**REQUIREMENTS**
**2021/22 academic year 2. semester**

**Name and code of the subject: Academic Language Skills (English), MTM7NY1A**
**Name and title of the person responsible for the subject: Mariett Papp, language teacher**
**Additional instructors involved in teaching the subject: -**
**Name and level of the program: Animal Husbandry MSc, I.**
**Subject type: lecture, compulsory**
**Teaching timetable of the subject, type of examination: 2-0**
**Credit value of the subject: 3**

**Purpose of teaching the subject:** The main goal of the classes is to acquire the essence of oral communication, its general connection system, as well as the components of communication, and to get introduced to the professional and human communication. Students will get acquainted with the English used in academic contexts and based on these, with practice through profession related situations.

**Content of the subject (14 weeks):**

| | |
|---|---|
| 1. | Academic vs everyday English |
| 2. | Key nouns, verbs |
| 3. | Key adjectives, adverbs |
| 4. | Phrasal verbs in academic English. Key quantifying expressions. |
| 5. | Words with several meanings. Metaphors and idioms. |
| 6. | Nouns and the words they combine with. Adjective and noun combinations. Fixed expressions. |
| 7. | Verbs and the words they combine with. Prepositional phrases. Verbs and prepositions. Nouns and prepositions. |
| 8. | Midterm exam |
| 9. | Sources. Facts, evidence and data. Graphs and diagrams. |
| . 10. | Reporting what other say. Analysis of results. |
| . 11. | Research and study aims. Talking about points of view. Organising your writing. |
| . 12. | Describing problems. Evaluation and emphasis. Summary and conclusion. |
| . 13. | Revision |
| . 14. | End term, Evaluation |

**Type of mid-term examination: written**
Completing assignments / exercises; The presence on 2/3-rd of the classes; Active participation in group discussion.

**Method of assessment (semester examination mark - report, practical grade, colloquium, examination):** Continuous tests orally and written. A term mark to be given at the end of the semester. Monitoring the progress, mid-term paper, final practical mark.

**Teaching aids: handouts, ppts**

**Recommended literature:**
ANDREWS, P. H. & BAIRD, J. E. (2000): Communication for Business and the Professions 8th Edition. Waveland Press, Long Grove, IL. ISBN-13: 978-1577663799, 720 old.
WIWCZAROSKI, T.B. (2007): Writing and Professional Communication. Debrecen, 97 old.
Michael McCarthy, Felicity O'Dell: Academic Vocabulary in Use

## REQUIREMENTS
## 2021/22. academic year 2. semester

**Name and code of the subject:** Animal Genetics, MTMAL7001A
**Name and title of the person responsible for the subject:** Dr. István Komlósi, professor
**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
**Credit value of the subject:** 4

**Purpose of teaching the subject:** The course is built on the Mendelian and population/quantitative gentical knowledge of the students. During this course the student extends their knowledge in quantitative genetics of livestock populations bearing in their mind that we work with biological organism but approach them from a mathematical point of view. The student will how to define the breding goal and find individuals in the population to fulfil that goal, how to mate them and predict the selection response.

**Content of the subject (14 weeks):**

1. Genetical disorders, major genes, application of major genes in selection programs
2. Genetical imprinting
3. Genotype-environment interaction
4. Breeding objectives and performance testing
5. Resembelance between relatives, inbreeding
6. Genetic parameters
7. Selection index I.

8. Selection index II.
9. Best Linear Unbased Prediction. I
10. Best Linear Unbased Prediction. II.
11. Selecting for threshold traits
12. Selection response
13. Crossing systems
14. Conservation genetics, rare breeds

**Type of mid-term examination:** Completing assignments / exercises; The presence on 2/3-rd of the classes; Active participation in group discussion.

**Method of assessment (semester examination mark - report, practical grade, colloquium, examination):** Monitoring the progress, mid-term paper, final practical mark.

