**Table 5.1** Course specification to doctoral study programs

|  |
| --- |
| **Course name: Selected chapters in hydrology** |
| **Teacher or teachers:** [**Blagojević D. Borislava**](../P%209.3%20Knjiga%20Nastavnika%20DOS%20He/48.%20Borislava%20D.%20Blagojevic%2C%20docent.xlsx)**,** [**Potić V. Olivera**](../P%209.3%20Knjiga%20Nastavnika%20DOS%20He/28.%20Olivera%20V.%20Potic%2C%20redovni%20profesor.xlsx) |
| **Course status:** Elective |
| **Number of ECTS:** 10 |
| **Precondition courses:** None |
| **Educational goal**The aim of this course is to explore the linkages between global environmental change and the hydrologic system: how changes in the catchment and the inputs to the catchment affect hydrological regimes, and also assesses the role played by hydrological processes in global environmental change. |
| **Educational outcomes** Students will integrate their knowledge of the hydrological sciences (climate, hydrology, hydrogeology) to understand the various linkages between the sub-disciplines, exploring the water cycle and its relevance to water resources. In the course project students will select a catchment and undertake a catchment change/climate change impacts/adaptation/mitigation assessment. Through the project students will demonstrate abilities to understand the change, apply learned concepts, analyze and evaluate new situation, and summarize their findings. |
| **Course content**The global water balance. Components of the water balance (Precipitation. Interception. Evaporation and transpiration. Soil moisture. Groundwater. Runoff generation and streamflow.). Water quality and the flux of materials (Physical water quality. Chemical water quality. Biogeochemical cycles.). Patterns of hydrological behaviour (Indicators. Variation over space. Variation over time.). Detecting and estimating change in the catchment (Land cover change effects. Catchment water use effects. Physical changes in the river network effects.). Changes to the inputs to the catchments (Acid deposition. Climate change due to global warming.). Hydrological processes and the earth system (The atmosphere. The oceans. Incorporating hydrological processes into climate models.). Hydrology and global environmental change (An overview). |
| **Literature**1. Arnell, N. (2002). Hydrology and Global Environmental Change. Prentice Hall. 368 pp. ISBN 978 0 582 36984 92. Intergovernmental Panel on Climate Change (IPCC) 4th Assessment Report http://www.ipcc-wg2.gov/publications/AR4/ |
| **Number of active teaching classes (weekly)** | Lectures: 4 | Study research work: 0 |
| **Teaching methods**Lectures. Individual consultations and group discussions. Learning by doing (course project). |
| **Knowledge evaluation (maximum 100 points)****Pre-examination obligations Points Final exam Points**Term paper **80** Оral part of the exam **20** |