Kolhapur Institute of Technology's College of Engineering, Kolhapur

(An Autonomous Institute)



Proposed Curriculum Structure

for

Biotechnology Engineering (Under Graduate Programme)

Academic Year 2017-2018

Kolhapur Institute of Technology's College of Engineering, Kolhapur Teaching and Evaluation scheme for

Second Year B. Tech. Programme in Biotechnology Engineering Semester-III

		H	Ir/We	ek		Evalu	ation Schem	e	
Course Code	Course Name				Credits		Marks		
		L	Т	P		Component	Max		in for assing
						ISE-I	10		
LIDIO0201	Applied	2	1		- 4	MSE	30		40
UBIO0301	Mathematics	3	1	-	4	ISE-II	10		40
						ESE	50	20	
						ISE-I	10		
110100202	Flat I Made at a site	2				MSE	30		40
UBIO0302	Fluid Mechanics	3	-	-	3	ISE-II	10		40
						ESE	50	20	
						ISE-I	10		
110100202	Microbial	2			3	MSE	30		40
UBIO0303	Technology	3	_	_		ISE-II	10		40
						ESE	50	20	
						ISE-I	10		
110100204	Dia ah amaiatma	4			4	MSE	30		40
UBIO0304	Biochemistry	4	-	-	4	ISE-II	10		40
						ESE	50	20	
	Cell and					ISE-I	10		
110100205	Molecular	4			4	MSE	30		40
UBIO0305	Biology	4	-	-	4	ISE-II	10		
	Diology					ESE	50	20	
UBIO0331	Fluid mechanics (Lab)	-	-	2	1	ISE	50		20
	Microbial					ISE	50		20
UBIO0332	Technology (Lab)	-	-	2	1	ESE	50		20
								-	
LIDIO0222	Biochemistry					ISE	50		20
UBIO0333	(Lab)	-	-	2	1	ESE	50		20
UBIO0334	Cell and Molecular		1	2	1	ISE	50		20
	Biology (Lab)		_		1	ESE	50		20
UBIO0361	#Soft Skills	3	-	-	-	Audit Course-I	100		40
7	Γotal	20	1	8	22	Total Contact hours / Week : 29			29

Kolhapur Institute of Technology's College of Engineering, Kolhapur Teaching and Evaluation scheme for

Second Year B. Tech. Programme in Biotechnology Engineering Semester-IV

		Н	r/We	eek			Evaluation Scheme		e				
								Ma	ırks				
Course Code	Course Name	L	Т	P	Credits		Component	Max	Min f				
							ISE-I	10					
	Bioprocess	_					MSE	30		4.0			
UBIO0401	Calculations	3	-	-	3		ISE-II	10		40			
							ESE	50	20				
							ISE-I	10					
UBIO0402	Heat Transfer	4			4		MSE	30		40			
UB100402	Heat Transfer	4	-	-	4		ISE-II	10		40			
							ESE	50	20				
							ISE-I	10					
UBIO0403	Immunology	4	_	_	4		MSE	30		40			
00100403	Illilliuliology	4	-	-	4		ISE-II	10		40			
							ESE	50	20				
							ISE-I	10					
UBIO0404	Genetic	4	_	_	_	4		MSE	30		40		
00100404	Engineering	4 -	_	_	7		ISE-II	10		40			
							ESE	50	20				
							ISE-I	10					
UBIO0405	Bioinformatics	3	_	_	3	3		MSE	30		40		
CD100403	Diomiormatics	3		•			•	3		ISE-II	10		_ +0
							ESE	50	20				
UBIO0431	Heat	_	_	2	1		ISE	50	20				
CDIO0131	Transfer(Lab)				1		ESE	50	20				
UBIO0432	Immunology	_	_	2	1		ISE	50	20				
UBIO0432	(Lab)	_	_	2	1		ESE	50	20				
LIDIO0422	Genetic Engineering			2	1		ISE	50	20				
UBIO0433	Engineering (Lab)	-	-	2	1		ESE	50	20				
UBIO0434	Bioinformatics (Lab)	_	-	2	1		ISE	50	20				
UBIO0461	#Environmental Studies	1	1	-	-		Audit Course-II	100	40				
r	Total	19	1	8	22		Total Con	ntact hours /We	eek: 28				

