MSc Course Curriculum

Semester I

Code	Course Title	L	T	P	C	Instructor(s)	Slot
BB413	Biochemistry	2	1	0	6	PV Balaji	
BB415	Cell and Molecular Biology	2	1	0	6	S Patankar	
BB417	Plant and Animal Biotechnology	3	0	0	3	R Patkar + S Nair	
BB419	Microbiology [Second Half]	3	0	0	3	A Banerjee	
BB421	Genetics [Second Half]	3	0	0	3	SK Ghosh	
BB423	Basics of Mathematics and Statistics [First Half]	3	0	0	3	S Sen	
BB425	Basics of Chemistry and Physics [Second Half]	3	0	0	3	Ranjith P	
BB453	Lab: Biochemistry and Analytical Techniques	1	0	4	6	S Maji + P Phale	
BB455	Lab: Microbiology	0	0	3	3	A Banerjee	
BB457	Lab: Plant and Animal Biotechnology	0	0	3	3	R Patkar + S Nair	
Total		20	2	10	39		

Contact Hours: 32

Credits: 39

Semester II

Code	Course Title	L	T	P	C	Instructor(s)	Slot
BB406	Genetic Engineering	2	1	0	6	A Banerjee	
BB408	Immunology	2	1	0	6	R Purwar + G Subrahmanyam	
BB410	Lab: Bioinformatics-I	1	0	3	5	PV Balaji	

BB412	Genomics and Proteomics [SH]	3	0	0	3	S Srivastava	
BB414	Molecular Diagnostics [SH]	3	0	0	3	S Patankar	
BB416	Research Methodology and Scientific Communication Skills [FH]	3	0	0	3	S Patankar	
	Elective I	3	0	0	3		
BB456	Lab: Molecular Biology and Genetic Engineering	1	0	4	6	A Banerjee	
BB458	Lab: Immunology [FH]	0	0	3	3	R Purwar	
Total		18	2	10	38		

Contact Hours: 30

Credits: 38

Elective I

Code	Course Title	L	T	P	C	Instructor(s)	Slot
BB634	Environmental Biotechnology [SH]	3	0	0	3	P Phale	
BB635	Bacterial pathogenesis [FH]	3	0	0	3	A Banerjee	
BB640	Biologics [SH]	3	0	0	3	A Kumar	
BB664	Molecular Biosensors [FH]	3	0	0	3	D Panda	
BB666	Biological Thermodynamics	3	0	0	3	–	
BB662	Biological Kinetics [SH]	3	0	0	3	SK Maji	
BB656	Introduction to Mechanobiology [FH]	3	0	0	3	S Sen	
BB658	Principles of Tissue Engineering [FH]	3	0	0	3	P Tayalia	

Semester III

Code	Course Title	L	T	P	C	Instructor(s)	Slot
BB509	Bioprocess Engineering and Technology	2	1	0	6	P Phale* [FH] + S Noronha [SH]	

BB511	Emerging Technologies	3	0	0	3	S Kaledhonkar	
BB513	Critical Analysis of Classical Papers (Seminar) *&	0	0	0	4	A Banerjee	
BB515	Bioentrepreneurship	3	0	0	3	A Banerjee	
BB519	Project Proposal Presentation and Dissertation *&	0	0	0	10	S Kaledhonkar	
	Elective II	3	0	0	3		
BB555	Lab: Bioprocess Engineering and Technology	1	0	4	6	P Phale	
BB557	Lab: Bioinformatics-II	1	0	3	5	P Bhaumik	
Total		13	1	7	40		

Contact Hours: 26 (excluding Project Proposal)

Credits: 41

Elective II

Code	Course Title	L	T	P	C	Instructor(s)	Slot
BB645	Drug Discovery and Development [FH]	3	0	0	3	A Kumar	
BB647	Introduction to Evolutionary Biology [FH]	3	0	0	3	K Kondabagil	
BB639	Nanobiotechnology [SH]	3	0	0	3	R Srivastava	
BB679	Drug Delivery [SH]	3	0	0	3	P Tayalia	
BB627	Medical Imaging Methods [SH]	3	0	0	3	H Varma	

Semester IV

Code	Course Title	L	T	P	C	Instructor(s)	Slot
BB502	Project Stage II Dissertation	0	0	0	24	S Kaledhonkar	–
BB517	Intellectual Property Rights, Biosafety and Bioethics	3	0	0	3	A Narasimhan	12

ES200 / HS200	Environmental Studies (ES200 + HS200)	3	0	0	6	–	–
	Elective III	2	1	0	6		
Total		**8**	**1**	**0**	**39**		

Contact Hours: 6 (excluding Project Stage II)

Credits: 36

Elective III

Code	Course Title	L	T	P	C	Instructor(s)	Slot
BB642	Protein Crystallography	2	1	0	6	P Bhaumik	3B+LX
BB648	Protein Engineering	2	1	0	6	SK Maji	4
BB536	cryo-Electron Microscopy	2	1	0	6	S Kaledhonkar	6
BB610	Biomedical microsystems	2	1	0	6	R Srivastava	5
BB624	Microfluidics: physics and applications	2	1	0	6	D Paul	6
BB625	Motor Control in Health and Disease	2	1	0	6	N Kanekar	8
BB612	Cell Mechanics and Mechanobiology	2	1	0	6	S Sen	1
BB616	Cellular and Tissue Engineering	2	1	0	6	P Tayalia	7
BB655	Introduction to Biomedical Optics	2	1	0	6	H Varma	9
BB611	Cell Cycle and Epigenetics	3	0	0	6	SK Ghosh	6
BB615	General Virology	3	0	0	6	K Kondabagil	–