

MICROBIOLOGY

Bachelor Degree:	AGRICULTURAL ENGINEERING	802
Course title:	MICROBIOLOGY	501
Year/Semester:	3rd year/1st semester	ECTS Credits: 6

DEPARTMENT

AGRICULTURE AND FOOD DEPARTMENT

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CONTENTS

Theoretical Program:

- Unit 1.-Introduction to Microbiology
- Unit 2- Bacteria: morphology, metabolism, most important foodborne bacteria
- Unit 3- Yeasts: morphology, metabolism, most important foodborne yeasts
- Unit 4- Molds: morphology, metabolism, most important foodborne molds. Mycotoxins
- Unit 5- Viruses: morphology and replication. Viruses in water and foods. Prions
- Unit 6- Other foodborne microorganisms: protozoa and unicellular alga
- Unit 7- Principles of microbial growth and survival. Factors affecting the fate and activities of microorganisms in foods
- Unit 8-Methods of control by asepsis
- Unit 9- Methods of control by elimination
- Unit 10- Methods of control by growth delay
- Unit 11- Methods of control by destruction
- Unit 12.-Useful microorganisms in foods transformation

Practical Program: Microbiological technics for growth, detection and identification of microorganisms.

REFERENCES

Title
Essentials of the Microbiology of Food (a text book for advances studies). D.A.A. Mossel, J.E.L. Corry, C.B. Struijk and R.M. Baird. Ed. John Wiley and Sons.
Foodborne Pathogens (an illustrated text). A.H. Varnam and M.G. Evans. Ed. Manson Publishing
Foodborne pathogens. Hazards, risk analysis and control. Ed. by C.W. Blackburn and P.J. McClure. Woodhead Publishing limited
Encyclopedia of Food Microbiology. Ed. by R.K. Robinson, C.A. Batt and P.D. Patel. Academic Press



EVALUATION SYSTEM

Presence and participation in laboratory sessions (5%)

Laboratory practices memories (10%)

Written works (5%)

Written exams and probes (80%)