١ صباح دفعة تطبيقية ٤٤١

Module Syllabus

Spring 2008
Module Name: Applied Microbiology **Module Number:0304441**

UNIVERSITY Of Jordan

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Module Coordinator:Prof. Adel Mahasneh

Aims (Module Purpose): ***To appreciate the role of microorganisms in human welfare taking in consideration their positive and negative roles in being ,both foods and environmental contaminants,as well as spoilage and disease agents.how they reach to become pathogens,how they spoil food commodities.on the otherhand how they could be a beneficial directly by being foods or indirectly by converting commodities to a better product.how thy could be a source of indusrial enymes,antibiotics,microbial foods and a tool for production and development of new products of pharmaceutical importance.***

Teaching Methods:lectures,.discussions and practicles

Learning Outcomes:Diversity of MOs as being foods or contaminants.how different foods act as good environments for microbial growth.how foods and MOs interact to cause infections ,intoxications,or to ferment foods.how they are used to produce Ab,enzymes,pharmaceuticals.their use in tackling some environmental problems i.e wast water treatment ,bioleaching etc....MOs and diseases .MOs as probiotics .

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Module Outline:

Week	Date	Subject
(1)		History of applied microbiology,MOs in foods ,food preservation,spolage,poisoning and legislation
(2)		Foods as substrates for MOs
(3)		Primary sources of MOs in foods.Synopsis of common foodborne bacteria,molds and yeasts
(4)		Intrinsic and extrinsic factors of foods that affect microbial activity in it.
(5)		Contamination of foods,classification of foods by ease of spoilage.chemical changes caused by MOs
(6)		Major concepts of food preservation :removal of MOs,high and low T.Drying,radiation,salting,food additives
(7)		MOs as sources of foods and enzymes .food fermentations,bread,wines,vinegar fermented dairy.SCP,
(8)		Ab production,industrial enzyme production,mushroom production.MOs as probiotics
(9)		Mid term exam,TUESDAY,8,April 2008 .
(10)		Foodborne diseases ;examples
(11)		Investigation of food-borne disease outbreaks
(12)		Mycotoxins,viruses as foodborne biohazards
(13)		Microbial transformations or bioconversions
(14)		Environmental role of MOs example:sewage treatment,methane production i.e biogas
(15)		Microbial leaching
(16)		Biopesticdes,biopolymers

Modes of Assessment:

Modes of Assessment:	Score	Date
Mid –term	30	8.4.08
Lab.Reports	10	
Class -discussion	10	
Final Lab.+Theory	20+30	As per registration schedule

* *Make-up exams: No make-up exams*

Attendance Policy:According to Univ. rules

Expected Workload:6-8 hours per week

Text Book(s) and Supporting Materials:The themes in this course could not be covered in one text,hence I recommend the following:

Text book(s):

1.Title: Food Microbiology
Author: Frazer and Westhoff,Latest ed.
Publisher:McGrawHill
ISBN:

2.Modern Food Microbiology 5th ed.

Author:J.Jay
Publisher:Chapman and Hall

3.Biotechnology:Atextbook of Industrial Microbiology,Latest ed.
Author:W.Crueger And A.Crueger
Publisher:Sinauer

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