

## REQUIREMENTS

2020/2021 academic year I. semester

Name and code of the subject: Planning of animal Farms, MTMAL7015A

Name and title of the person responsible for the subject: Dr. Zoltan Hagymassy associate professor

Additional instructors involved in teaching the subject: Dr. Nándor Csatári associate professor

Name and level of the program: Animal Husbandry Engineering MSc

Subject type: compulsory

Teaching timetable of the subject, type of examination: 2+0 colloquium

Credit value of the subject: 3

Purpose of teaching the subject:

Students learn about the planning of the animal farms and its equipment, and the machines structural elements, and able to managing the operation of the machines. Based on the studies Students necessary to plan the workflow.

Content of the subject (14 weeks):

1. Agricultural buildings
2. Stable systems
3. Mowers
4. Balers I.
5. Balers II.
6. Silage making machines
7. Forage Harvester
8. Fodder mixing plant
9. Cattle farming machines (feeding, watering).
10. Milking machines I.
11. Milking machines II.
12. Pig farming equipment
13. Poultry farming equipment.
14. Horse farming equipment.

Type of mid-term examination:

Participation in practical classes is a condition for obtaining a signature. Completing exercises.

Method of assessment (semester examination mark - report, practical grade, colloquium, examination): practical grade

Teaching aids: Power point slides of university lectures issued to students

Recommended literature:

Brian Bell: Farm Machinery ISBN 1903366682

John Carrol: Tractors and Farm Machinery ISBN-13: 978-0754826583

## REQUIREMENTS

2020/21 academic year 1 semester

Name and code of the subject: Fish Breeding MTMAL7016A

Name and title of the person responsible for the subject: Laszlo Stündl PhD

Additional instructors involved in teaching the subject:

Name and level of the program: Animal husbandry MSc

Subject type: compulsory

Teaching timetable of the subject, type of examination: 2+0 P

Credit value of the subject: 3

Purpose of teaching the subject: Course objective : to provide information on the theory of fish genetics and breeding including the broodstock management, induced and natural reproduction, fry and larvae management. The knowledge acquired will enable to participate / cooperate in practical breeding programmes.

Content of the subject (14 weeks):

1. Introduction to fish breeding
2. Fish biology (Diversity, physiology, anatomy – reproduction organs)
3. Fish reproduction: natural spawning
4. Induced spawning
5. Larval development & rearing
6. Genetics
7. Breeding programmes (Mass, selective, etc.)
8. Breeding techniques
9. Biotechnology in fish breeding
10. Breeding in practice (preparation & propagation)
11. Breeding in practice (hatching & larvae management)
12. Breeding of carps
13. Breeding of percids
14. Breeding of catfishes

Type of mid-term examination: Taking part on the 70% of the practices are compulsory.

Method of assessment (semester examination mark - report, practical grade, colloquium, examination): practical grade

Teaching aids: Lecture slides & handouts (texts)

Recommended literature:

1. FAO (2016): The State of World Fisheries and Aquaculture 2016. Contributing to food security and nutrition for all. Rome. 200 pp.
2. Boyd, C.E., Lim, C., Queiroz, J., Salie, K., de Wet L., McNevin, A. (2012): Best Management Practices for Responsible Aquaculture. Aquaculture Collaborative Research Support Program [ACRSP]
3. Gomelsky. B. (2011): Fish Genetics: Theory and Practice March 2011 Publisher: VDM Verlag Dr. Müller ISBN: 9783639328059,
4. Ponzoni, R.W., B.O. Acosta and A.G. Ponniah. (eds). 2006. Development of aquatic animal genetic improvement and dissemination programs: current status and action plans, WorldFish Center Conference Proceedings 73, 120p

## REQUIREMENTS

2020/21 academic year 1 semester

Name and code of the subject: Aquaculture MTMAL7024A  
Name and title of the person responsible for the subject: Laszlo Stündl PhD  
Additional instructors involved in teaching the subject:  
Name and level of the program: Animal husbandry MSc  
Subject type: compulsory  
Teaching timetable of the subject, type of examination: 2+1 P  
Credit value of the subject: 3

Purpose of teaching the subject: Course objective to provide theoretic information on semi-intensive, intensive and integrated aquaculture systems and technologies including key species, fish biology, technologies, feeding, and economics.

Content of the subject (14 weeks):

1. Current status and tendencies in aquaculture
2. Aquatic resources
3. Fish species of aquaculture
4. Water management in aquaculture
5. Hydrobiology and plankton management
6. Fish biology propagation and larvae management
7. Pond management
8. Feeding and nutrition
9. Cage aquaculture
10. Recirculating aquaculture
11. Integrated multitrophic aquaculture
12. Multifunctional aquaculture
13. Aquaculture economics
14. Business planning in aquaculture

Type of mid-term examination: Taking part on the 70% of the practices are compulsory.

