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|--|--|-------------|--------------------------|------------------------------|------------------------------|-----------------|------------|
| Title | Modelling for optimum environmental management | | | | | | |
| Code | ZDOB13 | | | | | | |
| Study Program | Ph.D. study in environmental and nature protection | | | | | | |
| Semester | I | | | | | | |
| ECTS | 6 | | | | | | |
| Status | * obligatory <input type="checkbox"/> elective | | | | | | |
| Lecturer | Prof. dr. sc. Tarzan Legović | | | | | | |
| Co-Lecturers | Dr. sc. Tin Klanjšček, Dr.sc. Sunčana Geček | | | | | | |
| Requirements for Enrolment | Undergraduate courses in calculus and statistics | | | | | | |
| Objectives | Enable students to understand and strive for optimum environmental management | | | | | | |
| Learning Outcomes | <ol style="list-style-type: none"> 1. Manage dynamics of an isolated population 2. Analyze prey-predator system 3. Identify factors which determine dynamics of competitive populations 4. Analyze mutualistic systems 5. Simulate given food chains and food web models 6. Construct simpler models of ecosystems | | | | | | |
| Connection between Learning Outcomes, Curricular and Student Activities | Student Activities | ECTS | Learning Outcomes | Curricular Activities | Methods of Assessment | Credits* | |
| | | | | | | min | max |
| | Active participation | 1 | 1-6 | Lectures | Monitoring | 3 | 5 |
| | Active participation | 1 | 1-6 | Exercises | Monitoring | 3 | 5 |
| | Exam preparation | 3 | 1-6 | Exercises | Exam | 7 | 12 |
| Total | 5 | | | | | 13 | 22 |
| Consultations | | | | | | | |
| Learning Activities | Lectures | | Seminars | | Practice | | |
| Hours | 10 | | | | 5 | | |
| Contents / Teaching Units | 1. Isolated population in constant, periodic and random environment; 2. Prey-predator system; 3. System of competitors; 4. Systems of commensals; 5. Food chains and webs; 6. Models of ecosystems, | | | | | | |
| Obligatory Literature | Sharov A. Quantitative population ecology, 2013 http://alexei.nfshost.com/PopEcol/ Kot. Elements of Mathematical Ecology, Springer, 2001 Murray J.D. Mathematical Biology, Springer, 2002 | | | | | | |
| Recommended literature | May R. , McLead A. (eds.) Theoretical Ecology, Oxford, 2007. | | | | | | |
| Requirements for Aquiring Signature | Active participation in lectures and exercises | | | | | | |
| Type of Exam | Written and oral | | | | | | |
| Lectures Language | Croatian and English | | | | | | |
| Quality Monitoring | Questionnaire after completion of lectures and exercises | | | | | | |