**Teaching aids:** handouts, ppts

**Recommended literature:**


1. Falconer, D.S. 2017. Introduction to Quantitative Genetics. 4th ed. Longman Scientific and Technical. ISBN-13: 978-0582243026
2. Mrode, R.A. 2005. Linear Models for the Prediction of Animal Breeding Experiments. CAB International. ISBN 0851990002
3. Lynch, M., Walsh, B. 1998.Genetics and Analysis of Quantitative Traits. Sinauer Associates. ISBN 978-0878934812

Kaps, M., Lamberson, W. ( 2009) Biostatistics for Animal Science. An introductory text. 2nd ed. CABI. ISBN 978-1-84593-540 5


## Animal nutrition (MTMAL7007A)

2021/2022 2.semester

**Title of the subject. code: Aquaculture. (MTMAL7007A)**
**Lecturer: Dr. László Babinszky, professor**
**Other lecture involved: -Dr. Péter Bársony, assistant professor**
**Name of the training and level: animal husbandry MSc**
**Type of the subject: compulsory**
**The time schedule of the subject, type of the exam: 2+1 P**
**Credit value: 4**

**Summary of content:**

Course objectives: to introduce the students into the principles of the nutrition alongside the newest researches, by the concepts of the precision nutrition.

**The content of the subject (14 weeks):**

1. Introduction to animal nutrition; Challenges of 21st Century Animal Nutrition.
2. Chemical composition of feedstuffs; Concept of "Total Nutrition".
3. Protein/amino acids.
4. Lipids (fats), carbohydrates.
5. Macro-, micro and ultra-trace minerals.
6. Vitamin nutrition.

7. Cannulation techniques of pigs, poultry and ruminants.
8. Digestibility of the nutrients in livestock.
9. Flow diagram of energy terms; Energy metabolism of livestock.
10. Precision animal nutrition concept and its place in the precision food production chain.
11. Animal nutrition and environmental pollution; Animal nutrition and product quality.
12. Elimination of harmful effects of heat stress by nutrition tools.
13. Mathematical modeling of growth.
14. Animal nutrition and immunity.

**Exam on the end of semester:**
After the semester the students receive a technical grade

**Teaching potentially educational:**
Presentation of the lessons

**Literature:**


1. Fekete S. 2008: Veterinary Nutrition and Dietetics. Pro Scientia Veterinaria Hungarica Foundation,
2. 1. Babinszky L. 2008. The concepts of ileal digestible amino acid and ideal protein in swine and poultry nutrition. In: S. Gy. Fekete (Ed): Veterinary nutrition and dietetics (Chapter VII). Digestibility of nutrients. „Pro Scientia Veterinaria Hungarica" Budapest. ISBN 978-963-06-5166-0. 119-146.
3. 2. Babinszky, L., V. Halas. 2009: Innovative swine nutrition: some present and potential applications of latest scientific findings for safe pork production. Italian Journal of Animal Science. Suppl. 3: 7-20.
4. 3. Babinszky L., V. Halas, M.W.A. Verstegen. 2011. Impacts of climate change on animal production and quality of animal food products In: J. A. Blanco and H. Kheradmand (Eds): Climate change, socioeconomic effects. InTech Publisher. London, UK. ISBN 978-953-307-419-1. 165-190.


**REQUIREMENTS**
**2021/22 academic year 2. semester**

**Name and code of the subject:**
**Grassland Management and grazing – MTMLA7008A-Gy**
**Name and title of the person responsible for the subject: Prof. Geza Nagy**
**Additional instructors involved in teaching the subject: -**
**Name and level of the program: MSC**
**Subject type: Theoretical and practical**
**Teaching timetable of the subject, type of examination:**
**2+2 lessons, Wednesdays 10,00-14,00 – offered grade mbased on homeworks**
**Credit value of the subject: 4**

**Purpose of teaching the subject:** To have students to understand the importance of the world wide grassland ecosystems. To reveal the potential of grassland use under different ecological conditions. To assist students to be able to apply theoretical knowlege for practical solutions under farm conditions.

