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| **Subject** | **RAW MATERIALS OF ANIMAL ORIGIN** | | | |
| **Type** | **Semester** | **ECTS** | **Code** |
| O | 2 | 4 (2+1) | 130ACH159 |
| **Course Lecturer** | **Xhavit F. Bytyçi;** | | | |
| **Course Assistant** |  | | | |
| **Course Tutor** |  | | | |
| **Aims and Objectives** | The course "Raw materials of animal origin" offers the main concepts in establishing the theoretical foundations: to get to know the branch of livestock and the factors that affect the production of materials of animal origin, such as knowledge of the categories and breeds of cattle, sheep, goats, pigs; the influence of nutritional and breeding factors as well as the selection process of domestic animals for the production of raw materials of animal origin.    Also, to know the physiology of milk synthesis, the stage of lactation as well as the various factors that affect the quality of milk, with special emphasis on the hygiene of the benefit of milk from dairy animals.    To have knowledge on the histological, chemical and physical construction of mammal, poultry and fish meat, the factors that affect the quality of meat as well as the way of hygienic benefit of meat as a raw material of animal origin.    Understand the importance of bird eggs and bee honey including their chemical and physical composition as well as their health benefits. | | | |
| **Learning outcomes** | After completing this course (subject), the student will be able to:    − To know the general concepts of the importance of breeding agricultural animals as well as raw materials of animal origin as well as the role of factors that strongly influence the quality of animal materials    − To understand the chemical and physical composition of milk and the importance of technological factors that affect the quality of milk.    − To understand and compare the chemical and physical composition of the meat of mammals, poultry and fish, the procedures of their hygienic benefit as the factors that affect the quality of the meat.    − To understand the importance of bird eggs and honey, their chemical and physical composition and their nutritional values. | | | |
| **Alignment of**  **Course’s**  **Learning**  **Outcomes to**  **Programs Learning**  **Outcomes.** | 1. **Application of theoretical knowledge:**     - Possession and understanding of advanced knowledge about the chemical and physical properties of raw materials of animal origin such as milk, meat of mammals, poultry and fish as well as eggs and honey with special emphasis on their sensory evaluation for the purpose of producing products healthy, safe and high-quality animals.  - Application of advanced techniques, methods, tools and instruments in the processing, analysis and evaluation of the quality of milk, meat, eggs and honey, ensuring compliance with food laws and regulations.     1. **Evaluation and critical analysis:**     - Analyzing, evaluating and interpreting scientific data on raw materials of animal origin, including research literature, ensuring that findings are innovatively and ethically communicated to a diverse audience, from peers to the general public.  • Demonstration of understanding and technical competence in the basic principles of raw materials of animal origin, distinguishing between different animal materials and the implications for the food and health industry.  • Organize and convey technical and relevant information effectively, orally and in writing, ensuring clarity and accuracy to a diverse audience, including supervisors, peers and customers.  • Execution and direction of research projects in food science, navigating the complexities of nutrition and exercise science, especially of raw materials of animal origin, taking into account ethical, cultural and environmental dimensions.  • Interpreting, comparing and classifying findings from research on animal subjects, ensuring that decisions and results are consistent with established standards and best practices.  • Exercise autonomy and initiatives in identifying interactions related to the quality of subjects of animal origin and factors that may affect their qualitative devaluation by designing optimal measures to maintain the quality of these subjects.  • Addressing and solving complex problems related to the beneficiation of materials of animal origin using integrated knowledge from different fields of food science.     1. **Development of practical skills:**     • Interpreting, comparing and classifying findings from research on animal subjects, ensuring that decisions and results are consistent with established standards and best practices.  • Exercise autonomy and initiatives in identifying interactions related to the quality of subjects of animal origin and factors that may affect their qualitative devaluation by designing optimal measures to maintain the quality of these subjects.  • Addressing and solving complex problems related to the beneficiation of materials of animal origin using integrated knowledge from different fields of food science.     1. **Evidence-based approach:**     • Addressing and solving complex problems related to the beneficiation of materials of animal origin using integrated knowledge from different fields of food science  • Commitment to continuous learning, staying up-to-date with the latest trends, challenges and innovations in the field of studying raw materials of animal origin and exercises for assessing their quality. | | | |
