



Department of Medical Microbiology

College of Health Science

University of Cihan- Sulaimaniya

Subject: Food and Industrial Microbiology

Course Book

Lecturer's name: Selar Shawkat Izzat

Academic Year: 2023 - 2024

Course Book

1. Course name	Food and Industrial Microbiology
2. Lecturer in charge	Selar Shawkat Izzat
3. Department/ College	Medical Microbiology
4. Time (in hours) per week	2 hr Theory 2 hr Practical
5. Office hours	-
6. Course code	-
7. Teacher's academic profile	https://uni.sulichan.edu.krd/qa/profile.php?id=199
8. Keywords	Food Microbiology, Industrial Microbiology
9. Course overview: This course is designed to give students an understanding the routes of food contamination, cases in which food sampling would be an important issue, the role of microorganisms in food quality and public health promotion, also include the ways of performing food sanitation managements during manufacturing, handling and transporting, with practicing microbiological examination of several food categories including (Milk and Fermented Milk products, Meat and poultry, Eggs, Canned foods, Horticulture...etc) and food production in industrial sector in a hygienic ways.	
10. Course objective: This subject is aimed to develop and obtain a good understanding of food and industrial microbiology and various micro- flora associated with food products and their deleterious effect on food products, as well as the student become qualified for positions as food microbiologist in food quality control laboratories, in government and/or private related industrial sectors.	
11. Student's obligation Students are required to attend the classes and labs regularly, taking quizzes, following standard laboratory practice during practical parts. Moreover, participating the class discussions, solving problems, practicing good hygienic work and wearing lab coats all are considered in the course marks.	

12. Forms of teaching

Explaining the subjects and participating the students in answering critical questions and making their point of view are important in our classroom. Besides, practical parts in the labs and visiting activities to related places are among the ways that help the student in better understanding the information they taught.

13. Assessment scheme

Midterm Examination	25 %
Paper, Quiz, Project	13 %
Lab exam	12 %
Final Practical Examination	20 %
Final theory exam	30 %

14. Student learning outcome:

At the end of this course, the student will become familiar with the theoretical background of food and industrial microbiology, besides laboratory methods used in the microbiological analysis of foods, and with the identifying characteristics of the major groups of microorganisms associated with food spoilage, foodborne disease, and food fermentations. As well as the student will be able to learn more about food safety, realizing food hygiene and sanitation mechanisms and become qualified as a food microbiologist position in industry or in government.

15. Course Reading List and References:

1. Leboffe M. J. and Pierce B. E. 2011. A Photographic Atlas f o r t h e Microbiology Laboratory. 4th edition. Morton Publishing Company.
2. Adams, M. R., and Moss, M. O. 2008. Food Microbiology. 3rd edition. The Royal Society of Chemistry. U.K.
3. Roberts, D., and Greenwood, M., 2003. Practical Food Microbiology. 3rd edition. Blackwell Publishing Ltd.
4. Ramanathan, H. 2010. Food Poisoning, A Threat to Humans. Marsland Press. Richmond Hill, New York 11418, USA.
5. Heredia, N., Wesley, I. and Garcia, S. 2009. Microbiologically safe food. A John Wiley & Sons, Inc., Publication.
6. Puniya, A. K., and Shilpa Vij, S. 2010. Practical Manual on Food and Industrial Microbiology. NDRI Publication

7. Sapers, G. M., Gorny, J. R. and Yousef, A. E. 2005. Fruits and Vegetables. Tylor and Francis Group.
8. Fernandes, R. 2009. Microbiology handbook, Meat products. Leatherhead Food International Ltd.
9. Dekker, M. 2009. Dairy Bacteriology. Inc. U.S.A.
10. McLandsborough, L. 2005. Food Microbiology Laboratory. CRC Press
11. Jay, J. M., Loessener, M. J., and Golden, D. A. 2005. Modern Food Microbiology, 7th ed. Springer Science and Business Media, Inc. U.S.A.
12. Industrial Microbiology: An Introduction (2001); Michael J. Waites, Neil L. Morgan, John S. Rockey & Gary Higton.
13. Modern Industrial Microbiology and Biotechnology (2007); Nduka Okafor.
14. Industrial Microbiology, fundamentals and applications (2008), A. K. Agrawal and Pradeep Parihar.
15. Biotechnology: a text book of industrial microbiology (1990); Wulf Crueger, Anneliese Crueger, Thomas D. Brock.

16. The Topics:

Lecture No	Topic
1	Food and Industrial Microbiology: Introduction
2	Types of Microorganisms in Food
3	Food Contamination and Source of Microorganisms in Food
4	Characteristics Microorganisms in Food/ Factors affecting microbial growth in food
5	Food Spoilage
6	Microbial Spoilage of specific food groups/ Spoilage of Meat, Poultry and Fish
7	Spoilage of vegetable, fruits and fruit juices
8	Spoilage of eggs and canned foods
9	Food Poisoning
10	Industrial microbiology/ PRODUCTS & PRODUCER ORGANISMS
11	Industrial microbiology/ Fermentation

12	Industrial Microbiology/Types of fermentation
13	Scientific visit to Bahar Factory
Final Examination	

17. Peer review

Main Lecturer in charged

Dr. Selar Shawkat Izzat

Head of The Department