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| Name of course: **Seed production** | **Credit value: 3** |
| **Course** **classification**: optional | |
| **The proportion of the practical nature of the course, „educational character”: 50/50 (credit%)** | |
| **Type of course:** 14theoretical / 14 practical, and the **total number: 28 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): **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 objectives of the course are to give information about the Hungarian and international seed production and all of its aspects. The European seed sector plays a key role to meet global challenges: mitigating climate change, feeding a growing world population and supporting resource-efficient farming systems. A constant stream of innovative quality seeds is essential to contribute to a sustainable agricultural production that fosters food security and healthy nutrition.  Seed production course deals with the agroecological, biological-genetic and agrotechnical factors of seed crop production. General and special elements in seed production. Ecological, biological and agrotechnical circumstances of seed crop management. The regulation of the Hungarian and European seed sector, parts of the plant breeding, seed production and marketing chain, the institutionalization and regulation of seed production, breeding and distribution. The international organizations of seed certification agencies.  Schedule of the Course (14 weeks):   1. Development of seed production. The formation of government control over seed production and seed processing. The national and international state of seed production, the major sectors of seed production. The regulation of the Hungarian and European seed sector, implementation of EU legislation. 2. Aspects of European and Hungarian seed industry, including research, plant breeding, seed production and marketing chain. 3. The national and European institutionalization and regulation of seed production, breeding and distribution. National and European seed certification agencies, national seed certification systems, 4. Seed trade of Hungary and the EU. 5. The Hungarian system of seed production and distribution 6. Seed production: field inspection and sealing 7. The Propagation Stages and Notation of Sowing Seed 8. Seed sample and seed analysis. Tagging and sealing of seeds. 9. Drying and Storage of Sowing Seed, Seed Cleaning, Seed Dressing Methods. 10. Seed production of winter wheat and other cereals. 11. Hybrid seed corn production. 12. Sunflower seed production. 13. Sugarbeet seed production 14. Alfalfa seed production. |
| **Required and recommended reading:** |
| **Required reading:**  International Rules for Seed Testing Volume 2016 International Seed Testing Association Number 1, 1 January 2016, pp. i-284(284) ISSN 2310-3655  **Recommended reading:**  Babasaheb B. Desai (2004): Seeds Handbook: Biology, Production, Processing, and Storage CRC Press; 2nd edition 800 pp ISBN 978-0824748005  Copeland-McDonald (2001): Principles of Seed Science and Technology. 4th Edition, Kluwer Academic Publishers ISBN 978-0792373223 |
| **Competencies to be acquired, related to the course:** |
| **a) Knowledge:**   * Basic knowledge of natural, technical, economic sciences, technologies, food-chain security giving the basis for seed production * Acquired knowledge to up-to date technologies used in seed production 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 seed production process directly or support it * Students actively and operatively can attend to implementation of R&D projects   **b) Ability:**   * Ability in recognizing and solving the routine like problems occurring in seed production processes * Students can understand and observe the law, protocols and regulations connecting to seed production * Able to work according to environmental regulations and health regulations   **c) 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 * Open to new technologies   **d) 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. Erika Tünde Kutasy PhD, assistant professor** |
| **Other lecturer(s) involved in teaching the course, if any** (name, post, academic degree): **-** |