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| Name of course: **Irrigated crop production** | **Credit value: 3** |
| **Course** **classification**: compulsory | |
| **The proportion of the practical nature of the course, „educational character”:** | |
| **Type of course:** 28theoretical / 14 practical, and the **total number: 42 hours** in the given **semester.**  Further (unique) means and properties of knowledge transfer: | |
| **Exam** type (colloquium / practical grade / **other** ):  **Practical**  Further (unique) means of knowledge verification**:** | |
| The curricular **place of the course** (which semester): 3 | |
| Prerequisites (if any): **-** | |

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| **Course description: a brief, but informative description of the knowledge to be acquired (14 weeks).** |
| The main goals are to give effective academic and practical knowledge connecting to the irrigated crop production: Interaction between water management and crop production in agriculture. Knowledge about water balance and water requirement of plants. Learning of significance of environment friendly and economic irrigation. Effects of the irrigation on soil, plant and environment. Principles of irrigation, main functions of irrigation and crop production. Irrigation regime of main crops.  1st week Interaction between water management and crop production in agriculture.  2nd week Water balance of plants, water demand of plants.  3rd week Bases of water regulation in crop production.  4th week Learning of significance of environment friendly and economic irrigation.  5th week Effects of irrigation on soil and plants.  6th week Production requirements of irrigation. Aims of irrigated crop production.  7th week Necessary of irrigation, efficiency of water use.  8th week Principles of fertilization in irrigated fields.  9th week Evaluation of irrigation patterns.  10th week Main functions of irrigation and crop production.  11th week Correlations between irrigation and yield stability.  12th week Irrigation regime of main crops I. (green peas, alfalfa, red clover)  13th week Irrigation regime of main crops II. (corn, sweet corn, corn seed)  14th week Irrigation regime of main crops III. (rice, potato, sugar beet) |
| **Required and recommended reading:** |
| **Recommended reading:**   1. Burton, M. (2010): Irrigation Management: Principles and Practices, CAB Intl.ISBN: 9781845935160 2. Lee, T. S. (2012): Irrigation Systems and Practices in Challenging Environments,Intech, Rijeka, Croatia ISBN 978-953-51-0420-9 3. Esteve, Y.V, Brebbia, C.A. Rico, D.P. (2008): Sustainable Irrigation Management, Technologies and Policies II WIT Press, Southampton, UK ISBN: 978-1-84564-116-0 4. Brebbia, C.A, Marinova, M, Bjornlund, H (2010): Sustainable Irrigation Management, Technologies and Policies III, Wit Press/Computational Mechanics, Billerica, USA, ISBN: 9781845644468 5. M. H. Ali (2010)-Fundamentals of Irrigation and On-farm Water Management-Springer-Verlag New York ISBN 978-1-4419-6334-5 |
| **Competencies to be acquired, related to the course:** |
| 1. **Knowledge:**  * Acquired basic knowledge of natural, technical, economic sciences, technologies, food-chain security giving the basis for the irrigated farming * Acquired knowledge to up-to date technologies used in irrigated farming and their practical application * Students will be able to proactively learn new skills and develop self for present and future progression * Students are capable to do adequate professional communication; can participate in the crop production process directly or support it; * Students actively and operatively attend to implementation of R&D projects  1. **Skills:**  * Ability in recognizing and solving the routine like problems occurring in the irrigated crop production processes * Students can understand and observe the law, protocols and regulations connecting to irrigation  1. **Attitude:**  * Main feature is the constructive approach to the professional questions * Students look for ways to change work methods to improve performance * Health of the individual and society beside of environmental protection plays an important part in the professional decisions  1. **Autonomy and responsibility:**  * Students are able to bear the responsibility of the decisions and responsible for own and the attached workforce’s work * Students are decisive at the right time * Based on the professional knowledge students can set up the implementation plan of R&D projects independently, and bear the responsibility of direct managing of the development activity |

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| **Course leader** (name, post, academic degree): **Dr. habil József Csajbók, associate professor, Ph.D.** |
| **Other lecturer(s) involved in teaching the course, if any** (name, post, academic degree): **-** |