

The Islamia University of Bahawalpur

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Tentative Course Plan

DEPARTMENT OF BOTANY

Class: BS Botany

Semester-7th (Botany)

Session: 2016-20

Instructor		Ghulam Sarwar		Email: lifesci.flora786@gmail.com	
Course Title		Introduction to Biotechnology		Program	BS Botany
Course Number		BOTA- 01705		Credit Hours	3(2+1)
Session	Topic	Topic title		Video link	
1	1.	Introduction to Biotechnology		https://youtu.be/O-G_q_b6HPg	
	2.	Overview, Time line and the Public debate		https://youtu.be/Qo9gcZ0r8k8	
2	3.	The nature of Biotechnology		https://youtu.be/gP7gDaYE56w	
3	4.	Important terminologies		https://youtu.be/1tjNN28PPL0	
	5.	Basic concepts of recombinant DNA technology		https://youtu.be/ZW9zPdb_Bs0	
4	6.	Restriction endonuclease		https://www.youtube.com/watch?v=5hgbcDQPISI	
5	7.	DNA ligase yield recombinant DNA		https://www.youtube.com/watch?v=cFhouvr3rqs https://www.youtube.com/watch?v=3Z5j0x18knY	
6	8.	Cloning vector allow amplification of inserted DNA segment		https://www.youtube.com/watch?v=VXkw_U6mJpc https://www.youtube.com/watch?v=MlFDx4I7SDs	
7	9.	Specific DNA Sequence are Detectable by Hybridization		https://youtu.be/9ibpveRD6pM	
8	10.	Identifying and Isolating the individual genes		https://youtu.be/aYhf-FXpoYs	
9	11.	Expression of cloned genes produced large quantities of Protein		https://youtu.be/bCcxJIPHSmc	
10	12.	Expression of cloned gene produce large quantities of proteins		http://youtu.be/bCcxJIPHSmc	
11	13.	Alternation in cloned genes to produce modified proteins.		http://youtu.be/bCcxJIPHSmc	
12	14.	Site directed mutagenesis or oligonucleotide directed mutagenesis		http://youtu.be/-CkUKLHj2a8	
13,14	15.	DNA Libraries Provide Specialized Catalogs of Genetic Information		https://youtu.be/d8CvdTWP_Pw	
15	16.	The Polymerase Chain Reaction Amplifies Specific DNA Sequences		https://youtu.be/iQsu3Kz9NYo	
16	17.	Genome Sequences Provide the Ultimate Genetic Libraries		https://youtu.be/2JUu1WqidC4	
17	18.	Sequence and structural relationship provide information on protein function		https://www.khanacademy.org/science/biology/macromolecules/proteins-and-amino-acids/v/overview-of-protein-structure	
18	19.	Cellular expression patterns can reveal the cellular function of a gene		https://www.khanacademy.org/partner-content/bjc/2015-challenge/2015-life-science/v/bjc-cell-differentiation https://www.frontiersin.org/articles/446371	
19	20.	Detection of protein – protien interaction helps to define cellular		https://www.youtube.com/watch?v=hS5cRDU_8CM	

		and molecular function.	
20	21.	A Bacterial Plant Parasite Aids Cloning in Plants	https://www.youtube.com/watch?v=FjBgLIE7514
21	22.	Manipulation of Animal Cell Genomes Provides Information on Chromosome Structure and Gene Expression	https://www.youtube.com/watch?v=2JUu1WqidC4
22	23.	New Technologies promise to Expedite the discovery of New Pharmaceuticals	https://youtu.be/0xm8Gwt3jJs
23	24.	The human genome and human genome therapy	http://youtu.be/cTGBICYKdls
24	25.	A potent weapon in forensic Medicine	A potent weapon in forensic Medicine
25	26.	Recombinant DNA technology yields new products and challenges	https://youtu.be/anri7g_8W4Y
26	27.	Analyzing genetic variation, DNA Technology in forensic	https://youtu.be/ldPGbYFW0VA
27	28.	Gene Mapping	https://youtu.be/ZeATszO-6e0
28	29.	Cloning of genes of unknown function	https://youtu.be/5n2thx6brSs
29	30.	Protein chips, DNA Microarrays	Protein Chips, DNA Microarrays
30	31.	Bacterial Artificial chromosomes	Bacterial Artificial chromosomes
31	32.	Yeast artificial chromosomes	Yeast artificial chromosome (YACs)
32	33.	Blotting techniques	Southern blotting Northern blotting technique Western blotting

Instructions for students from competent Authority :

Student's Responsibilities

- Student shall be responsible for accessing the material distributed through the Course Material Bundle for each of his / her courses and saving the material for offline use.
- Student shall be responsible to join online classroom sessions made available through official University servers.
- Student shall be responsible to participate actively in all activities assigned through the Learning Management System and to explore all links to further information disseminated through the Learning Management System.
- Student shall be responsible to prepare for exams and tests, both online and paper based, according to the content distributed through Course Material Bundle and LMS.

23/03/2021
Deputy Registrar (Acad)
The Islamia University
Bahawalpur