UNIVERSITY OF NAIROBI

SCHOOL OF BIOLOGICAL SCIENCES

SBT 535: Food Microbiology

A. COURSE SUMMARY

This is an advanced course on food microbiology covering probiotics, the microbial ecology of food, important food-borne pathogens, food additives, food preservation, food spoilage, food fermentation, rapid and culture-based microbe detection.

B. COURSE OBJECTIVES

1. Understand the role of microorganisms in fermentation and production of various food types.
2. Become familiar with methods used to determine microorganisms and their products in foods.
3. Understand the causes of food spoilage and predict the microorganism that can spoil a given food, when prepared, processed and stored under given conditions.
4. Be able to predict the necessary measures to control the spoilage and pathogenic microorganisms in food.
5. Be able to apply information concerning a food and its environment to an analysis of the microbiological hazard associated with that food.
6. Identify the types of microorganisms found in foods.

C. COURSE OUTCOMES

After taking this course, students should be able to:

- Å Learn the interrelationships of microorganisms with foods and their role in food manufacture and food spoilage.
- Å Predict the impact of food processing and food handling on the microbiology of food. Topics include all aspects of food microbiology as listed below in the lecture outline.
- Å Discuss the detection and enumeration of microbes in foods.
- Å Identify the Indicator Microorganism and Microbiological Criteria.

D. COURSE CONTENT

i. Milk and milk products: Sour cream, cheese, yoghurt.
ii. Fermentation brewing: beer, wine, vinegar.
iii. Fermented foods
iv. Single cell protein
v. Food additives
vi. Microbial spoilage of foods
vii. Preservation of food
viii. Food borne infections and intoxications.

E. COURSE EVALUATION

Continuous Assessment Tests - 20%
Practical Reports and Assignments ï 10%
Exam ï 70%

F. RESOURCES AND REFERENCES

1. Food Microbiology by M. R. Adams, Maurice O. Moss. 2nd Edition 2000.

2. Modern Food Microbiology by James M. Jay, Martin J. Loessner, David A. Golden. Springer 7th Edition 2006.