

Department of Biological Sciences

B.Sc. (Hons.) Integrative Biology Curriculum

(Applicable to the students admitted from AY: 2025 onwards)



**School of Engineering and
Sciences**

SRM University AP, Andhra Pradesh

ABBREVIATIONS

AEC	Ability Enhancement Courses
VAC	Value Added Courses
SEC	Skill Enhancement Courses
FIC	Foundation & Interdisciplinary Courses
OE	Open Elective
RDIP	Research / Design / Industrial Practice / Project / Thesis / Internship
CE	Core Elective
CC	Core Course
SE	Stream Elective
TE	Technical Elective

SEMESTER - I							
S.No	Category	Sub-Category	Course Title	L	T/D	P/Pr	C
1	AEC	U AEC	Art of Listening, Speaking and Reading Skills	1	0	1	2
2	VAC	U VAC	Environmental Science	2	0	0	2
3	SEC	S SEC	Analytical Reasoning and Aptitude Skills	1	1	1	3
4	FIC	S FIC	Emerging Technologies	2	0	0	2
5	FIC	S FIC	Chemical Basis of Life	3	0	0	3
6	FIC	S FIC	Mathematics for the Physical World	2	1	0	3
7	FIC	S FIC	Fundamentals of Computing	2	0	1	3
Semester Total				12	2	4	18

SEMESTER - II							
S.No	Category	Sub-Category	Course Title	L	T/D	P/Pr	C
1	AEC	U AEC	Effective Writing and Presentation Skills	2	0	0	2
2	VAC	U VAC	Universal Human Values and Ethics	2	0	0	2
3	SEC	S SEC	Entrepreneurial Mindset	2	0	0	2
4	FIC	S FIC	Principles of Management	3	0	0	3
5	FIC	S FIC	Psychology for Everyday Living	3	0	0	3
6	Core	DE	Biomolecules	2	1	0	3
7	Core	DE	Basic Concepts in Microbiology	2	1	0	3
8	Core	DE	Microbiology Lab	0	0	2	2
Semester Total				18	1	1	20

SEMESTER-III							
S.No	Category	Sub- Category	Course Title	L	T/D	P/Pr	C
1	AEC	S AEC	Analytical Skills for Sciences	1	0	1	2
2	VAC	U VAC	Co- Curricular Activities	0	0	2	2*
3	VAC	U VAC	Community Service and Social Responsibility	1	0	1	2*
4	SEC	S SEC	Digital Literacy	1	0	1	2
5	Core	CC	Metabolism of Biomolecules	2	1	0	3
6	Core	CC	Cell Biology	2	1	0	3
7	Core	CC	Concepts of Genetics	3	1	0	4
8	Core	CC	Evolutionary Biology	3	1	0	4
9	Core	CC	Biochemistry Lab	0	0	2	2
10	Elective	OE	Open Elective	3	0	0	3
Semester Total				15	5	3	23

SEMESTER – IV							
S.No	Category	Sub-Category	Course Title	L	T/D	P/Pr	C
1	AEC	S AEC	Creativity and Critical thinking Skills	1	0	1	2
2	VAC	U VAC	Co-Curricular Activities	0	0	2	2*
3	VAC	U VAC	Community Service and Social Responsibility	0	0	2	2*
4	SEC	D SEC	Leadership for Professionals	2	0	0	2
5	Core	CC	Concepts of Molecular Biology	2	1	0	3
6	Core	CC	Experimental Methods of Biology	3	1	0	4
7	Core	CC	Introductory Biophysics	2	1	0	3
8	Core	CC	Molecular Biology Lab	0	0	2	2
9	Elective	OE	Open Elective	3	0	0	3
Semester Total				14	3	2	19

SEMESTER - V							
S.No	Category	Sub-Category	Course Title	L	T/D	P/Pr	C
1	VAC	U VAC	Co-Curricular Activities	0	0	2	2*
2	VAC	U VAC	Community Service and Social Responsibility	0	0	2	2*
3	SEC	E SEC	Career Skill-I	3	0	0	3
4	Core	CC	Introduction to developmental Biology	3	1	0	4
5	Core	CC	Genetic Engineering	2	1	0	3
6	Core	CC	Immunobiology	2	1	0	3
7	Core	CC	Plant and Animal Physiology	3	1	0	4
8	Core	CC	Genetic Engineering Lab	0	0	2	2
9	Elective	OE	Open Elective / Minor	3	0	0	3
Semester Total				16	4	2	22

SEMESTER - VI							
S.No	Category	Sub-Category	Course Title	L	T/D	P/Pr	C
1	VAC	U VAC	Co-Curricular Activities	0	0	2	2
2	VAC	U VAC	Community Service and Social Responsibility	1	0	1	2*
3	SEC	E SEC	Career Skill-II	3	0	0	3
4	Core	CC	Introduction to Biotechnology	2	1	0	3
5	Core	CC	Fundamentals of Bioinformatics	2	1	0	3
6	Core	CC	Neurobiology	3	1	0	4
7	Core	CC	Introduction to Disease Biology	3	1	0	4
8	Core	CC	Bioinformatics Lab	0	0	2	2
9	Elective	OE	Open Elective	3	0	0	3
Semester Total				16	4	6	26

SEMESTER - VII							
S.No	Category	Sub-Category	Course Title	L	T/D	P/Pr	C
1	Elective	CE	Core Elective	3	1	0	4
2	Elective	CE	Core Elective	3	1	0	4
3	Elective	CE	Core Elective	3	1	0	4
4	RDIP	RDIP	Minor Research Project	0	0	5	5
5	Elective	OE	Open Elective	3	0	0	3
Semester Total				12	3	5	20

SEMESTER - VIII							
S.No	Category	Sub-Category	Course Title	L	T/D	P/Pr	C
1	Core	RDIP	Research Degree Project	0	0	12	12
Semester Total				0	0	12	12

Specialization							
S.No	Category	Sub-Category	Course Title	L	T/D	P/Pr	C
1	Elective	CE	Signal transduction	4	0	0	4
2	Elective	CE	Introduction to Omics	4	0	0	4
3	Elective	CE	Cancer and stem cell biology	4	0	0	4
4	Elective	CE	Enzymology	3	1	0	4
5	Elective	CE	Biostatistics	3	1	0	4
6	Elective	CE	Ecology	3	1	0	4
7	Elective	CE	Population Genetics	3	1	0	4
8	Elective	CE	Proteomics	3	1	0	4
9	Elective	CE	Computational Biology	3	1	0	4
10	Elective	CE	Bio nanotechnology	3	1	0	4

Minor/Open Electives							
S.No	Category	Sub-Category	Course Title	L	T/D	P/Pr	C
1	OE	OE	Biochemical foundation of life	3	0	0	3
2	OE	OE	Cell Biology	3	0	0	3
3	OE	OE	Basic Microbiology	3	0	0	3
4	OE	OE	Human Physiology	3	0	0	3
5	OE	OE	Molecular Biology	3	0	0	3
6	OE	OE	Bioinformatics	3	0	0	3
7	OE	OE	Introductory Biology	3	0	0	3
8	OE	OE	Biomolecules	3	0	0	3
9	OE	OE	Cell Biology	3	0	0	3

Carrer Skill							
S.No	Category	Sub-Category	Course Title	L	T/D	P/Pr	C
1	SEC	E SEC	Career Exploration in Life Sciences - I	3	0	0	3
2	SEC	E SEC	Career Exploration in Life Sciences - II	3	0	0	3

