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| Name of course: **Precision farming** | **Credit value: 3** |
| **Course** **classification**: obligatory | |
| **The proportion of the practical nature of the course, „educational character”: 67-33%** | |
| **Type of course: 28** theoretical / 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** ):  **colloquium**  Further (unique) means of knowledge verification**:** | |
| The curricular **place of the course** (which semester): 4 | |
| Prerequisites (if any): **-** | |

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| **Course description: a brief, but informative description of the knowledge to be acquired (14 weeks).** |
| This course gives wide theoretical and practical knowledge of conventional and precision crop management to MSc students. We focus the student’s attention on the interdisciplinarity of crop production. This course provide complex knowledge how to use the elements of precision crop production in different ecological and biological conditions.  Week 1. Possibilities and barriers in traditional and precision crop production.  Week 2. Agrotechnical factors in the introducing of precision agriculture.  Week 3. Hardwares and softwares in precision agriculture.  Week 4. Off-line and on-line elements in precision crop production.  Week 5. Advantages and unadvantages in precision crop production.  Week 6. Ecological, genetic and agritechnical circumstances in precision crop production.  Week 7. Nutrient management in precision crop production.  Week 8. Tillage systems in precision crop production.  Week 9. Sowing technologies in precision crop production.  Week 10. Crop protection in precision crop production.  Week 11. Water management-irrigation in precision crop production.  Week 12. Harvest in precision crop production.  Week 13. Technical conditions in precision crop production.  Week 14. Further development in precision crop production, digitalization in crop management. |
| **Required and recommended reading:** |
| **Required reading:**  Dr. Rajendra Prasad (ed.) Textbook of Field crop production I (New Delhi, 2018, Fourth Edition)  II (New Delhi, 2018, Fourth Edition)  **Recommended reading:**  J.H. Martin–R.P. Waldren–D.L. Stamp: Principles of Field crop production (2006, Fourth Edition, Pearson-Prentice Hall) |
| **Competencies to be acquired, related to the course:** |
| **a) Knowledge:**  - Students know in detail the current requirements of the knowledge and activity system of precision crop growing, the main theories, the overall relations, the limitations of their application, and the terminology describing them.  **b) Ability:**  Students are able to apply complex, new methods and techniques and technologies that can be used in crop production.  They are able to identify special professional problems related to precision crop models, to explore and formulate the detailed theoretical and practical background needed to solve them.  **c) Attitude:**  Students are open to learn about and practicing modern and innovative precision crop technologies.  **d) Autonomy and responsibility:**  **-**Students have autonomy as to the way in which precision crop growing activities are carried out.  They are able to manage independently, with an environmental approach, to apply and develop modern agricultural technologies related to crop production. |

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| **Course leader** (name, post, academic degree): **Dr. Peter Pepó, professor DSc** |
| **Other lecturer(s) involved in teaching the course, if any** (name, post, academic degree): **-** |