**Contents of the subject (14 weeks)**

Technical terminology of grassland ecosystems;
Products and services from garsslands;
Effects of ecological conditions on grassland production;
Functional morphology of grassland plants
Most common grassland species of home country grasslands
Grassland fertilization;
Irrigation on grasslands;
Grassland establishment
Grassland improvement and renovation;
Cultivation of permanent grasslands;
Grassland production,
Grass and grassland quality;
Grazing of grasslands;
Grassland harvesting methods.

**Type of mid-term examination: 2 students home works on given technical topics**

**Method of assessment (semester examination mark - report, practical grade, colloquium, examination):** Students homeworks (ppt presentations) will be discussed plenary on lessons and the technical contents will be evaluated.

**Teaching aids: Lecturers ppt-s, and handouts according to topics presented.**

**Recommended literature:**

GRASS Its production and utilization (Edited by W. Holmes), Published for British Grassland Society by Blackwell Scientific Publications, Oxford, 1998, 306. p. ISBN 0-632-02461-5

GRASSLAND Quietness and Stregth for a New American Agriculture (Editors: Walter F. Wedin and Steven L. Fales), American Society of Agronomy Inc. etc., 2009, 256. p. ISBN 978-0-89118-171-2

## REQUIREMENTS
## 2021/2022. academic year 2. semester

**Name and code of the subject: Animal husbandry MTMAL7009A**
**Name and title of the person responsible for the subject:** Dr. Czeglédi Levente 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+1 K
**Credit value of the subject:** 4

**Purpose of teaching the subject:** Course objectives: The aim of the subject is to teach the genetics and applied technologies of animal production. The large-scale production systems with livestock species is in the focus. Cattle, sheep, swine and poultry housing, feeding, breeding will be discussed during the lectures. Animal performance, factors influencing product quantity an quality are included in the studies of each species.

**Content of the subject (14 weeks):**

1. Importance of livestock production
2. Characteristics of animal products, animal growth
3. Factors influencing meat production
4. Factors influencing milk production
5. Dairy cattle: breeds, nutrition
6. Dairy cattle: housing, reproduction, milking
7. Beef cattle: breeds
8. Beef cattle: housing, nutrition, production
9. Sheep: breeds
10. Sheep: grazing, feeding, reproductioin
11. Swine: housing, feeding, breeds
12. Swine: reproduction, fattening and product
13. Poultry: egg production with layers

**14.** Poultry: meat production with broilers

**Type of mid-term examination: -**

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

**Teaching aids:** ppt files

**Recommended literature:**

R. E. Taylor eds. (2014): Scientific Farm Animal Production. 10th Edition. Pearson Education Limited, England. 1-647.
A. Aland, T. Banhazi eds. (2013): Livestock housing. Modern management to ensure optimal health and welfare of farm animals. Wageningen academic Publishers. 1-491.

## REQUIREMENTS
## 2021/22. academic year 2. semester

**Name and code of the subject:** Organisation of Breeding, MTMAL7010A
**Name and title of the person responsible for the subject:** Dr. István Komlósi, professor
**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, written exam
**Credit value of the subject:** 3

**Purpose of teaching the subject:** The students will aquire the application skills in dealing with breeding organisations, seting up breeding programs for different species, calculating economic weights, organising shows, exhibitions, communication to farmers and government officials. Having fulfilled the course, students will be able to apply the breeding program in different situations and participate in the work of breeding organisatons.

