

Course name: Chemistry in agriculture (IHA-306)			
Course status: Elective			
Number of ECTS credits: 5			
Requirement: none			
Course aim			
The course should enable the student to gain knowledge on basic issues related to soil fertility, origin and total nutrient content of soil, nutrient accessibility and their chemical behavior in soil, plant elements' acquirement depending on chemical processes in soil, division and properties of fertilizers, the origin and behavior of each macro and microelements in soil added to fertilizers, fertilizer effects, plant protection products, new methods of fertilizing and protecting soil and crops.			
Course outcome			
After successfully completing the course, the student is able to: Understand the processes that affect the accessibility of certain nutrients in the soil; knows the content of fertilizers and their impact on soil fertility; independently demonstrates different types and different methods of fertilization; independently interprets the measures whereby fertilizer application will meet environmental requirements, modifies and implements plant protection methods.			
Course content			
<i>Theory</i>			
Properties and factors of soil. Factors affecting the accessibility of soil elements: soil acidity, ion adsorption and colloidal soil complex, water-air regime of soil, oxide-reducing processes in soil, organic material in soil. Macros and micros elements: origin and their total content in the soil, their accessibility and their chemical behavior in the soil. Fertilizer division and their properties. Legislation on fertilizers and enrichment of soil. Impact of fertilizer on ecosystem. Plant protection preparations. Heavy metals and pollution of the soil and food. New preparations for nourishment of the soil in agriculture.			
<i>Practice</i>			
Soil fertility control systems and fertilizer use. Soil sampling. Determination of total and mineral nitrogen, phosphorus and potassium. Determination of microelements. Determination of nitrogen, phosphorus and potassium fertilizers. Principles for determining fertilizer doses.			
Literature			
1. Lecture notes			
2. Džamić, R., Stevanović, D., Agrohemija. Partenon, Beograd, (2007).			
3. Ubavić, M., Bogdanović, D., Agrohemija. Institut za ratarstvo i povrtarstvo, Novi Sad, (1995).			
4. Džamić, R., Stevanović, D., Jakovljević, M., Praktikum iz agrohemije. Poljoprivredni fakultet, Beograd, (1996).			
5. Ličina, V., Agrohemija. Zavod za udžbenike, Beograd, (2009).			
Number of classes of active teaching			Other classes
Lectures: 3(45)	Practice: 2(30)	OFT: 	
Teaching methods			
Lecture, lab work, group and individual consultations.			
Assessment of knowledge (maximum of 100 points)			
Pre-exam obligations	Points	Final exam	Points
activity during lecture classes	10	written exam	40
practical teaching	20	oral exam	30