement the sustainable management of cultural landscapes.

10. **Number and type of students’ tasks to be tackled individually:** oral presentation during the semester

11. **Proportion of in-class/out of class study load in % (based on credit-value):** 60–40%.

12. **Method of evaluation:** (to be underlined)
   - mid-semester written tests;
   - **oral presentation(s) during the semester**
   - oral colloquium
   - written examination
   - practical skills evaluation
   - final exam
   - written essay

13. **How the final note is calculated from the above:**
   - Assignment 1 (essay, 7-8 pages): 60%
   - Assignment 2 (oral presentation, 20 min. with ppt): 30%
   - Active participation: 10%

14. **Field exercises prescribed for the subject:** –

15. **Rationale Including Aims:**
   - Developing students’ comprehensive understanding of the past and present questions of global education.
   - Promoting students’ understanding how global education affect and influence individuals, local communities and societies to make important steps to implement the sustainable management of cultural landscapes.
   - Improving students’ ability to conduct their own research results.

16. **Learning Outcomes: Knowledge**
   - The course develops students’ comprehensive understanding how global education affect and influence individuals, local communities and societies to make important steps to implement the sustainable management of cultural landscapes.

17. **Learning Outcomes: Skills**
   - The course improves students’ ability to conduct independent research.
   - The course improves students’ presentation skills.

18. **Teaching and Learning Strategies:**
   - Active participation of students is required. Applied teaching methods: lecture; discussions; group works, presentation, writing assignment. The language of the instruction and assessment is English.
19. Compulsory and recommended literature for this subject:

Compulsory:

- Senses-Ozyurt, S., Klein, S., Nemeskeri, Zs. (Eds.) Educating for Democratic Governance and Global Citizenship. San Diego: World Council for Curriculum and Instruction

Recommended:

- The Maastricht Global Education Declaration (2002). In: Council of Europe, Global Education in Europe to 2015. Retrieved April 27, 2015, from Council of Europe:
- Global Education First Initiative (2015). Retrieved April 27, 2015 from Global Education First Initiative, An Initiative of the Secretary-General:
  [http://www.globaleducationfirst.org/289.htm](http://www.globaleducationfirst.org/289.htm)

20. Infrastructural pre-requisites of the subject (PC-projector, overhead projector, TV, video, , flipchart, other): PC-projector

21. Methods of quality assurance for the subject, policy of developing the subject:

The policy of quality assurance for this subject is part of the ISO 9001:2000 system applicable to the entire faculty. The lecturer responsible for this subject is in charge of relevant tasks, such as determining and revising topics and compulsory literature, determining enrolment criteria and selecting methods of evaluation. The basic tool of revision is literature and where applicable, changes in organisational and company practice. The lecturer responsible for the subject exercises his right in applying necessary revisions about which the course director has to be informed. Especially with subjects of great practical relevance and where observing changes in company practice is of key importance, the lecturer responsible for the subject has to involve practicing experts into the process of revision of the syllabus.

Prepared by:

Dr. habil Iván Zádori Ph.D
Prof. Dr. habil Zsolt Nemeskéri Ph.D
lecturer

Syllabus revised:

11.01.2019
<table>
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<td>approved:</td>
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</table>
### 3. Subject name: SUSTAINABLE MANAGEMENT OF HISTORICAL BUILT INFRASTRUCTURE OF HUNGARIAN SMALL AND MIDDLE-SIZED CITIES IN THE 21. CENTURY

<table>
<thead>
<tr>
<th>2. Code:</th>
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</table>

| 3. Contact hours (lecture + practical exercise) per week (semester) | 2 |

| 4. credits: | 3 |

| 5. pre-requisites of admission (max. 3): | – |

| 6. Institution and lecturer responsible for this subject: |

Institute of Regional Development

Dr. hab. Iván Zádori Ph.D, associate professor

Dr. hab. Zsolt Nemeskéri Ph.D professor

| 7. Role and purpose of the subject in the course of SUMCULA (short description of the subject): |

Settlements have to deal with sustainability challenges of the 21st century all around the world. In an optimal situation, settlements can find the economic, social and environmental balance, as well as the cultural patterns that can ensure the sustainability in the long run. In this process, the cultural supply and the historic urban infrastructure could be a factor of competitiveness, whether it is the management of previous cultural elements or the creation of new cultural products and services that can drive settlements to new development paths. This course is focusing on the patterns of the sustainable management of historical urban infrastructure of the Hungarian small and middle-sized cities in the 21st century.

| 8. Personnel requirements for the education of this subject (eg. scientific qualification and experience on the lecturer’s part): | scientific qualification |

| 9. Subject contents, topics: |

- Background – sustainable management questions of historical built infrastructure
- Hungarian historic urban infrastructure
- Small and middle-sized cities in Hungary
- Economic, social and environmental challenges of small and middle-sized cities
- Sustainable management of historical built infrastructure in small sized cities
- Sustainable management of historical built infrastructure in middle-sized cities
- Case studies (small and middle sized cities of the South Transdanubian Region)
- Presentations of the students, discussion
- Conclusions

| 10. Number and type of students’ tasks to be tackled individually: | oral presentation during the semester |

| 11. Proportion of in-class/out of class study load in % (based on credit-value): | 60–40% |
12. **Method of evaluation:** (to be underlined)
mid-semester written tests;
oral presentation(s) during the semester
oral colloquium
written examination
practical skills evaluation
final exam
written essay

13. **How the final note is calculated from the above:**

| Assignment 1 (essay, 7-8 pages): | 60% |
| Assignment 2 (oral presentation, 20 min. with ppt): | 30% |
| Active participation: | 10% |

14. **Field exercises prescribed for the subject:** –

15. **Rationale Including Aims:**
Developing students’ comprehensive understanding of the past and present economic, social and environmental challenges of small and middle-sized cities. Promoting students’ understanding about the sustainable management questions of historical built infrastructure and possible future development paths for small and middle-sized cities. Improving students’ ability to conduct their own research results.

16. **Learning Outcomes:**
**Knowledge**
The course develops students’ comprehensive understanding of the past and present economic, social and environmental challenges of small and middle-sized cities.

17. **Learning Outcomes:**
**Skills**
The course improves students’ ability to conduct independent research.
The course improves students’ presentation skills.

18. **Teaching and Learning Strategies:**
Active participation of students is required. Applied teaching methods: lecture; discussions; group works, presentation, writing assignment. The language of the instruction and assessment is English.

19. **Compulsory and recommended literature for this subject:**

**Compulsory:**
- Florida, R. (2008) Who is your city? How the creative economy is making where to live the most important decision of your life

**Recommended:**
- Zádori I. (2013): Conditions of Young Art in Middle Sized Cities in Hungary: case study of Kaposvar. Sudy Week, Hochschule Zittau/Görlitz, Germany
## 20. Infrastructural pre-requisites of the subject (PC-projector, overhead projector, TV, video, flipchart, other): PC-projector

## 21. Methods of quality assurance for the subject, policy of developing the subject:

The policy of quality assurance for this subject is part of the ISO 9001:2000 system applicable to the entire faculty. The lecturer responsible for this subject is in charge of relevant tasks, such as determining and revising topics and compulsory literature, determining enrolment criteria and selecting methods of evaluation. The basic tool of revision is literature and where applicable, changes in organisational and company practice. The lecturer responsible for the subject exercises his right in applying necessary revisions about which the course director has to be informed. Especially with subjects of great practical relevance and where observing changes in company practice is of key importance, the lecturer responsible for the subject has to involve practicing experts into the process of revision of the syllabus.