**Content of the subject (14 weeks):**

1. Breeding objectives in ruminant animals, economic and management circumstances
2. Breeding objectives in monogastric animals, economic and management circumstances
3. Calculation of economic values
4. Breeding pyramid
5. Rules, Laws and Registrations related to animal breeding
6. Animal breeding organisations
7. Conformation assessement
8. Databases of breeding organisations
9. Communication of animal breeding organisations (webpages, newsletters, exhibitions, open days)
10. Breeding Programs of horse associations
11. Breeding programs of companion animal associations
12. Breeding programs of ruminant animal associations
13. Breeding programs of monogastric animal associations
14. Project presentation

**Type of mid-term examination:** presentation of breeding programs of a given animal breeding association

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

**Teaching aids:** handouts, ppts

**Recommended literature:**

FAO: Breeding Strategies for Sustainable Management of Animal Genetic Resources. ISBN10-9251063915
2. FAO: Developing Sustainable Value Chains for Small-Scale Livestock Producers: FAO Animal Production and Health Guidelines No. 21. ISBN-10: 9251317186
3. V. Porter, L. Anderson (2016): Mason's World Encyclopedia of Livestock Breeds and Breeding. CABI Publishing. ISBN-10: 1845934660
4. B. Kinghorn, J. van der Werf, M. Ryan (2014): Animal breeding. Use of New Technologies. The Post-Graduate Foundation in Veterinarian Science of the University of Sydney. ISBN 0 646 387138

## REQUIREMENTS
## 2021/2022. 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

## REQUIREMENTS
## 2021/22 academic year 2 semester

**Name and code of the subject: World animal husbandry, MTMAL7018A**
**Name and title of the person responsible for the subject: Rózsáné Várszegi Zsófia senior lecturer**
**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+1 E**
**Credit value of the subject: 3**

**Purpose of teaching the subject:**
**Definition and areas of animal breeding policy; relationship between agricultural policy and animal breeding policy. Estate structure of animal husbandry, concentration of livestock. Animal husbandry activities of farmers, planning. Funding of animal husbandry. Safeguarding and harmonization of interests in animal husbandry. Species**

**discussed: rabbit, sheep, cattle, llama, goat, pig, poultries, horse, buffaloe, fish, camel, alpacca, mollusks, crustaceans**

**Content of the subject (10 weeks):**

1. **Economic impact of the livestock industry in different regions**
2. **Sustainable animal husbandry (safe, humane and sustainable ways).**
3. **Systems of production. Management, housing and equipment**
4. **Main diseases. Maintenance of health**
5. **Main products and product quality**
6. **Ratio of species and its regulation in animal husbandry, determination of the production, profitability**
7. **Methods and tools of the qualitative development of animal husbandry.**
8. **International co-operation. Special tasks of animal husbandry (nature conservation, environmental protection)**
9. **Environmental impact of animal husbandry. Animal husbandry policy of farmers.**
10. **Directions, tools, results of developing animal breeding**

**Type of mid-term examination:**
**presentation**

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

**Teaching aids:**

**Recommended literature:**
**WJA Payne and RT Wilson (1999): Introduction to Animal Husbandry in the Tropics. Blacwell Publishing.**
**Acker, Duane & Tour, Mickey La & Cunningham, Merl (2004): Animal Science and Industry. 7th ed. Pearson Education Limited.**
**James Blakely, David H. Bade (1994): Science of Animal Husbandry. 6th ed. Reston Publishing Company, Inc. Reston, Virginia**

## REQUIREMENTS
## 2021/2022. academic year 2. semester

**Name and code of the subject: Beekeeping MTMAL7019A**
**Name and title of the person responsible for the subject:** Dr. Oláh János, senior researcher
**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:** 1+2 G
**Credit value of the subject:** 3

