**CURRICULUM**

of the discipline: **Systems for Food Risk Management**

**A. SAMPLE OF CURRICULUM**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **№** | **Type of occupation** | **Semester** | **Weekly classes** | **Number of weeks** | **Total number** | **ECTS** |
| **AUDITORY OCUPATION** |
| 1. | Lectures | IІІ | 3 | 13 | 39 | 6.0 |
| 2. | Exam | IІІ |  |  |  |  |

Speaker: Prof. Stefan Dragoev, Corresponding Member of Bulgarian Academy of Sciences, Department of Meat and Fish Technology

**B. ANOTATION**

Course entitled **Systems for Food Risk Management** is designed to develop and build in Master’s Degree students of **Quality Food** **Control** knowledge on the management of food safety. Students will learn about managing the risk of occurrence of food hazards out in ISO 22000: 2018 in the HACCP principles in the control of food hygiene regulated by the Commission in Codex Alimentarius. They will gain knowledge of good manufacturing practices (GMP-s) based on these principles. This course is structured in four sections. In the first one the students will be introduced to the international standard for food safety management ISO 22000: 2018 and its application in practice, alone or in integration with other standards such as ISO 9001:2015, ISO 14001: 2015, ISO 45001:2018 and so on. The second section discusses the principles and structure of the HACCP system. The third section is dedicated to the structuring of GMP-s documents based on statutory principles Commission of the Codex Alimentarius to the control of food hygiene. The fourth section is devoted to an audit by scientific method of risk management in food. Based on the acquired in-depth theoretical knowledge, students will expand their professional training in their specialty and will enrich their practical skills related to management of the food hazards and risks.

**Technology of education:** Lectures are illustrated with audiovisual equipment (presentation by Power Point Media) and others. During the semester students' knowledge will be assessed through coursework - preparing HACCP plan for the production of selected from students a particular food product.

**Language of the course:** English

**C. teaching content**

C.1. Lectures

|  |  |  |
| --- | --- | --- |
| Theme№ |  Chapters/ Topics | Classes,h  |
| 1. | **Requirements of ISO 22000: 2018 for food safety management systems in organizations involved in the food chain** |
| 1.1. | Areas of application of ISO 22000:2018. Terms and definitions applicable in the food safety management systems | 1 |
| 1.2. | Basic requirements of ISO 22000: 2018 management system of food safety and requirements documents and records | 2 |
| 1.3. | Management responsibilities associated with the maintenance and operation of the food safety management system  | 2 |
| 1.4. | Resource management related to maintenance and operation of the food safety management system | 1 |
| 1.5. | Planning and realization of safe food | 4 |
| 1.6. | Validation, verification and improvement of food safety management system | 2 |
| 2. | **HACCP - a mandatory system for food safety in the EU** |
| 2.1. | History of HACCP. Basic concepts and principles. | 2 |
| 2.2. | Structure of the HACCP system. HACCP manual and HACCP plans. | 2 |
| 2.3. | Operational prerequisite programs and CCP records. | 2 |
| 3. | **Good manufacturing and hygiene practices based on the principles of food hygiene of the Codex Alimentarius - the basis for the production and sale of safe food** |
| 3.1. | Structure of GMP. The first principle of food hygiene by Codex Alimentarius | 0.5 |
| 3.2. | Second principle of food hygiene by Codex Alimentarius  | 0.5 |
| 3.3. | Third principle of food hygiene by Codex Alimentarius  | 4.5 |
| 3.4. | Fourth principle of food hygiene by Codex Alimentarius | 1.5 |
| 3.5. | Fifth principle of food hygiene by Codex Alimentarius | 0.5 |
| 3.6. | Sixth principle of food hygiene by Codex Alimentarius | 0.5 |
| 3.7. | Seventh principle of food hygiene by Codex Alimentarius | 0.5 |
| 3.8. | Eighth principle of food hygiene by Codex Alimentarius | 0.5 |
| **4.** | **Guidance of ISO 19011:2018 Audit Management Systems**  |
| 4.1. | Introduction to the audit management systems. Principles of auditing. Audits types  | 0.5 |
| 4.2. | Management of audit program | 0.5 |
| 4.3. | Leadership of the audit | 2 |
| 4.4. | Audit approach. Psychology of the audit communications. | 2 |
| 4.5. | Competence and evaluation of the auditors. | 2 |
| 4.6. | The audits conducting. | 2 |
| 4.7. | Reporting during the audit. Preparation and presentation of the audit report. | 2 |
| 4.8. | Report for non-conformities and corrective actions. | 1 |
| **5.** | **A written exam (test)** | **1** |

C.2. Extracurricular work of students

|  |  |  |  |
| --- | --- | --- | --- |
| **№** | **Type of activity**  | **Hours** | **ECTS** |
| Extracurricular work |
| 1. | Consultations | 15 |  |
| 2. | Individual independent study | 15 |  |
| 3. | Essays | 10 |  |
| 4. | Preparation for exam | 20 |  |

C.3. Exam

The examination will be conducted as a test. In the final grade will include evaluation the presented by the students HACCP plan prepared on a pre-selected and specified by the lecturer flow diagram for the production of specified food/drink/feedstuff.