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</tr>
<tr>
<td></td>
<td>Prof. Dr. habil Zsolt Nemeskéri Ph.D</td>
</tr>
<tr>
<td></td>
<td>lecturer</td>
</tr>
</tbody>
</table>

controlled:

approved:

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4. Subject name: A DISADVANTAGED HUNGARIAN REGION AND OPPORTUNITIES FOR DEVELOPMENT: CASE STUDIES OF VILLAGES OF ORMÁNSÁG

2. Code: 

3. Contact hours (lecture + practical exercise) per week (semester) 2

4. credits: 3

5. pre-requisites of admission (max. 3): –

6. Institution and lecturer responsible for this subject:

Institute of Regional Development

Dr. habil Iván Zádori Ph.D, associate professor
Dr. habil Zsolt Nemeskéri Ph.D professor

7. Role and purpose of the subject in the course of SUMCULA (short description of the subject):

Ormánság is one of the poorest parts of Hungary, only 35 km from Pécs. This geographical and cultural area situated on the bank of the river Dráva which is the border between Hungary and Croatia and includes 50 villages. The region faces major economic, social and environmental challenges, including unemployment, emigration and an aging population. In the last 100 years the traditional agriculture and landuse has totally changed, demographic trends in recent decades have completely changed previous composition of the population, depression, segregation and unfavorable economic conditions can be experienced in most of the settlements of the area. The present situation can be traced back to multiple economic, social and environmental factors the past. These unfavorable tendencies have not been stopped in recent decades, and the municipalities by themselves are usually unable to cope with these negative processes and to generate new development paths. This course is exploring the causes of the current situation and examines the economic, social, environmental and cultural steps and initiatives of the settlements of the area to change and make the present situation better.

8. Personnel requirements for the education of this subject (eg. scientific qualification and experience on the lecturer’s part): scientific qualification

9. Subject contents, topics:

- Economic, social and environmental challenges of Ormánság: past and present
- Changing land use
- Water challenges
- Population changes
- Cultural and environmental resources
- Infrastructural background
- Labor market issues
- Cultural heritage: chance for tourism?
- Effects of government programs
- Local community initiatives
- Future? Development? Sustainability?
- Case studies + field trip to the region

10. Number and type of students’ tasks to be tackled individually: oral presentation during the semester

11. Proportion of in-class/out of class study load in % (based on credit-value): 60–40%.
12. **Method of evaluation:** (to be underlined)
- mid-semester written tests;
- **oral presentation(s) during the semester**
- oral colloquium
- written examination
- practical skills evaluation
- final exam
- **written essay**

13. **How the final note is calculated from the above:**

<table>
<thead>
<tr>
<th>Assignment 1 (essay, 7-8 pages):</th>
<th>60%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assignment 2 (oral presentation, 20 min. with ppt):</td>
<td>30%</td>
</tr>
<tr>
<td>Active participation:</td>
<td>10%</td>
</tr>
</tbody>
</table>

14. **Field exercises prescribed for the subject:** –

15. **Rationale & Including Aims:**
- Developing students’ comprehensive understanding of the past and present economic, social and environmental challenges of the settlements of disadvantaged regions.
- Promoting students’ understanding about the present sustainable management questions and possible future development paths for the settlements of Ormánság.
- Improving students’ ability to conduct their own research results.

16. **Learning Outcomes:**
- **Knowledge**
  - The course develops students’ comprehensive understanding of the past and present economic, social and environmental challenges of the settlements of Ormánság.

17. **Learning Outcomes:**
- **Skills**
  - The course improves students’ ability to conduct independent research.
  - The course improves students’ presentation skills.

18. **Teaching and Learning Strategies:**
- Active participation of students is required. Applied teaching methods: lecture; discussions; group works, presentation, writing assignment. The language of the instruction and assessment is English.

19. **Compulsory and recommended literature for this subject:**

**Compulsory:**

**Recommended:**
- Florida, R. (2008) Who is your city? How the creative economy is making where to live the most important decision of your life
20. Infrastructural pre-requisites of the subject (PC-projector, overhead projector, TV, video, flipchart, other): PC-projector

21. Methods of quality assurance for the subject, policy of developing the subject:

The policy of quality assurance for this subject is part of the ISO 9001:2000 system applicable to the entire faculty. The lecturer responsible for this subject is in charge of relevant tasks, such as determining and revising topics and compulsory literature, determining enrolment criteria and selecting methods of evaluation. The basic tool of revision is literature and where applicable, changes in organisational and company practice. The lecturer responsible for the subject exercises his right in applying necessary revisions about which the course director has to be informed. Especially with subjects of great practical relevance and where observing changes in company practice is of key importance, the lecturer responsible for the subject has to involve practicing experts into the process of revision of the syllabus.

<table>
<thead>
<tr>
<th>Syllabus revised:</th>
<th>11.01.2019</th>
</tr>
</thead>
</table>

Prepared by:

Dr. habil Iván Zádori Ph.D

Prof. Dr. habil Zsolt Nemeskéri Ph.D

lecturer

controlled:

approved:

………………………………………………...
5. **Subject name:** URBAN AND REGIONAL PLANNING

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<tr>
<th>2. Code:</th>
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<tr>
<th>3. Contact hours (lecture + practical exercise) per week (semester)</th>
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<th>4. credits:</th>
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<tr>
<th>5. pre-requisites of admission (max. 3):</th>
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<table>
<thead>
<tr>
<th>6. Institution and lecturer responsible for this subject:</th>
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<tbody>
<tr>
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<table>
<thead>
<tr>
<th>7. Role and purpose of the subject in the course of SUMCULA (short description of the subject):</th>
</tr>
</thead>
<tbody>
<tr>
<td>This course is introducing the basic concepts and frameworks for urban and regional planning and exploring the main issues for urban and regional development with Hungarian and Central European examples and case studies. The course is also developing students’ comprehensive understanding of the past and present role of planning and impacts of planning for communities, cities, regions or countries, with a special focus on the sustainable management of cultural landscapes.</td>
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<table>
<thead>
<tr>
<th>8. Personnel requirements for the education of this subject (eg. scientific qualification and experience on the lecturer’s part):</th>
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</thead>
<tbody>
<tr>
<td>scientific qualification</td>
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<table>
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<tr>
<th>9. Subject contents, topics:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Introduction to urban and regional planning: background and definitions</td>
</tr>
<tr>
<td>• History of urban and regional planning</td>
</tr>
<tr>
<td>• Evolution and decline of human settlements</td>
</tr>
<tr>
<td>• Natural development/planned settlements</td>
</tr>
<tr>
<td>• Centers and peripheries</td>
</tr>
<tr>
<td>• Planning and politics</td>
</tr>
<tr>
<td>• Urban and regional planning in Europe</td>
</tr>
<tr>
<td>• Urban and regional planning in Hungary</td>
</tr>
<tr>
<td>• Settlements designed for the 21st century</td>
</tr>
<tr>
<td>• Global sustainability challenges: effects for human settlements</td>
</tr>
<tr>
<td>• Case studies</td>
</tr>
<tr>
<td>• Presentations of students, discussion</td>
</tr>
</tbody>
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<table>
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<th>10. Number and type of students’ tasks to be tackled individually: oral presentation during the semester</th>
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<td>Active participation:</td>
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14. **Field exercises prescribed for the subject:** –

15. **Rationale**

**Including Aims:**
Developing students’ comprehensive understanding of the urban and regional planning in the past and in the present. 
Promoting students’ understanding of the past and present role of planning and impacts of planning for communities, cities, regions or countries, with a special focus on the sustainable management of cultural landscapes.

16. **Learning Outcomes:**

**Knowledge**
The course develops students’ comprehensive understanding of the importance and role of urban and regional planning in the past, present and the future.

17. **Learning Outcomes:**

**Skills**
The course improves students’ ability to conduct independent research.  
The course improves students’ presentation skills.

18. **Teaching and Learning Strategies:**
Active participation of students is required.  Applied teaching methods: lecture; discussions; group works, presentation, writing assignment. The language of the instruction and assessment is English.

19. **Compulsory and recommended literature for this subject:**

**Compulsory:**

**Recommended:**

20. **Infrastructural pre-requisites of the subject (PC-projector, overhead projector, TV, video, flipchart, other):** PC-projector
21. Methods of quality assurance for the subject, policy of developing the subject:

The policy of quality assurance for this subject is part of the ISO 9001:2000 system applicable to the entire faculty. The lecturer responsible for this subject is in charge of relevant tasks, such as determining and revising topics and compulsory literature, determining enrolment criteria and selecting methods of evaluation. The basic tool of revision is literature and where applicable, changes in organisational and company practice. The lecturer responsible for the subject exercises his right in applying necessary revisions about which the course director has to be informed. Especially with subjects of great practical relevance and where observing changes in company practice is of key importance, the lecturer responsible for the subject has to involve practicing experts into the process of revision of the syllabus.