**Purpose of teaching the subject:**

**Content of the subject (14 weeks):**

1. The importance of pillinisation by honeybees (ecological services)
2. The biology of *Apis mellifera*, the social behaviour of european honeybees
3. The honey production in the world, in the European Union and in Hungary
4. The typical bee pasture in Hungary (oilseed rape – *Brassica napus* L., black locust – *Robinia pseudoacacia* L., sunflower – *Helainthus annuus* L. and other wild bee pasture)
5. The basic beekeeping equipment park (harvesting honey, equipment for the treatment of honeybees, protective clothing, types of beehives and frames)
6. The bee procuct: types of honey, royal jelly, pollen, bee wax, bee venom)
7. The disease of european honeybees I. *Varroa destructor*
8. The disease of european honeybees II. *Nosema apis.*
9. The disease of european honeybees III. *Paenibacillus larvae*.
10. 12 months of beekeeping
11. The methods of honey harvesting.
12. The methods of stimulation feeding of honeybees.
13. Changing of bee pasture: moving with beehves.
14. Legal requirements and legal bases for beekeeping
15. Mandatory annual controlling (veterinarian and honeybee-health responsible person)

**Type of mid-term examination: -**

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

**Teaching aids:** ppt files

**Recommended literature:**

Diana Sammataro, Alphonse Avitabile: The beekeeping handbook. Fourth edition. 2011. ISBN: 0801476945.
Jamie Stebens: Beekeeping for beginners. A starter guide book on the basics to keeping bees and harvesting honey. 2014.
Joachim Petterson: Beekeeping: on bees, beekeeping and bee products. 2016. ISBN: 1681881543.

**REQUIREMENTS**
**2021/22 academic year 2. semester**

**Name and code of the subject: Disease control MTMAL7020A**
**Name and title of the person responsible for the subject: Nora Dr. Palfyne Dr. Vass senior lecturer**
**Additional instructors involved in teaching the subject: Dr. Renate Knop**
**Name and level of the program: Animal Husbandry Engineer MsC**
**Subject type: compulsory**
**Teaching timetable of the subject, type of examination: 2+0**
**Credit value of the subject: 3**

**Purpose of teaching the subject:**
Course objectives: the subject deals with the prevention and control of farm and wild animal diseases. Programs for the control of communicable diseases between animals and humans (zoonoses) has a great

part in the subject. During the farm visit of the Research Farm of University of Debrecen, the students has a chance to see these theories in the practical area.

**Content of the subject (14 weeks):**

1. General epidemiology I.
2. General epidemiology II.
3. Development and proceedings of infectious diseases
4. Factors affecting the spreading of infectious diseases
5. Signalling of infectious diseases.
6. Prevention of infectious diseases in animal health
7. Prospects of preventing infectious diseases
8. Animal health and epidemiology administration system in the European Union
9. Epidemiology formulae and conventions in animal health.
10. Epidemiology of the most important viral diseases
11. Epidemiology of the most important bacterial diseases.
12. Epidemiology of the most important prion caused diseases.
13. Zoonotic diseases.
14. Consultation, farm visit.

**Type of mid-term examination:**

**Method of assessment (semester examination mark - report, practical grade, colloquium, examination): PPT presentation and essay, colloquium**

**Teaching aids:**
**slides show non the lectures**

**Recommended literature:**

Keeping livestock healthy 4th edition (N. Bruce Haynes). 2001. Storey Publishing LLC.ISBN-13: 978-0882668840 ISBN-10: 0882668846
Relevant laws and regulations of the European Union.

## KÖVETELMÉNYRENDSZER
## 21/22 tanév 2. félév

**A tantárgy neve, kódja:** Állatvédelem és állategészségügyi igazgatás, MTMAL7021A
**A tantárgyfelelős neve, beosztása:** Dr. Knop Renáta, adjunktus
**A tantárgy oktatásába bevont további oktatók:**
**Szak neve, szintje:** Élelmiszermérnök MSc . Angol
**Tantárgy típusa: kötelező**
**A tantárgy oktatási időterve, vizsga típusa: 2+0 K**
**A tantárgy kredit értéke: 3**

**A tárgy oktatásának célja:**

A tantárgy oktatásának célja, hogy megismertesse a hallgatóval, hogy milyen gyakorlati teendői vannak a tartás, takarmányozás, tenyésztés és betegségmegelőzés területén annak