Kolhapur Institute of Technology's College of Engineering, Kolhapur

Teaching and Evaluation scheme for

Third Year B. Tech. Programme in Biotechnology Engineering Semester-V

		Hr/Week					Evaluation Scheme				
Course	Course Name				Credits	•			Marks		
Code	Course Name	L	Т	P			Component	Max	Min for pas	ssing	
							ISE-I	10			
UBIO0501	Mass Transfer	3	1	_	4		MSE	30		40	
0000001	iviass fransici	3	1	_			ISE-II	10		40	
							ESE	50	20		
							ISE-I	10			
UBIO0502	Biological	3	_	_	3		MSE	30		40	
OBIO0302	Thermodynamics	3	_	_		ISE-II	10		40		
							ESE	50	20		
						İ	ISE-I	10			
UBIO0503	Fermentation	4			4		MSE	30		40	
08100303	Technology	4	-	-	4		ISE-II	10		40	
						ESE	50	20			
							ISE-I	10			
UBIO0504	Bioreaction	4			4		MSE	30		40	
UBIO0304	Engineering	4	-	-			ISE-II	10		40	
							ESE	50	20		
							ISE-I	10			
UBIO05**	Professional	3			3	İ	MSE	30		40	
OBIO05***	Elective - I	3	-	-	3		ISE-II 10		40		
							ESE	50	20		
UBIO0505	Seminar	-	-	2	1		ISE	50	20		
LIDIO0521	Fermentation			4	2	•	ISE	50	20		
UBIO0531	Technology (Lab)	ı	-	4	2		ESE	50	20	20	
UBIO0532	Bioreaction			2	1		ISE	50	20		
	Engineering (Lab)	-	-	2	1		ESE	50	20		
UBIO0561	#Basics of Cell Culture	2	-	-	-		Audit Course-III	100	40		
Tota	al	19	1	8	22		Total	Contact hou	rs/Week: 28		

Professional Elective I					
Course Code Course Name					
UBIO0521	Vaccine Technology				
UBIO0522	Animal Biotechnology				

Kolhapur Institute of Technology's College of Engineering, Kolhapur Teaching and Evaluation scheme for

reaching and Evaluation scheme for

Third Year B. Tech. Program in Biotechnology Engineering Semester-VI

		Hr	/We	ek			Eva	Evaluation Scheme				
Course					Credits			M	larks			
Code	Course Name	L	Т	P			Component	Ma x	Min for passing			
							ISE-I	10				
UBIO0601	Bioprocess	4			4		MSE	30	40	^		
000001	Equipment Design	4	-	-	4		ISE-II	10	40	U		
							ESE	50	20			
							ISE-I	10				
UBIO0602	Bioseparation	3	1	_	4		MSE	30	40	0		
OBIO0002	Processes	3	1	_	4		ISE-II	10				
							ESE	50	20			
							ISE-I	10				
UBIO0603	Techniques in	4	_	_	4	1		MSE	30	40	^	
0000000	Biotechnology	4	_	_		ISE-II	10	40	_ +0			
							ESE	50	20			
	Bioreactor Design						ISE-I	10				
UBIO0604	and Controls	4	_	_	_	_	4		MSE	30	40	^
UB100004	and Condois	+	_	_	4		ISE-II	10	40			
							ESE	50	20			
							ISE-I	10				
UOEL06**	Open Elective -I	3	_	_	3		MSE	30	40	^		
COLLOG	Open Elective -1	3	_	_	3			10		40		
							ESE	50	20			
UBIO0631	Bioprocess Equipment	_	_	2	1		ISE	50	20			
CDICCOSI	Design(Lab)				1		ESE	50	20			
UBIO0632	Bioseparation	_	_	2	1		ISE	50	20			
OD100032	Processes (Lab)				1		ESE	50	20			
UBIO0633	Techniques in	_	_	2	1		ISE	50	20			
00100033	Biotechnology (Lab)				1		ESE	50	20			
UBIO0661	Microbial Analysis	3	-	-	-		Audit Course-IV	100	40			
	Total	20	1	6	22		Total Cor	ntact hours / V	Veek : 27			