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</tr>
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<tbody>
<tr>
<td>11.01.2019</td>
<td>Dr. habil Iván Zádori Ph.D</td>
</tr>
<tr>
<td></td>
<td>Prof. Dr. habil Zsolt Nemeskéri Ph.D</td>
</tr>
<tr>
<td></td>
<td>lecturer</td>
</tr>
</tbody>
</table>

controlled:

approved:

............................................................
Aim: Soil is the most important natural resource of Hungary. Land ownership, land use and the efficiency of the land utilising system have been in the centre of attention both in the EU and Hungary. Land use and estate structure as well as ownership relations and estate concentration with some other factors significantly influence the success of farming.

Agricultural activities are in direct or indirect relationship with soil. With regard to efficiency ecological endowments and the quality of soil are decisive but ownership relations, the structure of land use and estate as well as estate divisions also influence the outcome.

Land ownership also refers to the right over land. Land utilisation is the use of land for a certain purpose or the direct exercise of ownership or its lease in exchange for something (e.g. fee). The owner is interested in the sensible use of the land by not overexploiting the future conditions of production (sustainable use) although it holds partly true for the tenant.
Competences/expected learning outcomes:
Survey of the current situation in Hungary and Europe (analysis of land ownership, land use and land prices, tenant management and opportunities for cooperation, and evaluation of changes in individual companies and associations to explore opportunities for associations and barriers, state and European subsidies).
Understand the changes in the land market, evaluate trends and the current state of the land lease through questionnaires and in-depth interviews.
Comparing the situation of entrepreneurs and partnerships and assessing the state of the environment using questionnaires.
The relationship between employment and land tenure, surveys and in-depth interviews.
A jelenlegi magyarországi és európai helyzet felmérése (földtulajdon, földhasználat és földárak, bérlői gazdálkodás elemzése és az együttműködés lehetőségeinek feltárása, valamint az egyes társaságokban és társulásokban bekövetkező változások értékelése az egyesületek lehetőségeinek és az akadályok/akadályozó tényezők feltárására, az állami, európai szubvenciók).
Megismerni a földpiac változásait, kiértékeljük a tendenciákat és a földbérlet jelenlegi helyzetét kérdőívek és mélyinterjúk készítése.
A vállalkozók és a partnerségek helyzetének összehasonlítása és a környezet helyzetének kérdőívek segítségével történő kiértékelése.
A foglalkoztatás és földbirtokszerkezet kapcsolata, felmérése kérdőívek és mélyinterjúk készítése.

Knowledge and understanding:
Students get to know the knowledge based on national and international databases. Comparative analysis helps to understand EU land policy and Member State specifications.
Az ismereteket, hazai és nemzetközi adatbázisokra alapozva ismerik meg a hallgatók. Az összehasonlító elemzések segítségével megérthetővé válik az EU földbirtok politikája és a tagállamok specifikációi.

Skills and abilities:

Judgement and approach:

Literature

Compulsory readings:
Recommended readings:


2013. évi CXXII. törvény a mező- és erdőgazdasági földek forgalmáról


---

**Course leader:**

**Other contributors:** Dr. Ragoncsa Zoltán

**Contact:**
Course unit: **Inorganic, organic and biochemistry**

**Course code:**

**Credit points:** 6

**Course type, number of lessons:** Compulsory; weekly contact hours: 2 hours of lectures and 3 hours of exercise/laboratory

**Method of assessment:** seminar work and written assignment

**Course in the curriculum (which semester is the course taught in):** 1st semester

**Entry requirements (if any):** -

**Course description:** Information outlining the course requirements in a concise yet descriptive manner.

**Aim:** The aim of this subject to furnish the students with the most necessary, basic knowledge in chemistry in order to enable them to participate in more advanced courses in landscape management, agriculture and environmental sciences. **The content of the course:** Principles of general and inorganic chemistry provides the basic knowledge of the atomic structure of chemical species, chemical bonds, general properties of solutions, general features of the reactions (stoichiometry, spontaneity, completeness, rate) and the main parameters which affect these properties, elements of thermodynamics and kinetic. Chemical reactions and equations; mass conservation law. Equation balancing. Redox reactions and their balancing. Reactions in solution and ionic equations; redox half-reactions. Mass relation in the reactions; equivalent weight. Acids and bases. Protonic theory of acid and bases. Autoionization; Kw, Ka and Kb. Polyprotic acids and bases. Molecular structure and acid/base properties. Acidity of solutions: pH. Acid-base reactions. Buffers, pH and solubility. **The principles of organic chemistry.** Classes of organic compounds; types of organic reactions. Biologically most important organic compounds. Basic biochemistry. The structures of macromolecules. Biomolecules and their reactions in aqueous solutions. Biochemical reactions, enzyme kinetics. The structural elements of storage and expression of genetical information. **Basic elements of analytical chemistry:** the most important classical and instrumental methods of qualitative and quantitative analysis.

**Competences:**

**Knowledge:** The students will acquire the basic elements of general, inorganic, organic and biochemistry, will be able to identify the structure, geometry and nomenclature of inorganic and organic compounds, balance chemical reaction starting from reagents and to predict if they are or not spontaneous reactions. **Abilities:** Students shall be able to apply their knowledge for more advanced studies, search scientific literature, carry out basic research under guidance of supervisors, write reports and assignment works in the subject areas demonstrating herewith the thorough knowledge of concepts and the relevant scientific terminology. **Attitudes:** Diligence regarding systematic learning and acquisition of knowledge concerning "cutting edge" research and application of the subject areas in further studies.

**Literature**

**Compulsory readings:**
1. Lecture notes
2. PPT presentations
3. Handouts, assigned chapters from recommended literature

**Recommended readings:**
760 pages
1344 pages.

**Course leader:** Sándor Némethy

**Other contributors:** Invited lecturers in certain subjects

**Contact:** sandor@conservation.gu.se
**Course unit:** Earth System Science – from biogeochemical cycles to ecosystem services

**Course code:**

<table>
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<tr>
<th>Credit points: 6</th>
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**Course type, number of lessons:** MSc, Compulsory, 26 hrs lectures and 26 hours seminars/practical training

**Method of assessment:** seminar work and written assignment

**Course in the curriculum (which semester is the course taught in):** 2nd semester

**Entry requirements (if any):** -

**Course description:** Information outlining the course requirements in a concise yet descriptive manner.

**Aim:** This course aims to provide basic knowledge and skills to the students into the following subject areas of Earth System Science:

1. Definition and history of Earth System Science
2. The spheres of Earth – the elements of Earth System
   a. Atmosphere
   b. Geosphere
     i. Lithosphere
     ii. Pedosphere
c. Hydrosphere
d. Cryosphere
e. Biosphere
f. Anthroposphere
3. The Bretherton Diagram
4. The main cycle processes
   a. Rock cycle
   b. Hydrologic cycle and global water balance
   c. Biogeochemical cycles
5. Life as a geological force
6. Interactions between the different spheres of Earth: climate change and climate control.
7. Linking natural and anthropogenic processes
8. Ecosystems and ecosystem services: the new concept of carrying capacity
9. Energy flows and transformations in terrestrial ecosystems
10. Energy flows and transformations in marine ecosystems
11. Climate change – history, processes, dynamics and use of palaeoclimatic proxies to interpret recent development trends – modelling climate change
12. Ecosystems and ecosystem services
13. The Millenium Ecosystem Assessment updated
14. Natural, agricultural/rural and urban ecosystems
15. Resilience of ecosystems and ecotones
16. Applied Earth System Science in regional planning

**Competences:**

**Knowledge:** Basic knowledge of the concepts of Earth Systems and their interactions; good insight into the different fields of cycle processes with particular emphasis on biogeochemical cycles, agricultural applications such as soil improvement, organic farming systems, flood and drought management; understanding Earth Climate: climate development during geologic time and climate change, using palaeoclimatic proxies; understanding the development of ecosystems, ecotones and ecosystem services; sustainable waste management and environmental remediation; applications of Earth System Science in regional planning and landscape conservation

**Abilities:** Students shall be able to apply their knowledge for more advanced studies, search scientific literature, carry out basic research under guidance of supervisors, write reports and assignment works in the subject areas demonstrating herewith the thorough knowledge of concepts and the relevant scientific terminology.
**Attitudes:** Willingness to learn new approaches in applied science; accepting the precautionary principle in industry and energy production (particularly in connection with global change); Diligence regarding systematic learning and acquisition of knowledge concerning "cutting edge" research.