érdekében, hogy gazdasági állataink képességeik szerint "termeljenek", eleget téve az élelmiszerbiztonság, a környezet- és állatvédelem követelményeinek is

**A tantárgy tartalma** (14 hét bontásban):

1. Az állatvédelem tárgya. Az állatvédelem története. Állatvédelmi szervezetek.
2. Az 1998.évi XXVIII. „állatok védelméről és kíméletéről” szóló törvény főbb pontjai.
3. Az ember és az állatok közötti viszony, az állatok szerepe a mentálhigiéniában.
4. Állatvédelmi oktatás és nevelés.
5. Az állatok jóllétének megállapítása (a viselkedés pozitív és negatív ismérvei).
6. Az etológia tárgyköre, szerepe a gazdasági állatfajok termelésének ellenőrzésében. A viselkedési elemek csoportosítása.
7. Kommunikáció az állatvilágban
8. A sertés alapvető viselkedési módjai.
9. A környezeti tényezők (hőmérséklet, takarmányozás, tartástechnológia, csoportnagyság és a padozat) hatása a zártan tartott szarvasmarhák viselkedésére és termelésére. A legelőn tartott szarvasmarhák viselkedése.
10. A különböző korú szarvasmarha (tehén, bika, borjú) társas viselkedése. A szarvasmarha szexuális viselkedése.
11. A tyúk érzékelése (látás, hallás, szaglás, ízlelés, tapintás). A tyúkfajra jellemző viselkedési formák.
12. A juhok táplálkozási-, társas-, és szexuális viselkedése. Az évszakok, a tartástechnológia, a korcsoport és a hasznosítási iránytól függő viselkedés a juhnál.
13. A lovak érzékelése. A ló viselkedése.
14. Rendellenes, sztereotíp viselkedésformák okai, és megelőzése a különböző állatfajoknál

**Évközi ellenőrzés módja:**

*Beszámoló készítése, gyakorlati elemzés.*

**Számonkérés módja** (*félévi vizsgajegy kialakításának módja – beszámoló, gyakorlati jegy, kollokvium, szigorlat*): kollokvium

**Oktatási segédanyagok:** a kurzus diasorai, a hallgatók jegyzetei.

**Ajánlott irodalom:**

R.D. Frandson, W.L. Wilke, A.D. Fails, Anatomy and Physiology of Farm Animals, 7th ed., Wiley-Blackwell, Iowa, 2009, ISBN9780813813943, 512 pp.

P.B.Reddy: Text Book of Animal Physiology. Ratna Prasad Multidisciplinary Research & Educational Society 2015 DOI: 10.13140/RG.2.1.4807.9441

**REQUIREMENTS**
**2021/22. academic year 2. semester**

**Name and code of the subject: Ágazati ökonómia (Economics of Livestock Enterprises), MTMAL7022A**
**Name and title of the person responsible for the subject:** Dr. Kovács Krisztián, assist. prof.
**Additional instructors involved in teaching the subject: -**
**Name and level of the program:** Animalhusbandry Eng., MSc.

**Subject type:** compulsory
**Teaching timetable of the subject, type of examination:** 20+5K
**Credit value of the subject:** 4

**Purpose of teaching the subject:**

The aim of the course is to enhance student's knowledge and skills in different kinds of agricultural sector's economics situation and tendencies. The course mainly concentrate livestock sectors like: dairy-, beef-, pig-, poultry (broiler, egg, turkey)-, fish-, sheep-, goat and feed production sector. During the lectures students get an overview of the main European and World livestock sector tendencies. During the practical seminars a complete sector planning method have been introduced, thus after this course the can be able to independently perform an annual sector plan for a certain firm. The main leaning outcomes of this course that, at the end, the students can be understand and interpret the livestock sectors economics tendencies and relations in deferent countries and can be able to do an annual sectorial plan.