| **Content** | ***Content of Lectures/Weekly Plan*** | | | ***Week*** |
| The importance of animal husbandry in the production of raw materials of animal origin: | | | 1 |
| Factors influencing the production of raw materials of animal origin | | | 2 |
| The role of selection and animal breeds in the production of raw materials of animal origin | | | 3 |
| Livestock, cattle, dairy and pig farming in the production of raw materials of animal origin | | | 4 |
| Synthesis and chemical composition of milk | | | 5 |
| Physical properties, categorization and factors affecting milk quality | | | 6 |
| Presentation of Seminars | | | 7 |
| The influence of technological factors and hygienic measures on the quality of milk | | | 8 |
| Meat as a raw material and its properties | | | 9 |
| Transport of animals for slaughter and slaughterhouse facilities | | | 10 |
| Poultry and its importance in the production of raw materials of animal origin | | | 11 |
| Aquaculture and its importance in the production of raw materials of animal origin | | | 12 |
| Apiculture and its importance in the production of raw materials of animal origin | | | 13 |
| Presentation of case studies | | | 14 |
|  | Final assessment | | | 15 |
| **Teaching/**  **Learning**  **methods** | **Learning activity** | | | **Weight %** |
| **1. Lecture: 15%**  - Goal: To present the main concepts, models and theories in the management of knowledge in raw materials of animal origin  -Relevant to: Building fundamental understanding and providing a theoretical framework for the subject.  **2. Case studies and analysis: 25%**  - Goal: To apply the theoretical knowledge in practical scenarios in sample analyzation  -Important for: Critical evaluation of the effectiveness of knowledge management in different contexts and reflection on practical examples.  **3. Group discussions and seminars: 20%**  -Goal: To encourage interactive learning, exchange of ideas and development of critical thinking.  -Relevant for: In-depth discussion of different models and theories and reflection on their application in raw materials of animal origin1.    **4. Project work: 20%**  - Goal: To promote creativity, application of practical skills and cooperative learning.  -Important for: Developing new and creative ways of knowledge management in the course contexts of animal raw materials and identifying barriers and facilitators for knowledge management.  **5. Assignments and Research Papers: 10%**  -Goal: To increase research skills and the ability to critically analyse information.    -Relevant to: In-depth study of specific topics within knowledge management, increasing understanding through research.  **6. Guest lectures and seminars: 10%**  - Purpose: To provide exposure to industry experts and practical knowledge.  -Relevant for: Gaining different perspectives on management practices and challenges    knowledge in raw materials of animal origin | | | |
| **Literature/References** | * **Xhavit Bytyçi (2023) , “Lëndët e para me origjinë shtazore “ , Prishtinë** * Bijo, B. (2012):  Higjiena e ushqimeve me origjine shtazore, Tiranë. * Bijo, B. (2007): Higjiena e mishit dhe Thertoreve, Universiteti Bujqësor I Tiranës. * Shoshi, N. (2014): Higjiena veterinare, Universiteti Bujqësor I Tiranës. * Dedej, S. (1998): Prodhimi I kafshëve, Universiteti Bujqësor I Tiranës * Popesko, P.: Atlas de anatomia topografica de los animales domesticos, 2.edition * Raporti I gjelbër (2016), Ministria e Bujqësisë, Pylltarisë dhe Zhvillimit Rural * Rajka Božanić et al. (2012) Analiza mleka I mlecnih proizvoda d.o.o., Zagreb * Velimir M. Jovanović,,( 2008). Muza krava I postupak sa mlekom, Beograd * Prof. spec. Zlatan Glišić, Kairos, , (2008), Prakticno govedarstvo, Sremski Karlovci * Petar Radetić, dr Vesna Matekalo-Sverak,(2010),  Meso, Beograd, * Prof.dr Ahmed Smajić,(2014), Prerada mesa, Sarajevo, * Miroslav Jůzl , Šárka Nedomová (2015): Quality of animal products, Brno * Leo M. L. Nollet (2012):  Handbook of Meat, Poultry and Seafood Quality, Department of Engineering Sciences Hogeschool Gent, Ghent, Belgium * Leo M.L. Nollet and Fidel Toldrá  ( 2011) : Safety analysis of foods of animal origin * James R. Gillespie, Frank Flanders  (2009): Modern Livestock and Poultry Production * Colin Scanes , (2010): Fundamentals of Animal Science * Meat, Poultry and Fish Technology- Jhari Sahoo, Manish Kumar Chatli, New Delhi 2016 * Blackie Academi c and Professional (Hall, G.M..) (1992) ;Fish processing technology, * Jianping Wu , Eggs and Egg Products Processing -, Canada * Ettore Baglio (2018)  Chemistry and Technology of Honey Production | | | |
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