<table>
<thead>
<tr>
<th>Literature</th>
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<tbody>
<tr>
<td><strong>Compulsory readings:</strong></td>
</tr>
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</table>

| **Recommended readings:** |
| (4) Marion Potschin, Roy Haines-Young, Robert Fish, R. Kerry Turner (2016): Routledge Handbook of Ecosystem Services |

| **Course leader:** Sándor Némethy |

| **Other contributors:** Invited lecturers in certain subjects |

| **Contact:** sandor@conservation.gu.se |
**Course unit:** Genetics and Biotechnology for Landscape Conservators

**Course code:**

| Credit points: 6 |

**Course type, number of lessons:** Compulsory, 26 hrs lectures and 26 hours seminars/practical training

**Method of assessment:** seminar work and written assignment

**Course in the curriculum (which semester is the course taught in):** 2nd semester

**Entry requirements (if any):** -

**Course description:**

**Aim:** This course aims to introduce the students to genetics, molecular biology and biotechnology in connection with landscape conservation. Thematic titles:

1. The principles of Mendelian genetics and the classical concept of gene
2. The basics of molecular genetics: DNA structure and function, types of RNA, gene regulation mechanisms, genetic regulation of metabolic processes, the molecular background of dominant, recessive and intermediary inheritance patterns
3. The principles of biotechnology: "green, red and white" biotechnology; GMOs, transgenic organisms, cis-genic vs transgenic technologies
4. Plant biotechnology, theory, and applications
5. Environmental biotechnology, theory, and applications
6. Phytoremediation of polluted waters and soils
7. Genetics and biotechnology of bioenergy production
8. Food microbiology and biotechnology – relation to landscape resources
9. Biotechnology and biodiversity
10. Industrial agriculture vs organic farming: genetics and biodiversity
11. GMOs in agriculture – the dangers of unwanted gene flow to natural ecosystems
12. Landscape deterioration and remediation – a genetical approach
13. Applications of landscape genetics in conservation biology: Concepts and challenges
14. Case studies

In addition, it aims to make the students familiar with the main agricultural and industrial applications of biotechnology and with the fundamental and applied research on microorganisms, plants and animals and the role of biotechnology in multifunctional agriculture and landscape conservation.

**Competences:**

**Knowledge:** Basic knowledge of the concepts of classical and molecular genetics and molecular biology; good insight into the different fields of biotechnology with particular emphasis on plant and food biotechnology, agricultural applications such as breeding disease-resistant crops; application of environmental biotechnology in remediation processes e.g. phytoremediation of polluted soils and waters. Orientation in the use of microorganisms in biotechnology for food processing, production of fermented beverages and food, animal feed, bioenergy, waste management and environmental remediation.

**Abilities:** Students shall be able to apply their knowledge for more advanced studies, search scientific literature, carry out basic research under guidance of supervisors, write reports and assignment works in the subject areas demonstrating herewith the thorough knowledge of concepts and the relevant scientific terminology.

**Attitudes:** Willingness to learn new approaches in applied science; accepting the precautionary principle in biotechnological research (particularly in connection with GMOs); Diligence regarding systematic learning and acquisition of knowledge concerning "cutting edge" research.

**Literature**

**Compulsory readings:**
Recommended readings:

Course leader: Sándor Némethy

Other contributors: Invited lecturers in certain subjects

Contact: sandor@conservation.gu.se
<table>
<thead>
<tr>
<th>Course unit: Industrial heritage, use and reuse</th>
<th>Credit points: 8</th>
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<tbody>
<tr>
<td>Course code: Ku4240</td>
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<tr>
<td>Course type, number of lessons: MSc, 6 lectures, 2 seminars, field trip, a number of individual tutorials</td>
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<tr>
<td>Method of assessment: A) Literature seminar with assignment, B) individual paper c. 3500 words</td>
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<td>Course in the curriculum (which semester is the course taught in): 2nd semester</td>
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<td>Entry requirements (if any): Bachelor’s degree</td>
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**Course description:**
Questions concerning industrial buildings, plants and environments, are increasing issues of concern for the cultural heritage practice. This is not only relevant for older remains with obvious cultural and historical qualities but also, and to a growing content, plants and activities stemming from the 20th century development of industrialized society. This kind of objects reflects important perspectives in the understanding of present society and our ability to broaden the scope of heritage practice into areas, where regional development and establishment of local economies are of specific interest.

An important part of the late 20th century development of industrialised society, is the realisation that industrial plants and systems have an importance as cultural heritage, and represents specific qualities in different projects where regeneration, adaptation or restoration might be key-words. This course is focused on these questions and contains the following items:

- International development concerning conservation/restoration of industrial heritage
- The ability to describe the complex – conceptual development within industrial heritage with focus on Sweden
- The concept of value – discussion on application on industrial heritage objects
- The construction of heritage – theories, strategies and processes

**Aim:** The objective of the course is to give in-depth knowledge and skills in the management of industrial remains to be used as assets for sustainable development and local economic growth.

**Learning outcomes:**

*Knowledge and understanding*

- describe the social and cultural processes that lead to something being defined as a specific cultural landscape, and how different interpretations of landscape properties affects decisions on continued management,
- discuss how the understanding of cultural landscapes from different practices/professional fields and stakeholder groups generates problems and opportunities for regional development.

*Skills and abilities*

- independently analyse the landscape contents and identify the possible needs for different conservation and remediation activities,
- implement the notion of cultural ecosystem services as planning outcomes within cultural landscapes management,
- carry out stakeholder analyses for strategic planning of landscape conservation

*Judgement and approach*
- explain and motivate the need for conservation, remediation and development activities for a specific landscape,
- assess the cultural and natural resources for local and regional development with regards to stakeholder interests, preservation motives and development needs

**Literature**

**Compulsory readings:**


ISBN 978-1-59726-723-6

Joint ICOMOS – TICCIH Principles for the Conservation of Industrial Heritage Sites, Structures, Areas and Landscapes. Adopted by the 17th ICOMOS General Assembly on 28 November 2011


**Recommended readings:**


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**Course leader:** Bosse Lagerqvist

**Other contributors:**

**Contact:** bosse.lagerqvist@conservation.gu.se
<table>
<thead>
<tr>
<th>Course unit: Maritime heritage</th>
<th>Credit points: 15</th>
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<tr>
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<tr>
<td>Course type, number of lessons: MSc, 10 lectures, 3 seminars, field work, a number of individual tutorials</td>
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<tr>
<td>Method of assessment: A) Literature seminar with assignment, B) individual paper c. 5000 words</td>
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**Course description:**
With emphasis on the 19th and 20th centuries, different maritime activities are studied and related to a broader societal historical understanding with a specific focus on the evolving industrialized society. The geographical area for the studies is in principal limited to Nordic waters, and concerns apart from technical processes and economical systems also and foremost different vessels as well as objects such as ports and shipyards as well as vehicles of various kinds.

Although the main interest is directed towards merchant fleet, it is possible for the student to make deeper studies on leisure boats as a significant part within an increasingly important recreational sector during the latter half of the 20th century. Also problems surrounding cultural historical documentation of vessels, or problems related to construction materials and preservation methods could be subject for such individual studies.

Through a conservation perspective the course studies the societal processes for identifying maritime heritage and the connected ability to preserve and/or re-develop such heritage.

Of specific interest is the number of reconstructions of different boats and ships that has been made during the last decades, and how they interrelate or constitutes conflicts with the formal heritage area.

Apart from literature studies and lectures, study visits and continued seminars on the individual evolving student papers are important parts of the course.

The course is divided in two components, the first is focused on literature studies, study visits and lectures. The course component is finalized through a literature seminar where the students also should provide a layout for the seminar paper.