**Content of the subject (10 weeks):**

1. The different resources in agriculture and its' specialities.
2. Noncurrent (fixed) assets in animal husbandry. Coping with risk in agriculture (risk and uncertainty, sources of risk, managing risk in animal production).
3. The production value in animal husbandry (definitions, calculation, how to increase it, examples).
4. Income (profit or loss) in animal husbandry (definitions, calculation, how to increase it, examples). The role of the current assets in agriculture (definition, examples, circle of current assets).
5. The economics of milk production (economic importance, livestock, trade, consumption, income, production value and costs).
6. The structure of the technological planning in animal husbandry (production value, livestock, production cost, assets, indicators).
7. Term and measurement of efficiency in agriculture
8. The production cost in animal husbandry, The goals, the structure and the steps of the sectoral agricultural production planning.
9. The economic aspects of sheep production, The economic of poultry production
10. The economic aspects of beef production

**Type of mid-term examination:** At the last week they have a test.

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

Attendance at lectures is recommended, but not compulsory.
Participation at practice is compulsory. Students must attend the practice classes and may not miss more than three times during the semester. In case a student does so, the subject will not be signed and the student must repeat the course. Attendance at practice classes will be recorded by the practice leader. Being late is counted as an absence. In case of further absences, a medical certificate needs to be presented. Missed practices should be made up for at a later date, being discussed with the tutor. Active participation is evaluated by the teacher. If a student's behavior or conduct doesn't meet the requirements of active participation, the teacher may evaluate his/her participation as an absence because of the lack of active participation in class.
Case study and farm plan assignment have to be handed on time (deadline has been decided on the first lecture) in the expected form and content.**Teaching aids:**

Lectures presentations and the additional articles on the lecture

**Compulsory:**

5. Research Institute of Agricultural Economics Market reports, https://www.aki.gov.hu/publikaciok/menu/a:303/Data+and+information/Market+report

**Recommended:**

6. The state of food and agricultural 2010-2011 FAO, http://www.fao.org/docrep/013/i2050e/i2050e00.htm
7. The Hungarian Agriculture and food industry in Figures http://www.fvm.gov.hu/doc/upload/201001/english_2009.pdf
8. The state of World fisheries and aquaculture 2010, FAO http://www.fao.org/docrep/013/i1820e/i1820e00.htm
9. OECD-FAO Agricultural Outlook 2010-2019, Highlights http://www.agri-outlook.org/dataoecd/13/13/45438527.pdf
10. Farm Business Management: The Fundamentals of Good Practice by Peter L. Nuthall ISBN-13: 978-1780646565, ISBN-10: 1780646569
11. Fundamentals of Farm Business Management by S.S. Johl – T.R. Kapoor Kalyani Publishers (2003) ISBN-10: 8176631809
12. The business of farming: a guide to farm business management in the Tropics by Johnson, David T. London: Macmillan, 1990. ISBN 0333499212

## REQUIREMENTS
## 2021/22 academic year 2. semester

**Name and code of the subject:** Management of Livestock Farms, MTMAL7023A
**Name and title of the person responsible for the subject:** Dr. István Komlósi
**Additional instructors involved in teaching the subject:** Dr. János Oláh, Dr. Zsófia Várszegi Rózsáné
**Name and level of the program:** Animal Husbandry MSc
**Subject type:** compulsory
**Teaching timetable of the subject, type of examination:** 2+2, written exam
**Credit value of the subject:** 4

**Purpose of teaching the subject:** The course is built on the best practices applied on livestock in different species covering the traditional, ecological and modern farm environment. During this course the student synthetise their breeding, physiological, nutritional, animal welfare, human resource knowledge into a coherent management practice. The learn how to combine these elements in a farm to be socially, economically and environmentally viable. Course objectives: Having fulfilled the course, students will be able to apply good fram management practices and critically choose between available technologies, management practices

