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| Study program: Civil Engineering | | | |
| Course: Ecological Engineering | | | |
| Professor/Assistant: PhD Mladen A. Tomić / Milan Protić | | | |
| Status of course: elective | | | |
| ECTS credits: 5 | | | |
| Pre-requisites: none | | | |
| Aims of the course: The aim of the course is that a student: <ul style="list-style-type: none"> - recognizes the responsibility and the role of engineers in environmental protection; - identify basic environmental problems independently; - identify independently the optimal technologies from the point of view of economy, social needs and ecology. | | | |
| Learning outcomes: After taking the course, students will be able to: <ul style="list-style-type: none"> - evaluate ecological problems and their connections with construction. | | | |
| Syllabus: <i>Theoretical part</i> Basic concepts (ecology, environment and nature). Principles of environmental protection. Extreme phenomena. Climate change. Depletion of the ozone layer. Acidification. Degradation of water, forests and land. Urban stress. Concept of sustainable development. Overview of basic multilateral environmental agreements. European Union law in the field of environment. Impact assessment and strategic impact assessment. Environmental monitoring. Sustainable development indicators. Non-renewable and renewable energy resources. Pollution of surface and groundwater. Water protection measures. Waste management principles. Methods and procedures for waste treatment. Sustainable construction. Environmental projects. <i>Practical part</i> Analysis of case studies. Preparation of a seminar paper. Tests for colloquiums. | | | |
| Literature: <ol style="list-style-type: none"> 1. Kosanović, S., <i>Ekološki održive zgrade - Uvod u planiranje i projektovanje</i>, Zadužbina Andrejević, Beograd, 2009. 2. Gvozdenac, D., Gvozdenac-Urošević, B. Morvaj, Z., <i>Energetska efikasnost – Industrija i zgradarstvo</i>, FTN, Novi Sad, 2012. 3. Pavlović, M., <i>Ekološko inženjerstvo</i>. Univerzitet u Novom Sadu, Tehnički fakultet "Mihajlo Pupin", Zrenjanin, 2004. 4. Pavlović, M., <i>Resursi i ekologija</i>. Univerzitet u Novom Sadu, Tehnički fakultet "Mihajlo Pupin", Zrenjanin, 2002. | | | |
| Number of active classes | | | Other forms of teaching: |
| Lectures: 2 | Practical classes: 2 | Laboratory classes: 0 | |
| Teaching methods: Combined, interactive with case management from practice. | | | |
| Grading system (maximum 100 points), grading scale from 5 to 10: below 51 points grade 5, grade 6 from 51-60 points, grade 7 from 61-70 points, grade 8 from 71-80 points, grade 9 from 81-90 points, grade 10 from 91-100 points. | | | |
| Pre-commitments | points | Final exam | points |
| activity during lectures and practical | 10 | written exam | - |
| practical training | 20 | oral exam | 30 |
| colloquium(s) | 20 + 20 | | |
| Sum | 70 | Sum | 30 |