

Table 5.2 Course specification

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| Type and level of studies: Bachelor | | | |
| Course name: Ecotoxicology | | | |
| Course status: obligatory | | | |
| Number of ECTS credits: 7 | | | |
| Requirement: None | | | |
| Course aim Introducing students to the mechanism of toxic effects of pollutants on individual organisms and ecosystems. Introduction to methods for quantification of toxic pollutants, their effects and predicting environmental effects. | | | |
| Course outcome Obtaining basic knowledge of toxicants in the environment, their distribution and transport and toxicity quantitation methods. Understanding the conditions under which the toxic effects occur, and the basic mechanisms of the most common environmental organic and inorganic pollutants toxicity and their consequences. | | | |
| Course content <i>Theory</i> Definition of basic concepts in ecotoxicology, primary sources, types and characteristics of toxicants. The study of the physical and chemical transformation of toxicants in the environment and their distribution and transportation. Studying the effects of toxicants on individual organisms through defining factors that determine the toxicity and persistence and biotransformation processes: toxicokinetics and toxicodynamics, carcinogenesis, teratogenesis and mutagenesis. Studying the effects of toxicants on population, community and ecosystem. Introduction to the quantitation of toxicity methods. The study of specific toxic effects of selected inorganic and organic pollutants. Introduction to the problems and methods for predicting ecological effects, risk assessment and regulatory aspects of ecotoxicology. <i>Practice:</i> Quantification and evaluation of ecotoxicological effects: toxicity tests (germination index, bioluminescence test) and risk assessment using various examples. Determination of octanol/water partition coefficient for selected pesticide. Qualitative and quantitative determination of selected toxicants in environmental samples. Bioavailability test using a selected compound from a group of polycyclic aromatic hydrocarbons. Determination of organochlorine pesticide content in selected plant. Application of screening analysis in predicting the toxicity of selected synthetic materials. | | | |
| Literature 1. J. Agbaba: Predavanja iz predmeta - Ekotoksikologija, PMF, Novi Sad, 2016. 2. M.P. Milošević, S.Lj. Vitorović: Osnovi toksikologije sa elementima ekotoksikologije, Naučna knjiga, Beograd, 1992. 3. R. Kastori: Teški metali u životnoj sredini, Naučni institut za ratarstvo i povrtarstvo, Novi Sad, 1997. 4. F. Plavšić, I. Žuntar: Uvod u analitičku toksikologiju, Školska knjiga, Zagreb, 2006. 5. M. Jablanović, P. Jakšić, K. Kosanović: Uvod u ekotoksikologiju, Univerzitet u Prištini, 2003. <i>Additional literature</i> 1. D.J. Hoffman, B.A. Rattner, G.A. Burton, J. Cairns: Handbook of ecotoxicology, CRC Press, 2002. 2. M.C. Newman, M.A. Unger: Fundamentals of Ecotoxicology, Lewis Publishers, 2003. 3. C. Walker, R.Sibley, D.Peakall, S.Hopkin: Principles of ecotoxicology, Taylor & Francis, 2000. 4. F. Moriarty: Ecotoxicology, Academic Press, 1999. 5. D. Connell, P. Lam, B. Richardson, R. Wu: Introduction to ecotoxicology, Blackwell Publishing, 1999. | | | |
| Number of classes of active teaching: 6(90) | | | Other classes |
| Lectures: 3 (45) | Practice: 3 (45) | OFT: | SRW: |
| Teaching methods: Lectures, laboratory work, consultations | | | |
| Assessment of knowledge (maximum of 100 points) | | | |
| Pre-exam obligations | Points | Final exam | points |
| activity during lecture classes | 5 | written exam | 40 |
| practical teaching | 20 | oral exam | 15 |
| colloquia (1) | 20 | | |