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

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| **Course name: On-demand pressurized irrigation networks** | | |
| **Teacher or teachers:** [**Todorović R. Mladen**](../P%209.3%20Knjiga%20Nastavnika%20DOS%20He/45.%20Mladen%20R.%20Todorovic,%20redovni%20profesor.xlsx) | | |
| **Course status:** Elective | | |
| **Number of ECTS:** 10 | | |
| **Precondition courses:** None | | |
| **Educational goal**  The course focuses on the engineering techniques for design and performances analysis of on-demand pressurized irrigation networks and the application of COPAM software in a specific case study area. | | |
| **Educational outcomes**  Capability to design on-demand pressurized irrigation network and to analyze its performances. | | |
| **Course content** 1) On-demand pressurized irrigation systems: concept, data requirements and design criteria.2) Network structure and layout of hydrants and branches. Layout optimization methods.3) Discharge computation: One flow regime model (OFRM) – statistical methods; Several flow regime models (SFRM) - models for generating random discharges; Field calibration: exercises and discussion.4) Pipe size computation: optimisation models, exercises and discussion.5) Use of COPAM software for pipe size computation: theory and practical exercises; guided work on a case study. Concept of analysis: exercises and practical work - development of a case study. 6) Analysis of the performances of the network: models for analysis, reliability indicator.  7) Management of on-demand pressurized irrigation network | | |
| **Literature**  1. Lamaddalena, N., J.A. Sagardoy (2000). Performance analysis of on-demand pressurized irrigation systems. FAO Irrigation and Drainage Paper 59, Rome, Italy, pp.133 | | |
| **Number of active teaching classes (weekly)** | Lectures: 4 | Study research work: 0 |
| **Teaching methods**  Presentation of theoretical concepts and their explanation (theory). Guided practical work. | | |
| **Knowledge evaluation (maximum 100 points)**  **Pre-examination obligations Points Final exam Points**  Lecture attendance **10**  Oral part of the exam **30**  Colloquium exam **30**  Term paper **30** | | |