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| **Title and Code** of the subject: **Fodder Plant Production MTMAL7006A** | **ECTS Credit Points: 3** |
| **Type** of the subject: compulsory / optional  |
| **Ratio of theory and practice: 100/0** (credit%) |
| **Type and number of classes per semester**: **28** hour(s) lecture and **0** hour(s) practice per **semester** Number of teaching hours / week : 2+0 (lecture and practice) |
| **Type of exam**: exam / practical course mark |
| **Subject in the curriculum:** semester 1 |
| Preliminary requirements:- |

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| **Summary of content - theory**:  |
| Course objectives: Fodder Plant Production subject deals with the agroecological, biological-genetic and agrotechnical factors of crop production. General and special elements in fodder crops production. Ecological, biological and agrotechnical circumstances of crop management. Production of feeds in crop production. General knowledge of fodder crops. Alfalfa and other fodder crops management. General knowledge of cereals. Maize production. Other cereals production.1. Main targets, tasks of crop production. The role of crop production factors
2. Climate and weather conditions in Hungary. Their effect on the crop production.
3. Main soil types and their characteristics.
4. Biological basis of crop production (genotype, seeds). GM plants.
5. Crop rotation, forecrop’s value.
6. Nutrient supply of plants.
7. Soil cultivation and sowing technology.
8. Integrated Plant protection.
9. Irrigation methods. Harvesting time and methods.
10. Groups of feeds or feedstuffs
11. General overview of cereal production. Wheat cultivation.
12. Production of spring cereals. Oat cultivation.
13. Maize and maize for silage production.
14. Fodder crops in Fabaceae family. Alfalfa cultivation.
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| **Summary of content - practice**: - |
| Skills to be learnt: - |
| **Literature, handbooks in English**  |
| 1. Martin, John H., Leonard, Warren H., Stamp. David L., Waldren, Richard: Principles of Field Crop Production. 2005. ISBN: 0130259675
2. Pratley, Jim: Principles of Field Crop Production. 2006. ISBN: 0195515552
3. Acquaah, G. 2001: Principles of crop production. Theory, Techniques and Technology. Pearson Prentice Hall. ISBN 0-13-114556-8
4. Jolánkai M.: Crop Production. Akaprint. Budapest. 2002.
5. Birkás M.: Environmentally – sound adaptable tillage. Akadémiai Kiadó, Budapest. 2008.
6. Nagy J.: Maize production. Akadémiai Kiadó, Budapest. 2008.
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| **Competencies gained** *(acc. to the Regulation on training and outcome requirements)* |
| 1. **Knowledge:**
* Basic knowledge of natural, technical, economic sciences, technologies, food-chain security giving the basis for the fodder plant production
* Acquired knowledge to up-to date technologies used in fodder plant 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 fodder plant production process directly or support it
* Students actively and operatively can attend to implementation of R&D projects
1. **Skills:**
* Ability in recognizing and solving the routine like problems occurring in the fodder plant production processes
* Students can understand and observe the law, protocols and regulations connecting to fodder plant production
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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| **Responsible lecturer: Dr. Erika Kutasy, assistant professor, PhD** |
| **Other lecturer(s): -** |

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| **Terms of course completion:** |
| 1. Completing assignments
2. Giving a short presentation
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| **Form of examination:** |
| oral exam |
| **Requirement(s) to get signature:** |
| Attendance at lectures is compulsory. Students may not miss more than three times during the semester. |

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| **Exam questions:** |
| 1. The role of crop production factors (biological factors, agroecological factors, agrotechnical elements).
2. Climate and weather conditions in general and main characteristics in Hungary. Their effect to the crop production.
3. Main soil types, their characteristic features, their advantages and disadvantages in connection with crop production.
4. Biological basis of crop production (genotype, seed). Cultivation aspects when choosing a genotype
5. Main characteristics of GM plants, risks and concerns of their cultivation.
6. Role of crop rotation (forecrop, intercropping, double-cropping, monoculture). Benefits of crop rotation. Forecrop’s value determining factors.
7. Role of nutrient supply and macroelements (N, P, K). Definition of nutrient stock, available nutrient content, nutrient supplying capacity of the soil. What is specific nutrient demand and nutrient demand of plants.
8. Role of soil cultivation, operatory groups of soil cultivation. Main aspects of the estblishment of soil cultivation systems.
9. Main elements of sowing technology (sowing time, row space, plant density). Sowing parameters in maize, wheat, oat and alfalfa production.
10. Elements of plant protection. Meaning of integrated plant protection. Types of pathogens and pests and the possibilities of chemical control. Groups of weeds and possible timing of chemical weed control (presowing, preemergent, postemergent).
11. Importance and main object of irrigation. Special aims of irrigation. Irrigation methods and their main characteristics.
12. Harvesting time and methods, effect of harvesting to the quality and quantity of maize, wheat, oat and alfalfa.
13. Groups of feeds or feedstuffs. Definition of fodder crops. Temporary fodder crops and their main characteristics. Permanent fodder crops. Land use and agricultural area in Hungary.
14. Maize cultivation. Importance, ecological demand (temperature, water, soil), biological demand (variety selection, most important variety characteristics) and cultivation method (crop rotation, soil cultivation, nutrient supply, sowing, important pest and diseases, harvesting).
15. Wheat cultivation. Importance, ecological demand (temperature, water, soil), biological demand (variety selection, most important variety characteristics) and cultivation method (crop rotation, soil cultivation, nutrient supply, sowing, important pest and diseases, harvesting).
16. Oat cultivation. Importance, ecological demand (temperature, water, soil), biological demand (variety selection, most important variety characteristics) and cultivation method (crop rotation, soil cultivation, nutrient supply, sowing, important pest and diseases, harvesting).
17. Alfalfa cultivation. Importance, ecological demand (temperature, water, soil), biological demand (variety selection, most important variety characteristics) and cultivation method (crop rotation, soil cultivation, nutrient supply, sowing, important pest and diseases, harvesting).
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