Method of assessment (semester examination mark - report, practical grade, colloquium, examination): practical grade

Teaching aids: Lecture slides & handouts (texts)

Recommended literature:

1. FAO (2016): The State of World Fisheries and Aquaculture 2016. Contributing to food security and nutrition for all. Rome. 200 pp.
2. Boyd, C.E., Lim, C., Queiroz, J., Salie, K., de Wet L., McNevin, A. (2012): Best Management Practices for Responsible Aquaculture. Aquaculture Collaborative Research Support Program [ACRSP]
3. Burke, D., Goetze, B., Clair D., Egna H. (1996): Pond Dynamics/Aquaculture. Collaborative Research Support Program. Office of International Research and Development Oregon State University, USA
4. Allan, G., Heasman H., Ferrar P. (2006): Aquaculture Nutrition: Report on the Aquaculture Nutrition Master Class held at Asian Institute of Technology, Bangkok Thailand 7-19 August 2006 ISBN 0 7347 1771 7

## REQUIREMENTS

2020/2021. academic year I. semester

Name and code of the subject: Fodder plant production, MTMAL7006A

Name and title of the person responsible for the subject: Dr. Erika Tünde Kutasy, assistant professor

Additional instructors involved in teaching the subject:

Name and level of the program: Animal Husbandry Engineering, MSc

Subject type: compulsory

Teaching timetable of the subject, type of examination: 2+0 P

Credit value of the subject: 3

Purpose of teaching the subject:

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 knowledges of fodder crops. Alfalfa and other fodder crops management. General knowledges of cereals. Maize production. Other cereals production.

Content of the subject (14 weeks):

15. Main targets, tasks of crop production. The role of crop production factors
16. Climate and weather conditions in Hungary. Their effect on the crop production.
17. Main soil types and their characteristics.
18. Biological basis of crop production (genotype, seeds). GM plants.
19. Crop rotation, forecrop's value.
20. Nutrient supply of plants.
21. Soil cultivation and sowing technology.
22. Integrated Plant protection.
23. Irrigation methods. Harvesting time and methods.
24. Groups of feeds or feedstuffs
25. General overview of cereal production. Wheat cultivation.
26. Production of spring cereals. Oat cultivation.
27. Maize and maize for silage production.
28. Fodder crops in Fabaceae family. Alfalfa cultivation.

Type of mid-term examination:

- Completing assignments
- Giving a short presentation

Method of assessment (semester examination mark - report, practical grade, colloquium, examination): practical grade

Teaching aids: lecture material

Recommended literature:

Martin, John H., Leonard, Warren H., Stamp. David L., Waldren, Richard: Principles of Field Crop Production. 2005. ISBN: 0130259675

Pratley, Jim: Principles of Field Crop Production. 2006. ISBN: 0195515552

Acquaah, G. 2001: Principles of crop production. Theory, Techniques and Technology. Pearson Prentice Hall. ISBN 0-13-114556-8

Jolánkai M.: Crop Production. Akaprint. Budapest. 2002.

Birkás M.: Environmentally – sound adaptable tillage. Akadémiai Kiadó, Budapest. 2008.

Nagy J.: Maize production. Akadémiai Kiadó, Budapest. 2008.

## REQUIREMENTS

2020/2021. academic year II. semester

Name and code of the subject: Élelmiszerminőség és élelmiszerlánc-biztonság (Food quality and food chain safety), MTMAL7011A

Name and title of the person responsible for the subject: Dr. Nikolett Czipa, associate professor

Additional instructors involved in teaching the subject: Loránd Alexa, assistant lecturer,

Name and level of the program: Animal Husbandry Engineering MSc

Subject type: compulsory

Teaching timetable of the subject, type of examination: 2+2, examination

Credit value of the subject: 4

Purpose of teaching the subject: The main aim of the lectures is to know the physical, chemical and biological/microbiological hazards which have important effects on food safety and food quality. In this semester, students will know the methodology of risk analysis (mainly the risk assessment) and the methodology of the determination of tolerable intakes and other toxicological values. Student will know the methodology of hazard analysis relation to animal origin food production.

Content of the subject (14 weeks):

1. European food safety policy, ÉLBS, Regulation No. 178/2002/EC
2. Influencing factors of food safety
3. Introduction to toxicology, determination of safe human dose, human exposure assessment
4. Microbiological hazards, foodborne diseases, vulnerable groups
5. Chemical hazards
6. Risk management framework (RMF)
7. Hazards of genetically modified plants and foods
8. Labelling of food, geographical indicators and trade marks
9. Introduction to HACCP, HACCP handbook
10. Hazard analysis of animal origin foods (milk and dairy products)
11. Hazard analysis of animal origin foods (meat products)
12. Authorization of food business, penalties
13. Food trade in the EU, border control of food from third countries
14. Case studies

Type of mid-term examination: Attendance in the case of practical courses is compulsory. The acceptable extent of absences is 3 practical courses / semester. The Students have two tests in the session. At least 60% is required to satisfactory mark. If the Student fails to fulfil this we provide an occasion to repeat it in the educational period. Should the student fail this occasion as well, a new occasion must be offered until the end of the third week of the exam period to repeat the mid-term exam.

Criterion of signature: Active attendance on the practical courses.

Method of assessment (semester examination mark - report, practical grade, colloquium, examination): examination

Teaching aids: Slides of lectures

Recommended literature:

IPCS (2010): WHO human health risk assessment toolkit: chemical hazards. ISBN: 978-92-4-154807-6

2016/C 278/01 EU Commission notice on the implementation of food safety management systems covering prerequisite programs (PRPs) and procedures based on the HACCP principles, including the facilitation/flexibility of the implementation in certain food businesses

Codex Alimentarius Commission: Food hygiene. Basic texts.  
(<http://www.fao.org/docrep/012/a1552e/a1552e00.pdf>)

Regulations, directives, standards