**D. RECOMENDED LITERATURE**

D.1. Basic literature

1. Anderson, N. (2008). The Quality Management System - Is Yours up to Standard? Global Service Delivery Group, Corporate Facilities Management, EMEA, CBRE, CBI Richard Ellius, USA. [www.portal.cbre.eu/workspace/documents/QMS\_UPTODATE\_V2.pdf](http://www.portal.cbre.eu/workspace/documents/QMS_UPTODATE_V2.pdf)
2. Beckmerhagen I. A., H. P. Berg, S. V. Karapetrovic, W. O. Willborn (2004). On the Effectiveness of Quality Management System Audits, [The TQM Magazine](http://www.ingentaconnect.com/content/mcb/106;jsessionid=1mbaolj6l0b58.alice), 16 (1): 14-25. <https://doi.org/10.1108/09544780410511443>
3. Codex Alimentarius C.1 Codes and Guidelines 1); C.1.1 General, CAC/RCP 1-1969 (Rev.4-2003), Recommended International Code of Practice - General Principles of Food Hygiene; incorporates Hazard Analysis and Critical Control Point (HACCP) system and guidelines for its application.
4. Food and Agricultural Organization of the United Nations/World Health Organization. (1997). Codex Alimentarius Food Hygiene Basic Texts, Rome.
5. ISO 9001:2015: Quality Management Systems – Requirements.ISO 19011:2018: Auditing Management Systems.
6. Joint FAO/WHO Food Standards Programme. (2011). Codex Alimentarius Commission. Procedural Manual, Twentieth edition. FAO/WHO, Roma. ISSN 1020-8070. http://ftp://ftp.fao.org/codex/Publications/ProcManuals/Manual\_20e.pdf
7. Purwanto, A., Asbar, M., Santoso, P.B. (2019). Influence of Transformational and Transactional Leadership Style toward Food Safety Management System ISO 22000:2018 Performance of Food Industry in Pati Central Java. Inovbiz: Jurnal Inovasi Bisnis, [7 (2):](http://www.sciencedirect.com/science/journal/09567135/7/6) 180-185. <http://ejournal.polbeng.ac.id/index.php/IBP/article/view/1213/563>
8. Walker, H. F., A. K. Elshennawy, B. C. Gupta, M. McShane Vaughn (2009). The Certified Quality Inspector Handbook, American Society for Quality, ASQ Quality Press, Milwaukee, WI, USA. ISBN 978-0-87389-731-0.
9. Lance, B. Coleman, Sr. (2020). The ASQ Certified Quality Auditor Handbook. Fifth Edition, ISBN: 978-1-951058-09-8.
10. Russell, J.P. (2007). The Internal Auditing Pocket Guide Preparing. Performing, Reporting and Follow-up, Second Edition, Spiralbound, ISBN: 978-0-87389-710-5.
11. Mawby, W.D. (2021). The ASQ Auditing Handbook, Navigating Big Data Analytics, Fourth Edition, Contact Quality Press.
12. Coleman, Sr., Lance, B. (2018). Standard Issues: Game, Set, Match. Quality Progress, 51 (7): 44-47.
13. Coleman, L. B. Sr. (2020). Making Remote Work. Advice On Getting the Most Out of Remote Auditing to Minimize Risk and Manage Suppliers. Quality Progress, 53 (9): 16-23.
14. Robitaille, D. (2018). ISO 19011: It's Changing - Who Cares?, Webcast. ASQ.ORG, Robitaille Associates. <https://asq.org/quality-resources/webcasts/iso-19011-its-changing-who-cares-webcast?id=d295ed4773244ef68c42128590ab2415>
15. What is ISO 19011:2018 – Auditing Management Systems? Quality Resources. https://asq.org/quality-resources/iso-19011