**Content of the subject (14 weeks):**

1. Preparation of cows for calving, transition phase: feeding, health, equipments, building, human resources. Best practices
2. Calving management (beef and dairy)
3. Calf management. Best practices
4. Management of heifers after weaning till calving
5. Management of cows during the lactation
6. Principles of lean farming
7. Management of sows and boars
8. Management of piglets and fattening pigs
9. Management of ewes and rams (meat and dairy)
10. Management of lambs before and after weaning
11. Hatching management
12. Management of egg production

13. Management of broiler production
14. Management of water birds

**Type of mid-term examination:** essay, oral presentation

**Method of assessment:** colloquium

***Teaching aids:*** Visits in in dairy farms, in beef farms, in pig farms, in broiler farms, in sheep farms, in egg layer farms, in turkey farms, in duck and geese farms (are subject to animal health conditions).

**Recommended literature:** 1. J. Hocken, M. Hocken (2019): The Lean Dairy Farm: Eliminate Waste, Save Time, Cut Costs - Creating a More Productive, Profitable and Higher Quality Farm. John Wiley and Sons Australia LtD. ISBN-10: 0730368416.
2. B. Hartman (2015): The Lean Farm. Chelsea Green Publishing. ISBN 978-1-60358-592-7
3. G. Caldwell (2014): The Small-Scale Dairy: The Complete Guide to Milk Production for the Home and Market. Chelsea Green Publishing. ISBN-10: 1603585001
4. T. G. Field, R. W. Taylor: (2020) Beef Production Management and Decisions. Pearson. ISBN-13: 978-0131198388
5. J. Court, S. Hides, J. Webb-Ware (2010): Sheep farming meat and wool. CSIRO Publishing. ISBN: 9780643092945
6. Honnapagol, Suresh, H (2014): Broiler farming and management. JAYPEE. ISBN-13: 978-9351521686

## REQUIREMENTS
## 2021/2022. academic year 2. semester

**Name and code of the subject: Ecological Management of Farm Animals MTMAL7026A**
**Name and title of the person responsible for the subject:** Dr. Czeglédi Levente professor
**Additional instructors involved in teaching the subject:**
**Name and level of the program:** Animal Husbandry Engineering MSc.
**Subject type:** optional
**Teaching timetable of the subject, type of examination:** 2+1 K
**Credit value of the subject:** 3

**Purpose of teaching the subject:** Course objectives: During the semester students will know the specificity of ecological animal production systems, livestock farming, regulations and importance of organic production. The impact of ecological production on environment is a main issue. Production efficiency, animal breeds, housing, feeding, technologies of conventional and organic production will be compared.

**Content of the subject (14 weeks):**

1. Introduction to ecological animal production
2. Definitions and principles of ecological production. Organic livestock farming.
3. Regulations, restrictions of ecological production
4. Regulations, restrictions of ecological production
5. Importance of organic animal production in the world
6. The role and importance of grassland management and grazing in the world

7. Possibilities and methods of livestock grazing, animal production on grassland
8. Grazing and ecological footprint
9. Organic pig production
10. Organic egg production
11. Organic broiler production
12. Organic waterfowl production
13. Organic dairy production
14. Organic beef production

**Type of mid-term examination: -**

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

**Teaching aids:** ppt files

**Recommended literature:**

U.S. Department of Agriculture (2017): Guide for Organic Livestock Producers. lulu.com, 1-112.
Escribano A. J. (2016): Organic Livestock Farming — Challenges, Perspectives, and Strategies to Increase Its Contribution to the Agrifood System's Sustainability — A Review, Organic Farming - A Promising Way of Food Production, Petr Konvalina, IntechOpen, DOI: 10.5772/61272.
Telford L., Macey A., Clark E. A., Henry R. (2014): Organic Livestock Handbook. Canadian Organic Growers; 2nd edition. 1-246.
Bootroyd, J (2008): Animals and the Environment. Lerners Publishing Group.