During the second course component the students are working with individual case studies examined through a seminar paper building on the layout presented at the literature seminar.

**Aim:** The objective of the course is to give in-depth knowledge and skills in the management of maritime heritage to be used as assets for sustainable development and local economic growth.

**Learning outcomes:**
*Knowledge and understanding*

- describe the social and cultural processes that lead to something being defined as maritime heritage, and how different interpretations of properties and qualities affects decisions on continued management,
• discuss how the understanding of maritime heritage from different practices/professional fields and stakeholder groups generates problems and opportunities for national, regional and local development.

**Skills and abilities**

• independently analyse the heritage contents and identify the possible needs for different conservation and remediation activities,
• carry out stakeholder analyses for strategic planning of heritage conservation

**Judgement and approach**

• explain and motivate the need for conservation, remediation and development activities for a specific maritime heritage,
• assess the cultural resources for local and regional development with regards to stakeholder interests, preservation motives and development needs

**Literature**

**Compulsory readings:**

**Maritime heritage practices**


Lagerqvist, B & L. Bornmalm (2015) “Development of new economies by merging heritage and entrepreneurship. The issue of preserving, using or developing –or all?”, in: *Ecocycles*, volume 1, number 1


**Maritime history and heritage**


Articles available (Open Access): [http://www.witpress.com/books/978-1-84564-010-1](http://www.witpress.com/books/978-1-84564-010-1)

The land and sea interface

Atkinson, D., S. Cooke and D. Spooner (2002) “Tales from the riverbank: place-marketing and maritime heritages”. In International Journal of Heritage Studies, vol 8, no 1


Boats, ships and ship building


Recommended readings:


http://www.nps.gov/hdp/standards/HAER/GRHS.pdf

Höjrup, T. (2011) The common fisheries policy has to recognize the need for common goods for coastal communities. Fjerritslev, Denmark: Centre for coastal culture and boatbuilding


<table>
<thead>
<tr>
<th>Course leader: Bosse Lagerqvist / Lennart Bornmalm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other contributors:</td>
</tr>
<tr>
<td>Contact: <a href="mailto:bosse.lagerqvist@conservation.gu.se">bosse.lagerqvist@conservation.gu.se</a></td>
</tr>
</tbody>
</table>
**Course unit:** Sustainable Management of Cultural Landscapes  
**Course code:** KUA500  
**Credit points:** 15

<table>
<thead>
<tr>
<th>Course type, number of lessons: MSc, 15 lectures, 4 seminars, field work, a number of individual tutorials</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Method of assessment:</strong> A) Literature seminar with assignment, B) Field work with report, C) individual paper c. 3500 words</td>
</tr>
<tr>
<td><strong>Course in the curriculum (which semester is the course taught in):</strong> 2nd semester</td>
</tr>
<tr>
<td><strong>Entry requirements (if any):</strong> Bachelor’s degree</td>
</tr>
</tbody>
</table>

**Course description:**  
Important parts of the course are resource inventories and landscape documentation to be used as tools for planning of infrastructure development and sustainable use of cultural and natural resources. Students will learn to use digital resources (GIS, Remote Sensing, database handling, etc.) in connection with environmental protection and remediation, planning and resource assessments.  
A specific focus is directed towards the ongoing work within the framework of the European Landscape Convention and the emergence of landscape observatories.

**Aim:** The objective of the course is to give in-depth knowledge and skills in the management of cultural landscapes within a broadly defined conservation perspective, linked to strategies for regional and local development within the framework of land-use planning.

**Learning outcomes:**  
*Knowledge and understanding*  
- describe the social and cultural processes that lead to something being defined as a specific cultural landscape, and how different interpretations of landscape properties affects decisions on continued management,  
- discuss how the understanding of cultural landscapes from different practices/professional fields and stakeholder groups generates problems and opportunities for regional development.

*Skills and abilities*  
- independently analyse the landscape contents and identify the possible needs for different conservation and remediation activities,  
- implement the notion of cultural ecosystem services as planning outcomes within cultural landscapes management,  
- carry out stakeholder analyses for strategic planning of landscape conservation

*Judgement and approach*  
- explain and motivate the need for conservation, remediation and development activities for a specific landscape,  
- assess the cultural and natural resources for local and regional development with regards to stakeholder interests, preservation motives and development needs
Literature

Compulsory readings:


Recommended readings:


*Landscape Planning at a Local Level in Europe. The cases of Germany, France, the Netherlands, the United Kingdom, Switzerland and the Wallon Region in Belgium*. Edited by: Pere Sala, Laura Puigbert, Gemma Bretcha. Landscape Observatory, Documents 02, Observatori del Paisatge de Catalunya, 2014


Némethy, S., B. Lagerqvist, B. Walas (2016) Economically sustainable organic wine production and ecological wine tourism can ensure the conservation of valuable viticultural landscapes and their cultural heritage. in *Journal of Central European Green Innovation*, vol 4:3 pp. 47-58 HU ISSN 2064-3004.


**Course leader:** Bosse Lagerqvist / Sandor Némethy

**Other contributors:**

**Contact:** bosse.lagerqvist@conservation.gu.se
Course unit: Theory and history of conservation
Course code: KU0870

<table>
<thead>
<tr>
<th>Credit points: 8</th>
</tr>
</thead>
</table>

Course type, number of lessons: MSc, 4 seminars, a number of individual tutorials

Method of assessment: A) Literature seminar with assignment, B) individual paper c. 3500 words

Course in the curriculum (which semester is the course taught in): 2nd semester

Entry requirements (if any): Bachelor’s degree

**Course description:** Students are trained to use conservation concepts in a critical and independent way. The principles and context of international declarations and conventions are presented and analysed. Furthermore, the course deals with the history of conservation and conservation ethics through selected examples.

**Aim:** The course aims to provide in-depth understanding of basic concepts and theoretical issues in the field of conservation through historical and international perspective.

**Learning outcomes:**

**Knowledge and understanding**
- Describe and explain the central concepts of conservation found in the literature.
- Account for the main features in the development of policymaking and planning practice in conservation concerning natural and cultural, tangible and intangible, international and local values present in the landscape.

**Competence and skills**
- Apply concepts, and historical perspectives, to conservation interventions in order to identify and analyse professional issues.

**Judgement and approach**
- Identify, exemplify and critically process ethical problems in conservation as practiced in real situations.
- Describe and analyse the relationship between scientific knowledge and professional decision-making in conservation

**Literature**

**Compulsory readings:**
<table>
<thead>
<tr>
<th><strong>Recommended readings:</strong></th>
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</thead>
</table>

**Course leader:** Bosse Lagerqvist / Ola Wetterberg

**Other contributors:**

**Contact:** bosse.lagerqvist@conservation.gu.se
<table>
<thead>
<tr>
<th>Course title: Cultural and historical geography of grapes, wine and gastronomy, I-II</th>
<th>Credit number: I. 3+2  II. 2+2</th>
<th>Level: MSc</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lesson type, number of hours: lecture and practice. Per semester: 3/30 and 2/15</td>
<td>Method of examination (coll. / practice mark / other): colloquium + practical grade</td>
<td></td>
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<tr>
<td>Place of the subject in the curriculum (number of semesters): 1 - 2</td>
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</table>

Prerequisites (if any):

**Course description:** a concise, informative description of the knowledge to be acquired and the competencies to be developed

Course description: Through the discussion of the natural, cultural and economic geography of grapes, wine and gastronomy in each country in a historical context, the historical significance of wine culture and its role in the cultural history of humankind also illuminates the students’ horizons by gaining insight into the agriculture, craft industry, food processing, gastronomy and cultural history of the peoples and ethnic groups of the world. Due to its scope, the subject is taught for two semesters, in the third and fourth semesters. In the third semester, the wine-producing regions of Europe, in the fourth semester of Asia and the New World (Canada, USA, Central America, South America, North and South Africa, Australia and New Zealand) will take place.