	Open Elective I	Offered by Department
Course Code	Course Name	
UOEL0601	Environmental Biotechnology	Biotechnology Engineering
UOEL0602	Food Technology	Biotechnology Engineering

Kolhapur Institute of Technology's College of Engineering, Kolhapur

Teaching and Evaluation scheme for

Final Year B. Tech. Programme in Biotechnology Engineering Semester-VII

		Hr	·/We	ek		Evaluati	on Sch	eme	
							Marl		ks
Course Code	Course Name	L	Т	P	Credits	Component	Max		in for assing
						ISE-I	10		
						MSE	30		
	Bioprocess Modeling					ISE-II	10		
UBIO0701	and Simulation	4	1	-	5	ESE	50	20	40
	and Simulation					MSE	30		
						ISE-II	10		
						ESE	50	20	
						ISE-I	10		
UBIO0702	Good Manufacturing	4	1		5	MSE	30		40
UBIO0/02	Practices	4	1	-	3	ISE-II	10		
						ESE	50	20	
	Dunana Eu aina anina					ISE-I	10		
LIDIO0702	Process Engineering Costing and Plant Design	4			4	MSE	30		40
UBIO0703		4	-	-	4	ISE-II	10		
	Design					ESE	50	20	
						ISE-I	10		
UOEL07**	Onan alastiva II	3			3	MSE	30		40
UOELU/**	Open elective -II	3	-	-	3	ISE-II	10		40
						ESE	50	20	
UBIO0751	Project Work Phase -	-	-	4	2	ISE	50	20	40
UBIO0731	I	-	-	4	2	ESE	50	20	40
UBIO0731	Bioprocess Modeling	_	_	2	1	ISE	50		20
CB100731	and Simulation (Lab)				1	ESE	50		20
UBIO0761	^Professional certifications	-	-	2	-	Audit Course-V	*		*
7	Total	15	2	8	20	Total Contact	hours /	Wee	k:25

Op	oen Elective II-Theory	Offered by Department
Course Code	Course Name	
UOEL0701	Bioinformatics	Biotechnology Engineering
UOEL0702	Biosensors	Biotechnology Engineering

Kolhapur Institute of Technology's College of Engineering, Kolhapur

Teaching and Evaluation scheme for

Final Year B. Tech. Programme in Biotechnology Engineering Semester-VIII

		H	r/Weel	ζ.		Evaluation Scheme			
Course Code	Course Name	_		_	Cred its	Componen	N	Marks	
		L	T	P	105	t	Max	Min pass	
						ISE-I	10		
IIDIO00**	Professional Elective -II	3	-	-	3	MSE	30		40
UBIO08**						ISE-II	10		
						ESE	50	20	
	Professional Elective - III			_		ISE-I	10		40
UBIO08**		3	-		3	MSE	30		
OBIO08		3		_		ISE-II	10		
						ESE	50	20	
						ISE-I	75	3	0
UBIO0851	Project Work Phase-II	-	-	12	6	ISE-II	75	3	0
						ESE	150	6	0
	Total	6	0	12	12	Total Contac	t hours	/ Wee	k :18

Professional Elective II					
Course Code Course Name					
UBIO0821	Biopharmaceuticals				
UBIO0822	Plant Biotechnology				
UBIO0823	Bioprocesses				

Professional Elective III					
Course Code Course Name					
UBIO0824	Industrial Organization Management and Entrepreneurship				
UBIO0825	Environmental Biotechnology				
UBIO0826	Food Technology				

Abbreviations:

L: Lectures, T: Tutorial, P: Practical,

ISE: In Semester Exam, MSE: Mid Semester Exam, ESE: End Semester Examination

* Audit Course. ^Certified Course.

Kolhapur Institute of Technology's College of Engineering, Kolhapur Proposed Programme Credit Distribution

Curriculum Component	Credits	~Percentage
Humanities and Management	6	7
Basic Science	21	18
Engineering Science	20	17
Professional Courses	49	38
Professional Electives	7	6
Open Electives	7	6
Project/Seminar/Training/Internship	10	8
Total	120	100

