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| Course: | *Hidropedology* |
| Course id: 3МГБ1И32 |
| Number of ECTS: 6 |
| Teacher: | Prof. dr Borivoj Pejić, Mr. Ksenija Mačkić |
| Course status | Elective |
| Number of active teaching classes (weekly) |
| Lectures: 2 | Practical classes: 2 | Other teaching types: | Study research work: | Other classes: |
| Precondition courses | None |
| 1. Educational goal

Understanding the principles existing in the system of soil- water-plant |
| 1. Educational outcomes

Well trained engineers who can successfully perform irrigation without harmful effects on soil properties  |
| 1. Course content

Lectures:Problems that follow irrigation (water lodging and salinity of soil, leaching and fertility decrease of the ploughed land, deterioration of soil structure, infiltration decrease and irrigation erosion). Principles of rational irrigation. Physical properties of the soil (mechanical composition, soil structure, volume and specific mass of the soil, total and differential porosity, density and plasticity of the soil). Water categories in the soil (chemically bound water, hygroscopic water, film water, capillary water (“a capillary water in narrower sense”, “funicular capillary water”, contact capillary water, capillary suspended and capillary supported water), gravitation water and soils vapor content). The soils water constants and their use in irrigation (capillary water capacity, field water capacity - 33kPa, “the moisture of the capillary bond interruption”, -30kPa, lentocapillary moisture, -625kPa, wilting moisture, -150kPa – initial and permanent, water infiltration, soil permeability, soil moisture characteristics curve (pF), soil air capacity, aeration porosity). Water availability to plants, optimum level of soil moisture for plants growing, depth of soil wetting (effective root depth), irrigation rate (the irrigation water applied), soil, air and physiological drought.Practical classes:Soil sampling. Determination of physical and water properties of soil, construction of soil moisture characteristics curve (pF), calculation of the amount of water in the soil and irrigation rate, the use of determined soil physical and water properties in irrigation practice.  |
| 1. Teaching methods

Lectures, practical classes, consultations, research work |
| Knowledge evaluation (maximum 100 points) |
| Pre-examination obligations | Mandatory | Points | Final exam  | Mandatory | Points |
| Practical exam | Yes | 30 | Oral part of the exam | Yes | 60 |
| Test | Yes | 10 |  |
| Literature  |
| Ord. | Author | Title | Publisher | Year |
|  | Stewart, B.A and Nielsen, D.R., Editors | Irrigation of Agriculture Crops | American Society of Agronomy, Crop Science Society of America, Soil Science Society of America Publishers, Madison, Wisconsin USA | 1990 |
|  | Lascano, R.J andSojka, R.E, Co-Editors | Irrigation of Agricultural CropsSecond edition | American Society of Agronomy, Crop Science Society of America, Soil Science Society of America Publishers, Madison, Wisconsin USA | 2007 |

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| Znak univerziteta | UNIVERSITY OF NOVI SADFACULTY OF AGRICULTURE 21000 NOVI SAD, TRG DOSITEJA OBRADOVIĆA 8 | Znak fakulteta2 |
| Study Programme AccreditationMASTER ACADEMIC STUDIES FIELD PLANT GROWING |
| Table 5.2 Course specification |