Course content: Grapes are the cultural and historical geography of wine and gastronomy. Wine-growing areas of the world, viticultural landscapes, world heritage wine-growing regions, wine museums (material and intellectual monuments of wine culture in public collections). Grape varieties of different wine regions, indigenous varieties, viticultural and oenological traditions, wine culture and cultural heritage by region, wine trade and wine tourism, famous wine routes, infrastructure, national gastronomic traditions, special food, and wine pairings. Wine laws and protection of origin by country and region. Wine and gastronomic geography of Europe: France, Italy, Spain and the Canary Islands, Portugal and the Azores, Germany, Austria, Switzerland, Slovakia, Czech Republic, Hungary, Romania, Bulgaria, Slovenia, Croatia, Serbia, Montenegro, Macedonia, Greece, Cyprus, Israel, Lebanon, Britain and the “cold” wine regions, which is also developing in Northern Europe. Wine production in Asia, including countries that are borderline cases, is sometimes classified as Europe: Turkey, Armenia, Georgia, Azerbaijan, India, China, Japan, and other Far Eastern countries. Wine-growing regions of Africa: Viticulture and viticulture in North Africa and South Africa. Wine regions of North and Central America: Canada, United States, Mexico. Wine regions of South America: Chile, Brazil, Argentina, Uruguay. Grape and wine production in Australia and New Zealand.

A list of the 3-5 most important required or recommended literature (notes, textbooks) with bibliographic data (author, title, edition data, pages, ISBN)

**Required reading:**


**Ajánlott irodalom:**


**Course leader** (name, position, scientific grade): Dr. Habil. Némethy Sándor PhD

**Instructor** (s) involved in the teaching of the subject, if any (name, position, degree): Invited lecturer: Prof. Dr. Vitorino Novello, University of Torino, Italy.
# Environment Economics and Natural Resources

**Course code:** U15-0078-I  
**ECTS Credit points:** 6  
**Level:** MSc.

<table>
<thead>
<tr>
<th>Course type, number of lessons:</th>
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</thead>
<tbody>
<tr>
<td>Lecture 2 hours weekly / 26 hours per semester of study (on-site method)</td>
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<tr>
<td>Seminar 2 hours weekly / 26 hours per semester of study (on-site method)</td>
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<thead>
<tr>
<th>Method of assessment:</th>
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<tbody>
<tr>
<td>Term paper (15 points), written review of knowledge (10 points), final exam (75 points)</td>
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</table>

A 100 - 93 points  
B 92 - 86 points  
C 85 - 79 points  
D 78 - 72 points  
E 71 - 64 points

<table>
<thead>
<tr>
<th>Course in the curriculum:</th>
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<tbody>
<tr>
<td>Regional Development and Policies of the EU - master (required), 3rd semester</td>
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<tr>
<td>Regional Development and Policies of the EU - master (required), 3rd semester</td>
</tr>
<tr>
<td>Rural Development and Development of Rural Tourism - master (required), 1st semester</td>
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<tr>
<th>Entry requirements:</th>
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<tr>
<td>none</td>
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<table>
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<tr>
<th>Course description:</th>
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**Aim:**  
Links between the natural system and the socio-economic system, natural resources, their classification, reproduction and appraisal, the environment and its relationship to the economic system, market failures due to pollution, optimum environmental quality, regulatory instruments for environmental protection, environmental policy.

**Competences/expected learning outcomes:**

**Knowledge and understanding:**  
A student is familiar with the theoretical background of the function of environment in the socio-economic system, the causes and consequences of economic externalities due to environmental degradation and the methods and forms of their removal and compensation, management regularities of economic exploitation of natural resources, their valuation and the importance in socio-economic reproductive process.

**Skills and abilities:**  
A student will gain deeper theoretical background of the function of environment in the socio-economic system.

**Judgement and approach:**  
Term paper (15 points), written review of knowledge (10 points), final exam (75 points)  
A 100 - 93 points  
B 92 - 86 points  
C 85 - 79 points  
D 78 - 72 points  
E 71 - 64 points

<table>
<thead>
<tr>
<th>Literature</th>
</tr>
</thead>
</table>

**Recommended readings:**
1. Fáziková, M.: Učebné texty z ekonomiky životného prostredia a prírodných zdrojov, www-is.uniag.sk
2. Hronec, O. a kol: Prírodné zdroje , Royal Union, Košice 2000

<table>
<thead>
<tr>
<th><strong>Course leader:</strong></th>
<th>doc. Ing. Mária Fáziková, CSc.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Other contributors:</strong></td>
<td>Ing. Martin Mariš, PhD.</td>
</tr>
<tr>
<td><strong>Contact:</strong></td>
<td><a href="mailto:maria.fazikova@uniag.sk">maria.fazikova@uniag.sk</a></td>
</tr>
</tbody>
</table>
### Course title: Geographical information systems in RD

<table>
<thead>
<tr>
<th>Course title: Geographical information systems in RD</th>
<th>ECTS Credit points: 4</th>
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<tbody>
<tr>
<td>Course code: U15-0097-I</td>
<td>Level: MSc.</td>
</tr>
</tbody>
</table>

### Course type, number of lessons:
Seminar, 3 hours weekly / 39 hours per semester of study (on-site method)

### Method of assessment:
term paper, practical skills exam

### Course in the curriculum:
1st (winter)

### Entry requirements:
one

### Course description:

<table>
<thead>
<tr>
<th>Aim:</th>
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<tbody>
<tr>
<td>The subject helps students to become familiar with the basics of geographic information systems in QGIS environment, to handle geographic data, manipulate, analyze, and transform them into final map compositions.</td>
</tr>
</tbody>
</table>

### Competences/expected learning outcomes:

#### Knowledge and understanding:
Gaining theoretical knowledge of GIS and practical experience of QGIS software.

The student understands the issue of GIS, can address the underlying role and use of appropriate software, can apply knowledge of various disciplines in GIS format, can analyze the specified tasks in the GIS environment, especially in spatial analysis and present the survey results in graphical form, which can identify the results addressed in assignments.

#### Skills and abilities:
Students will be familiar with the basics of geographic information systems in QGIS environment, handle geographic data, manipulate, analyze, and transform them into final map compositions.

#### Judgement and approach:
term paper, practical skills exam

### Literature

<table>
<thead>
<tr>
<th>Recommended readings:</th>
</tr>
</thead>
</table>

### Course leader:
doc. Ing. Štefan Buday, PhD.

### Other contributors:
Ing. Martin Hauptvogl, PhD.

### Contact:
stefan.buday@uniag.sk
<table>
<thead>
<tr>
<th>Course title: Projects for natural resources use and protection</th>
<th>ECTS Credit points: 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course code: U15-0145-I</td>
<td>Level: MSc.</td>
</tr>
</tbody>
</table>

**Course type, number of lessons:**
- Lecture: 2 hours weekly / 26 hours per semester of study (on-site method)
- Seminar: 2 hours weekly / 26 hours per semester of study (on-site method)

**Method of assessment:** Written test, seminar thesis – project

**Course in the curriculum:** 3rd (winter)

**Entry requirements:** none

**Course description:**

**Aim:**

**Competences/expected learning outcomes:**

**Knowledge and understanding:**
After completion of the subject the student will be able to prepare a project about the use and conservation of natural resources individually or in cooperation with stakeholders (minerals, soil, water, energy, biota, space etc.).

**Skills and abilities:**
After completion of the subject the student will be able to prepare a project about the use and conservation of natural resources individually or in cooperation with stakeholders (minerals, soil, water, energy, biota, space etc.).

**Judgement and approach:**
Written test, seminar thesis - project

**Literature**

**Recommended readings:**

**Course leader:** prof. Ing. Alexander Fehér, PhD.

**Other contributors:** -

**Contact:** alexander.feher@uniag.sk
Course title: Agri-Environmental Legislation of the EU
ECTS Credit points: 4
Level (BSc/MSc/PhD): MSc.

Course code:

Course type, number of lessons: 2 lectures/1 tutorial per week (26 lectures/13 tutorials per semester)

Methodology of teaching content: lectures including guest speakers, seminars, practical assignments, class discussion, team project work, study of related publications and relevant websites.

Method of assessment: class participation (10%) + team project work (40%) + written exam (50%)

Course in the curriculum (which semester is the course taught in): winter/summer semester

Entry requirements (if any): -

Course description: Information outlining the course requirements in a concise yet descriptive manner.

