

**SPICER ADVENTIST UNIVERSITY**  
**DIVISION OF SCIENCES**  
**DEPARTMENT OF BIOTECHNOLOGY (M.SC.)**  
**COURSE STRUCTURE 2020-2023**

**Semester I**

Course Category	Course Code	Course Title	L	P	Cr.
Ability Enhancement Course (AECC1)	*AECC 511	Research Methodology	4		4
Core Course (CC1)	BIOT 511	Biochemistry	4		4
Core Course (CC2)	BIOT 512	Exercises in Biochemistry		2	2
Core Course (CC3)	BIOT 513	Cell & Molecular Biology	4		4
Core Course (CC4)	BIOT 514	Exercises in Cell & Molecular Biology		2	2
Core Course (CC5)	BIOT 515	Plant & Animal Biotechnology	4		4
Core Course (CC6)	BIOT 516	Exercises in Plant & Animal Biotechnology		2	2
Generic Elective (GE1)	GECC 511	Climate Change & the Global Impact	2		2
Generic Elective (GE2)	GECC 513	Bioentrepreneurship	2		2
		Total			<b>22+4</b>

**Semester II**

Course Category	Course code	Course Title	L	P	Cr.
Skill Enhancement Course (SEC1)	*SECC 521 OR SECC 522	Computational Biology OR Drug Discovery & Development	2		2
Core Course (CC7)	BIOT 521	Genetics	4		4
Core Course (CC8)	BIOT 522	Genetic Engineering	4		4
Core Course (CC9)	BIOT 523	Exercises in Genetic Engineering		2	2
Core Course (CC10)	BIOT 524	Biophysics & Instrumentation	4		4
Core Course (CC11)	BIOT 525	Exercises in Biophysics & Instrumentation		2	2
Core Course (CC12)	BIOT 526	Bioprocess Engineering & Technology	4		4
Core Course (CC13)	BIOT 527	Exercises in Bioprocess Engineering & Technology		2	2
		Total			<b>22+2</b>

**Semester III**

<b>Course Category</b>	<b>Course code</b>	<b>Course Title</b>	<b>L</b>	<b>P</b>	<b>Cr.</b>
Core Course (CC14)	BIOT 531	Biostatistics & Bioinformatics	4		4
Core Course (CC15)	BIOT 532	Exercises in Biostatistics & Bioinformatics		2	2
Core Course (CC16)	BIOT 533	Medical Microbiology & Immunology	4		4
Core Course (CC17)	BIOT 534	Exercises in Medical Microbiology & Immunology		2	2
Core Course (CC18)	BIOT 535	IPR, Bioethics & Biosafety	3		3
Core Course (CC19)	BIOT 536	Environmental Biotechnology	3		3
Generic Elective (GE 3)	GECC 531	Topics in Philosophy of Science	2		2
Generic Elective (GE 4)	GECC 532	Solid Waste Management	2		2
		Total			<b>22</b>

**Semester IV**

<b>Course Category</b>	<b>Course code</b>	<b>Course Title</b>	<b>L</b>	<b>P</b>	<b>Cr.</b>
Core Course (CC20)	BIOT 541	Bacteriology & Virology	4		4
Core Course (CC21)	BIOT 542	Exercises in Bacteriology & Virology		2	2
Core Course (CC22)	BIOT 543	Molecular Diagnostics, Genomics & Proteomics	3		3
Core Course (CC23)	BIOT 544	Emerging Technologies	2		2
Core Course (CC24)	BIOT 545	Nanotechnology	3		3
Core Course (CC25)	BIOT 546	Project		8	8
		Total			<b>22</b>

**\*\*AECC & SEC are Non-CGPA Courses**

## PROGRAM FOR MSc BIOTECHNOLOGY

Semester		I	II	III	IV	
		C x Cr	C x Cr	C x Cr	C x Cr	Total
<b>Core Courses (Theory) (15)</b>		3x4 =12	4x4=16	2x4=8 2x3=6	1x4=4 2X3=6 1X2=2	<b>54</b>
<b>Core Courses (Practicals) (9+Project)</b>		3x2=6	3x2=6	2x2=4	1x8=8 1x2=2	<b>26</b>
<b>Elective Courses</b>	<b>Generic Elective (T)</b>	2X2=4		2x2=4		<b>8</b>
	<b>Total CGPA CREDITS</b>	22	22	22	22	<b>88</b>
<b>Non CGPA Mandatory Courses</b>						
<b>Ability Enhancement Course</b>		1X4=4				4
<b>Skill Enhancement Course</b>			1x2=2			2
<b>*Co-curricular Elective</b>						2
<b>Tot. No. of Credits/semester</b>		<b>22+4</b>	<b>22+2</b>	<b>22</b>	<b>22</b>	<b>94+2</b>
<b>Total number of Theory Courses</b>		6	5	6	4	<b>21</b>
<b>Total number of Practicals</b>		3	3	2	1 + Project	<b>9 + Project</b>
<b>Total Marks for CGPA</b>		<b>800</b>	<b>700</b>	<b>800</b>	<b>500+ 200 (Project)</b>	<b>3000</b>

\*Elective Co-curricular = 2 cr (Any 2 activities, 1 credit each) MOOC's, Seminars & Conferences participation, Club leadership, SEED (Swatch Bharat), Sports