D.2. Additional literature

1. Anderson, N. (2008). The Quality Management System - Is Yours up to Standard? , Global Service Delivery Group, Corporate Facilities Management, EMEA, CBRE, CBI Richard Ellius, USA. [www.portal.cbre.eu/workspace/documents/QMS\_UPTODATE\_V2. pdf](http://www.portal.cbre.eu/workspace/documents/QMS_UPTODATE_V2.%20pdf)
2. Beckmerhagen I.A.,  H.P. Berg,  S.V. Karapetrovic,  W.O. Willborn (2004). On the Effectiveness of Quality Management System Audits, [The TQM Magazine](http://www.ingentaconnect.com/content/mcb/106;jsessionid=1mbaolj6l0b58.alice), 16 (1): 14-25, **Publisher:** [Emerald Group Publishing Limited](http://www.ingentaconnect.com/content/mcb;jsessionid=1mbaolj6l0b58.alice), ISSN: 0954-487X, DOI: 10.1108/09544780410511443;
3. Codex Alimentarius. International Food Standards. [http://www.codexalimentarius.net/STANDARD/ standard.htm](http://www.codexalimentarius.net/STANDARD/%20standard.htm)
4. Canadian Food Inspection Agency - Food Safety Enhancement Program. http://www.inspection.gc. ca/english/ppc/psps/haccp/haccpe.shtml
5. Codex Alimentarius C.1 Codes and Guidelines 1); C.1.1 General, CAC/RCP 1-1969 (Rev.4-2003), Recommended International Code of Practice - General Principles of Food Hygiene; incorporates Hazard Analysis and Critical Control Point (HACCP) system and guidelines for its application.
6. Codex Alimentarius C.1 Codes and Guidelines 1); C.1.1 General, Guidelines for the Validation of Food Hygiene Control Measures 2)
7. Codex Alimentarius C.1 Codes and Guidelines 1); C.1.1 General, Principles for the Application of Tractability/Product Tracing with respect to Food Inspection and Certification 2)
8. Codex Alimentarius C.1 Codes and Guidelines 1); C.1.1 General, Commodity Specific Codes and Guidelines
9. Danish Standards Association. DS 3027:2002: Management of Food Safety Based on HACCP (Hazard Analysis and Critical Control Points) - Requirements for a Management System for Food Producing Organizations and their Suppliers, 2002.
10. Dutch National Board of Experts. HACCP Criteria for the Assessment of an Operational HACCP-System, 2002.
11. Food Quality and Safety Systems. (1998). A Training Manual on Food Hygiene and the Hazard of the United Nations. FAO/UHO, Rome.
12. Hathaway, St. (1999). Management of Food Safety in International Trade, Food Control, 10 (4-5): 247-253.
13. ISO 10003:2007(E): Quality management - Customer Satisfaction - Guidelines for Dispute Resolution External to Organizations (e-Standard), ASQ Quality Press, Milwaukee, WI 53203, USA, 2007.
14. Joint FAO/WHO Food Standards Programme. (2011). Codex Alimentarius Commission. Procedural Manual, Twentieth edition. FAO/WHO, Roma. ISSN 1020-8070. http://ftp://ftp.fao.org/codex/Publications/ProcManuals/Manual\_20e.pdf
15. Kaziliunas, A. (2008). Problems of Auditing using Quality Management Systems for Sustainable Development of Organizations. Baltic Journal on Sustainability,14 (1): 64-75.
16. O’Donnel, C.D. (1994). Laying the Groundwork for HACCP, Prepared Foods, 163 (4): 49-50.
17. Quality Management ISO 9001:2000, ISO/TS 16949:2002, and ISO 13485:2003 (2007). Center for Industrial Services, Tennessee, USA. [www.cis.tennessee.edu](http://www.cis.tennessee.edu)
18. Recommended International Code of Hygienic Practices of Food Hygiene (1997). CAC/RCP 1-1969, Rev. 3. САС.
19. Scott, V. N. (1993). Implementation of HACCP in a Food Processing Plant. Journal of Food Protection, 56 (6): 548-554, 557.
20. Tague, N. R. (2005). The Quality Toolbox, Second Edition, American Society for Quality, ASQ Quality Press, Milwaukee, WI 53203, USA. ISBN 978-0-87389-639-9. 7 x 10. Amazon.com
21. [Vanne](http://www.sciencedirect.com/science/article/pii/S0956713596000643), L., [M. Karwoski](http://www.sciencedirect.com/science/article/pii/S0956713596000643), [S. Karppinen](http://www.sciencedirect.com/science/article/pii/S0956713596000643), [A.-M. Sjöberg](http://www.sciencedirect.com/science/article/pii/S0956713596000643) (1996). HACCP-Based Food Quality Control and Rapid Detection Methods for Microorganisms. Review. [Food Control](http://www.sciencedirect.com/science/journal/09567135), [7 (6):](http://www.sciencedirect.com/science/journal/09567135/7/6) 263-276. [doi:10.1016/S0956-7135(96)00064-3](http://dx.doi.org/10.1016/S0956-7135%2896%2900064-3)

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 Dean:

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