Aim:
This course reacts to the legal issues in agri-environmental policy of EU by underlying the importance of integration of environmental considerations into Common Agricultural Policy rules with the aim to maintain sustainable agriculture and environment. From this point of view is necessary to focus on new legal aspects of these changes.

Aims of the course:
- to identify and explain the key agri-environmental legislation issues in the EU;
- to provide information on the current state and changes in the conditions of the environment in agriculture from legal point of view
- to develop student’s own perspective on the multi-faceted agri-environmental legislation, and its connection to a range of other substantive and procedural legal areas
- to teach basic of contractual agri-environmental legislation of EU

Competences/expected learning outcomes:

Syllabus of lectures

1. week: Introduction to the Agri-Environmental Policy of the EU
Introduction to environmental integration and Common Agricultural Policy. Questions for class discussion: Functions of environment and agriculture for society? What is the impact of EU agri-environmental policy for farmers and society?

2. week: Characteristic of Agri-Environmental legislation of the EU
History and development of agri-environmental legislation in EU, fundamental principles, philosophy and concepts, legal sources of Agri-environmental legislation of EU

3. week: Subject of Agri-Environmental legislation of the EU
Explanation of European and Slovak institutions within the field of agri-environmental legislation- their importance, tasks, relations among them. Subjects of agri-environmental legislation- EU and Slovak institutions, decision-making process, importance of practice of the courts, tools of protection.

4. week: Constitutional and legal protection of the environment and agriculture

5. Week: Agri-Environmental legislation of the EU and its implementation in EU member states

6. week: Liability in Agri-Environmental law of the EU
Explanation of the division on criminal, civil and administrative legal liability in relation to the environment and agriculture. The consequences of broken rules governing the protection of the environment, institutions
of criminal, civil or administrative legal liability. Legislation crimes and offenses in the field of environment and agriculture.

7. week: Fundamental cross-cutting legislation in environmental legislation
Act on environment, Act on nature and landscape protection. General environmental care. Measure under farmers on agri-environmental policy. Legal instruments for implementation, cross compliance.

8.-9. week: Legal regulations of particular elements of environment
   a) agriculture and soil protection
   b) water policy in EU
   c) plans and animals protection

10. week: Agriculture and environment related to Contractual Arrangements
Clarification of basic environmental issues in relation to agriculture. Measure under farmers on agri-environmental policy. Proceeding of concluding contracts with agri-environmental clauses and contracts with specific product- agricultural product

11. week: Implementation of the Common Agricultural Policy in the Slovak legal system
Instruments for implementation of European legislation into Slovak legal order. Advantages and shortages of the implementation of European legislation into legal orders of EU member states.

12. week: Lecture with selected expert

13. week: New trends of Agri-Environmental legislation
New trends and expected reforms of Common Agricultural Policy related to environmental measures. Questions for class discussion: how do you see future in Agri-Environmental Policy of the EU? What do you think about prepared reforms of CAP? Positives and negatives aspects of Agri-Environmental Legislation of the EU for farmers, for countryside and rural development?

Syllabus of tutorials
1. week: Introduction to the Agri-Environmental Policy of the EU

2. week: Practical case studies I.
Practical examples related to the protection of environment in relation to private law. Explanation of action and the possibility of judicial protection.

3. week: Practical case studies II.
Practical examples related to the protection of environment in relation to public law. Explanation of administration and the possibility of protection by state authorities.

4. week: Self-study
Self-study is designed to prepare team presentations of students work

5. - 6. week: Team presentations of students work
Students’ teams present agreed-upon views related to different topics:
   a) food safety law
   b) a land use in EU and Slovakia
   c) Protected Designation of Origin (PDO), Protected Geographical Indication (PGI)- case studies
   d) agriculture and biodiversity (Biodiversity Action Plan for Agriculture)
   e) agri-environmental measures in regional development plans

7. week: Summary
Summary of the basic issues of environmental law and agrarian law. Discussion to obtain feedback from students. To the conditions specified for the subject, granting credits.

Knowledge and understanding:
Students will obtain knowledge about the EU agri-environmental legislation in the EU in the wider perspective.

Skills and abilities:
Students will be able to understand and implement legal acts in the practical cases.

Judgement and approach: class participation (10%) + team project work (40%) + written exam (50%)

**Literature**

**Compulsory readings:**
5. specific EU legal acts and specific political documents

**Recommended readings:**

Course leader: assoc. prof. Lucia Pašová, PhD.

Other contributors: prof. Anna Bandlerová, PhD.; prof. Ing. Pavol Schwarcz, PhD.

Contact: lucia.palsova@uniag.sk
**Course title:** Basic landscape ecology  
**ECTS Credit points:**  
**Course code:**  
**Level (BSc/MSc/PhD):**

**Course type, number of lessons:** seminar, 26  
**Method of assessment:** exam, report, presentation  
**Course in the curriculum (which semester is the course taught in):** 1  
**Entry requirements (if any):** no  

**Course description:** Information outlining the course requirements in a concise yet descriptive manner.

**Aim:** Students get acquainted with the basic concepts and principles of landscape ecology.

**Competences/expected learning outcomes:** Students know the basic concepts and terminology of ecology, including both ecological and geographical aspects. They know the main directions of landscape ecology ecology research, especially those where the biological components are dominant. Students are able to overview complex landscape ecological systems, to formulate appropriate research questions, and integrate knowledge of connected disciplines. They are able to communication and transdisciplinary cooperation with geographers, landscape architects, land developers, conservation experts, etc.) both in theoretical and applied research projects.

**Knowledge and understanding:** This course provides the scientific base for the “cultural landscapes” topic. Students acquire knowledge on the following topics:
- Landscape ecology basics: „geo-ecology” and „bio-ecology” aspects.
- Time and spatial scales in ecology. Phenomena, processes, diversity; and research methods on different scales.
- Main study areas, study methods and research planning outlines.
- Ecological interpretation of maps and remote-sensing data. Use of GIS in landscape ecology.
- Basic models in landscape ecology: island biogeography, metapopulation ecology. Fragmentation, corridors, edge effect and their ecological and conservational aspects.
- Living landscape elements. Movement of living organisms in the landscape.

**Skills and abilities:**
- Communication with scientists of different disciplines (ecology, geography, social sciences)
- Communication with stakeholders and decision-makers in landscape-level issues
- Project development and management
- Critical thinking (problem definition, analysis and synthesis)
- Report Writing and presentation skills
- Use GIS to study and understand landscape patterns and processes

**Judgement and approach:**
- students’ presentations, essays, teamwork

**Literature**
- Compulsory readings: McGarigal, K: Introduction to Landscape Ecology and references therein

**Recommended readings:**
- Publications in highly renowned scientific journals of the field, e.g. Landscape Ecology (Springer, Q1, IF=4.39)

**Course leader:** Adrienne Ortmann-Ajkai, PhD

**Other contributors:** no

**Contact:** aadrienn@gamma.ttk.pte.hu
## Course unit: Inorganic, organic and biochemistry

### Course code: [Credit points: 6]

**Course type, number of lessons:** Compulsory; weekly contact hours: 2 hours of lectures and 3 hours of exercise/laboratory

**Method of assessment:** seminar work and written assignment

**Course in the curriculum (which semester is the course taught in):** 1st semester

**Entry requirements (if any):** -

### Course description: Information outlining the course requirements in a concise yet descriptive manner.

**Aim:** The aim of this subject to furnish the students with the most necessary, basic knowledge in chemistry in order to enable them to participate in more advanced courses in landscape management, agriculture and environmental sciences. The content of the course: Principles of general and inorganic chemistry provides the basic knowledge of the atomic structure of chemical species, chemical bonds, general properties of solutions, general features of the reactions (stoichiometry, spontaneity, completeness, rate) and the main parameters which affect these properties, elements of thermodynamics and kinetic. Chemical reactions and equations; mass conservation law. Equation balancing. Redox reactions and their balancing. Reactions in solution and ionic equations; redox half-reactions. Mass relation in the reactions; equivalent weight. Acids and bases. Protonic theory of acid and bases. Autoionization: Kw, Ka and Kb. Polyprotic acids and bases. Molecular structure and acid/base properties. Acidity of solutions: pH. Acid-base reactions. Buffers, pH and solubility. The principles of organic chemistry. Classes of organic compounds; types of organic reactions. Biologically most important organic compounds. Basic biochemistry. The structures of macromolecules. Biomolecules and their reactions in aqueous solutions. Biochemical reactions, enzyme kinetics. The structural elements of storage and expression of genetical information. Basic elements of analytical chemistry: the most important classical and instrumental methods of qualitative and quantitative analysis.

