

Course Title	Biotechnology	
Course Code	BC5104	
Academic Year	2016/2017	
Coordinator	Prof. Ehab M M Ali	
Other Staff	DrAfraSalama	
Semester	Semester 1	
Level	Level Four	
Pre-Requisite	BC5102	
Course Delivery	Lecture	14 x 2h lectures
	Practical	12x 3 h practical
	Credit	3 h
Parent Department	Chemistry Department	

Contents

Biotechnology

Lecture 1	Introduction of Biotechnology
Lecture 2	short review of microbial physiology
Lecture 3	Review of microbial genetics
Lecture 4	a review of general pathways,
Lecture 5	control and application industrial processes
Lecture 6	Continuous culture methods; principles and applications
Lecture 7	The chemostat culture methods in industrial fermentations
Lecture 8	Midterm
Lecture 9	Alcoholic fermentation, ,
Lecture 10	aminoacids fermentation
Lecture 11	antibiotics fermentation
Lecture 12	Primary metabolism
Lecture 13	Secondary metabolism
Lecture 14	Production secondary metabolites
	Practical
Practical 1	Determination of Km and Vmax of selected enzyme in absence and presence of different concentration of inhibitors
Practical 2	Purification of selected enzyme using ammonium sulfate precipitation method
Practical 3	Purification of selected enzyme using acetone precipitation method
Practical 4	Fractionation precipitation of selected enzyme using different concentration of ammonium sulfate
Practical 5	Fractionation precipitation of selected enzyme using different volume of acetone
Practical 6	Fractionation precipitation of selected enzyme using different ammonium sulfate concentration and different volume of acetone
Practical 7	General introduction about microbial technique
Practical 8	Cell fractionation, and estimation of phosphorous
Practical 9	Estimation of total lipids and proteins in bacterial cells
Practical 10	Estimation of DNA and RNA in bacterial cells
Practical 11	Basic of molecular biology
Practical 12	General revision