Biotechnology

Course Code	Course Num.	Course Name	Credit Hours	Lec.	Lab	Tut	Prerequisites
BIO	333	Biotechnology	3	2	2	0	BIO232

Objectives:

By the successful completion of the course the student will be able :

- To describe the fundamental aspects of the biotechnology.
- To underline the principles of recombinant DNA technology.
- To describe the applications of micro-organisms in industry , environment , agriculture and biomedical fields.
- To underline the applications of recombinant DNA technology in plant and animal biotechnology.
- To give examples of biotechnology products and biotechnology techniques.
- To discuss the importance of transgenic plants , bacteria and animals.
- To define what are bio-informatics and its importance for analysis of data related to biotechnological applications.

Syllabus:

- Basics of biotechnology in animal and plant.
- Basics of biotechnology in micro-organisms.
- Biomedical technical foundations.
- Agricultural, industrial and environmental biotechnology foundations.
- The role of genetics in biotechnology.
- Biotechnology types.
- Isolate and arrangement of genetic material.
- Structure of DNA.
- Commercial biotechnological applications on micro-organisms.
- Commercial biotechnological applications on plants.
- Commercial biotechnological applications on animals.
- A general revision of what has been studied and responded to queries.

References:

- William Bains , Biotechnology from A to Z .,3rd ed (2004). ISBN -13: 97801198524984.
- William J. Thieman, Michael A. Palladino, Introduction to Biotechnology, 2/E. Benjamin Cummings,(2009). ISBN-10: 0321491459.
- B. R. Glick and J. J. Pasternak (2003). Molecular Biotechnology: Principles and Applications of Recombinant DNA. American Society for Microbiology. ISBN-13: 978-1555811365.