**Competences:**

**Knowledge:** The students will acquire the basic elements of general, inorganic, organic and biochemistry, will be able to identify the structure, geometry and nomenclature of inorganic and organic compounds, balance chemical reaction starting from reagents and to predict if they are or not spontaneous reactions.

**Abilities:** Students shall be able to apply their knowledge for more advanced studies, search scientific literature, carry out basic research under guidance of supervisors, write reports and assignment works in the subject areas demonstrating herewith the thorough knowledge of concepts and the relevant scientific terminology.

**Attitudes:** Diligence regarding systematic learning and acquisition of knowledge concerning "cutting edge" research and application of the subject areas in further studies.

### Literature

**Compulsory readings:**
1. Lecture notes
2. PPT presentations
3. Handouts, assigned chapters from recommended literature

**Recommended readings:**

  760 pages
  1344 pages.

**Course leader:** Sándor Némethy

**Other contributors:** Invited lecturers in certain subjects

**Contact:** sándor@conservation.gu.se
Course title: Environmental economics and ecosystem services

ECTS Credit points: Level (BSc/MSc/PhD):

Course type, number of lessons: seminar, 26

Method of assessment: exam, report, presentation

Course in the curriculum (which semester is the course taught in): 2

Entry requirements (if any): no

Course description: Information outlining the course requirements in a concise yet descriptive manner.

Aim:
Students know the basic concepts of environmental economics, with special respect to the ecosystem services concept and its applications in practice

Competences/expected learning outcomes:
Students get acquainted the basic concepts and terminology of environmental economics. They understand the development of the concept of ecosystem services (ESs) and the frameworks of ES classification. They will be able to estimate of ESs in different scales: from biomes to locals.

Knowledge and understanding:

Skills and abilities:
Communication with scientists of different disciplines (ecology, economy, geography, social sciences)
Communication with stakeholders and decision-makers in environmental and economic development issues.
Project development and management
Critical thinking (problem definition, analysis and synthesis)
Report Writing and presentation skills
Use quantitative monetary estimation methods in practical cases.

Judgement and approach:
students’ presentations, essays, teamwork

Literature

Compulsory readings:
Fogarassy, Cs. Environmental economics textbook (https://www.researchgate.net/publication/319433901_ENVIRONMENTAL_ECONOMICS_TEXTBOOKS) and references therein

Recommended readings:
Publications in highly renowned scientific journals of the field, e.g. Journal of Environmental Economics and Management, (Elsevier, Q1, IF=4.175)

Course leader: Adrienne Ortmann-Ajkai, PhD

Other contributors: no

Contact: aadrienn@gamma.ttk.pte.hu
Course title: Historical and cultural approaches of landscape change

ECTS Credit points:
Level (BSc/MSc/PhD):

Course code:

Method of assessment: Lecture/seminar

Course in the curriculum (which semester is the course taught in):

Entry requirements (if any):

Course description: Information outlining the course requirements in a concise yet descriptive manner.

Aim:
Landscapes were created by communities, societies and a lot of individuals who were not aware of their importance in the making of cultural landscapes. The goal of the course is to show how complex, small and large scale processes going on for centuries produced cultural diversity. The course gives an overall view of the crucial disciplines focusing on human – landscape relations. Beside basic theoretical questions it demonstrates several examples (Hungarian, Central-European) of landscape change and their effects on communities. People’s attitude towards scientific questions is also studied here, and the use of historical data too. During the semester we will discuss present-day cultural alterations as well. The course ends with student presentations.

Key words: landscape history, environmental history, landscape anthropology

Competences/expected learning outcomes:

Knowledge and understanding:

Human - landscape relations in general:
1. Cultural ecology
2. Environmentalism
3. Landscape history – historical dimensions of landscape (theoretical background, sources, eras)
4. Approaches and methods in reading the landscape
5. Concepts/images of rural in 21st century
6. Radical rurality – theory and case studies

Focuses (examples) of human – landscape relations:
7. Hungarian Floodplain farming – theory (Sárköz, Ormánság)
8. Discussion on waters – man made alterations of rivers, lakes
9. Change of settlement pattern – (puszta, colonization, dispersed villages)
10. Discussion on settlement processes
11. Pastures – change of European woodlands from the Middle Ages up to nowadays
12. Discussion on pastures
13. Woodlands
14. Discussion on woodlands

Skills and abilities:
After completing the course, students will be:
• able to identify the relevant questions and paradigms of historical and cultural
approaches of landscape change

- able to work with various sources and to match historical and present-day phenomena and trends
- able to conduct on their own qualitative research based on written sources
- able to get acquainted with the topics of the course independently and to deepen their knowledge in the topics and methodologies
- aware of the most important literature on the topic

Judgement and approach:
One midterm test about human – landscape relations
Presentations: accomplishing tasks individually and in teamwork (4 presentations have to be made in teams)

<table>
<thead>
<tr>
<th>Literature</th>
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<tr>
<td>Compulsory readings:</td>
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<tr>
<td>Recommended readings:</td>
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Course leader:  Gábor Máté PhD

Other contributors: Judit Farkas PhD, Anna Varga PhD

Contact: Judit Farkas, farkas.judit@pte.hu
<table>
<thead>
<tr>
<th>Course title: Rural societies and development</th>
<th>ECTS Credit points:</th>
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<tr>
<td>Course code:</td>
<td>Level (BSc/MSc/PhD):</td>
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<th>Course type, number of lecture hours:</th>
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<tr>
<td>Method of assessment: Lecture/seminar</td>
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<td>Course in the curriculum (which semester is the course taught in):</td>
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<td>Entry requirements (if any):</td>
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**Course description:** Information outlining the course requirements in a concise yet descriptive manner.

**Aim:**
Rural development encompasses a plethora of practices from supranatural, large-scale top-down development schemes to local, grassroots initiatives. The course focuses on the societal aspects of development; most importantly on how different forms of development activities affect the societies they aim to help. Using various case studies based on ethnographic fieldwork in Hungary, Romania and Russia, it addresses the complexities of, and problems posed by development activities. Students will also learn about various methods of development, from modernist, top-down approaches to participatory practices, the concept of new governance, and integrated rural development based on local knowledge and resources. They will also learn about the New Rural Paradigm and the policies it has produced. A special emphasis is put on the role agri-food and biotechnology sectors play in development policies. Besides showing students “good” and “bad” practices in development, the course also introduces them to the social scientific study of development practices.

**Competences/expected learning outcomes:**

**Knowledge and understanding:**
1. Theories of development (modernist, neo-marxist, discursive)
2. Problems of effectiveness – which practices work or don’t work and why?
3. Sustainability – what makes development projects sustainable?
4. Intended and unintended outcomes of development projects
5. Power relations in development processes
6. Inequalities caused or reinforced by planned development
7. Ecological impacts of development projects
8. New tendencies in development: participative governance, integrated rural development and other local resource based development theories
9. What happens when top-down development meets grassroots development
10. Local reactions to top-down development – agency and resilience
11. Ecological grassroots development – case studies: ecovillages, permaculture, alternative food networks etc.
12. Development in local focus: municipalities and local development
Skills and abilities:
After completing the course, students will be able to:
- identify the relevant questions of development
- identify possible risks and benefits of development projects
- apply a local resource based and participative point of view in planning development strategies
- use ethnographical methods in understanding the relationship of rural societies to development

Judgement and approach:
Teaching methods:
Lectures (online or offline), group discussions
Assessment:
Analysis and evaluation of a development project (6-8 page)

Literature
Compulsory readings:

Recommended readings:

Course leader: Hesz, Agnes, PhD

Other contributors: Nagy, Zoltán PhD. Farkas, Judit PhD. Balogh, Pál Géza. Balatonyi, Judit PhD

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