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| Course: | Rural Ecology |
| Course id:2МRR1О04 |
| Number of ECTS: 4 |
| Teacher: | Professor Zora Dajić Stevanović, PhD |
| Assistant: |  |
| Course status | Mandatory |
| Number of active teaching classes (weekly) |
| Lectures: 2 | Tutorials: 2 | Other teaching types: | Study research work: | Other classes: |
| Precondition courses | None |
| 1. Educational goals

Acquisition of the skills and knowledge about natural and anthropogenic ecosystems; the management and use of natural resources; the importance of preserving biodiversity and environmental protection as a key constituent of sustainable rural development.  |
| 1. Educational outcomes

Upon meeting the examination requirements, students will be able to: comprehend the importance and meaning of biodiversity and sustainable use of natural resources, apply suitable agroecological practices in order to preserve nature and natural resources, recognise the role of certain groups and local communities in the wider context of regional development of rural areas, and know national and international regulations as well as international standards and recommendations. By acquiring the knowledge and skills in the course Rural Ecology, students will be capable of planning various activities which stimulate the development of rural areas, support local communities in the implementation of models based on the sustainable use of natural resources and biodiversity preservation, and applying adequate legislative and international standards in the field of environmental protection.  |
| 1. Course content

*Theoretical instruction*Introduction to rural ecology (the concept of ecosystem, elements of an ecosystem: biotope and biocenosis, basic characteristics of a habitat; soil, water, circulation of matter and energy in an ecosystem – biogeochemical cycles); 2. Ecosystem services (the concept of ecosystem services, direct use of ecosystems, indirect use of ecosystems, regulatory services of an ecosystem, economic value and the Millennium Assessment); 3. Natural and anthropogenic ecosystems: natural and semi-natural ecosystems (forests, natural grassland, semi-natural grassland – salt marshes, ecosystems of aquatic and moist habitats), anthropogenic ecosystems (fields, orchards, vineyards, vegetable gardens, gardens, ruderal habitats); 4. The concept and importance of biodiversity preservation (biodiversity – definitions, three levels of biodiversity, the importance of biodiversity preservation and use, biodiversity and rural development – introductory and general notions); 5. Sustainable use of biodiversity in rural areas (forests and forest resources, grassland – pastures as highly valuable agricultural areas, the utilisation of other natural ecosystems – aquatic and moist habitats; medicinal plant gathering and growing, beekeeping, rural tourism, hunting and fishing, waste management, climatic changes, renewable energy sources: biomass, wind, solar energy); 6. Impacts on the environment (agriculture, infrastructure, traffic, energy industry, tourism); 7. Agroecological practices and sustainable management of natural resources (the concept and application of agroecological practices, protected natural resources and sustainable development, traditional agriculture, autochthonous genetic resources – old varieties of plant and animal races, low input and organic agriculture, biogardens...); 8. Legal framework and international standards in natural protection and natural resource use (CBD, Habitat directive, ecological networks and Natura 2000, the International Treaty on Food and Agriculture, GAP, GACP ...); 9. Roles of local communities and participants in natural resource management (assessment of effects on the environment, assessment of acceptability, projecting and planning – basic information …).  |
| 1. Teaching methods

Traditional interactive lectures (e.g. *Zasavica* – models of sustainable pasture use, autochthonous races, biodiversity of grasslands, aquatic and moist ecosystems, rural tourism, brands, *Ethno villages* – ethno-tourism, Wine routes of Fruška gora – an example of sustainable agriculture and tourism in protected agricultural areas, Biogardens – agroecological practices and organic agriculture), Workshops and case studies (stakeholder analysis, an example of ecological crisis due to excessive exploitation of natural resources, traditional types of biodiversity protection and use as active protection measures).  |
| Knowledge evaluation (maximum 100 points) |
| Pre-examination obligations | Mandatory | Points | Final exam  | Mandatory | Points |
| Homework  | Yes/No | **30** | Oral exam | Yes/No | **60** |
| Tutorial attendance | Yes/No | **10** |  |
| Tests | Yes/No | **-** |
| Seminars | Yes/No | **-** |
| Literature  |
| Ord. | Author | Title | Publisher | Year |
|  | Dajić Stevanović, Z., Bernhardt, K.G. | Biodiverzitet i prirodni biljni resursi u poljoprivredi, skripta | Poljoprivredni fakultet, Beograd | 2010 |
|  | Snežana Oljača | Ekologija i agroekosistemi. Monografija | Poljoprivredni fakultet, Zemun, 180pp | 2010 |
|  | Papers from international journals in the field of rural ecology |
|  | Gurevitch G, Schneider S., Fox G. | The ecology of plants. Second ed. | Sinauer Ass., Sunderland, USA | 2006 |
|  | Jorgensen, S.E. (chief ed.) | Encyclopedia of Ecology | Vol 4. Elsevier. | 2008 |