

Progressive Education Society's
Modern College of Arts, Science and Commerce (Autonomous), Shivajinagar, Pune 5

(An Autonomous College Affiliated to Savitribai Phule Pune University)

Framework of Syllabus

For

B. Sc. Blended (Bioscience)

Choice Based Credit System (CBCS) Syllabus Under National Education Policy (NEP)
To be implemented from Academic Year 2024-2025

Level 4.5 (First Year) Semester I

Course Type	Course Code	Course Title	Credits		Teaching Scheme Hr/Week		Evaluation Scheme and Max Marks		
			TH	PR	TH	PR	CE	ESE	Total
Subject 1 T(2) + (T/P) (2) or T(4)	24ScBleU1101	Biology I (The Diversity of Life)	2		2		20	30	50
	24ScBleU1102	Lab Course on 24ScBleU1101		2		4	20	30	50
Subject 2 T(2) + (T/P)(2) Or T(4)	24ScBleU1201	Introductory and Organic Chemistry	2		2		20	30	50
	24ScBleU1202	Lab Course on 24ScBleU1201		2		4	20	30	50
Subject 3 T(2) + (T/P) (2) Or T(4)	24ScBleU1301	Introduction to Biochemistry	2		2		20	30	50
	24ScBleU1302	Lab Course on 24ScBleU1301		2		4	20	30	50
IKS T(2)	24CpCopU1901	Generic IKS	2		2		20	30	50
GE/OE (T/P) (2)	24ScBleU1401	Applications of Biology I	2		2		20	30	50
SEC (P)(2)	24ScBleU1601	English Communication and Critical Thinking	2		2		20	30	50
AEC T(2)	24CpCopU1701/ 24CpCopU1702	MIL-I(Hindi)/MIL-I(Marathi)	2		2		20	30	50
VEC T(2)	24CpCopU1801	Environmental Science	2		2		20	30	50
Total			14	06	14	12			550
Non CGPA credits	24ScBleU1291	Calculus	4		4		40	60	100
Non CGPA credits	24ScBleU1292	Introductory classical Physics + Physics Practical 1	2	2	2	4	40	60	100

Level 4.5 (First Year) Semester II

Course Type	Course Code	Course Title	Credits		Teaching Scheme Hr/Week		Evaluation Scheme and Max Marks		
			TH	PR	TH	PR	CE	ESE	Total
Subject 1 T(2) +T/P(2) Or T(4)	24ScBleU2101	Biology II (Biology of Cells)	2		2		20	30	50
	24ScBleU2102	Lab Course on 24ScBLEU2101		2		4	20	30	50
Subject 2 T(2) + P(2)	24ScBleU2201	Inorganic and Physical Chemistry	2		2		20	30	50
	24ScBleU2202	Lab Course on 24ScBLEU2201		2		4	20	30	50
Subject 3 T(2) + P(2)	24ScBleU2301	Introduction to Microbiology	2		2		20	30	50
	24ScBleU2302	Lab course on 24ScBLEU2301		2		4	20	30	50
GE/OE (T/P) (2)	24ScBleU2401	Applications of Biology II	2		2		20	30	50
SEC T(2)	24ScBleU2601	Immunology	2		2		20	30	50
AEC T(2)	24CpCopU2703	English Communication Skills I	2		2		20	30	50
VEC T(2)	24CpCopU2801	Democracy, Election and Governance	2		2		20	30	50
CC (2)	24CpCopU2001/24CpCopU2011/ 24CpCopU2021/ 24CpCopU2031/ 24CpCopU2041/24CpCopU2051/ 24CpCopU2061/24CpCopU2071	Physical Education/ Cultural Activities/ NSS / NCC/ Fine Arts / Applied Arts / Visual Arts / Performing Arts	2		2		20	30	50
Total			16	06	16	12			550
Non CGPA credits	24ScBleU2291	Algebra	4		4		40	60	100
Non CGPA credits	24ScBleU2292	Modern Physics	2		2		20	30	50
Non CGPA credits	24ScBleU2293	Lab Course Based on 24ScBLEU2292		2		4	20	30	50

Level 5.0 (Second Year) Semester III

Course Type	Course Code	Course Title	Credits		Teaching Scheme Hr/Week		Evaluation Scheme and Max Marks		
			TH	PR	TH	PR	CE	EE	Total
Major Core T(2+2or4), (T/P) (2)	24ScBleU3101	Functional Biology of Organisms	4		4		40	60	100
	24ScBleU3102	Lab Course on Based on 24ScBleU3101		2		4	20	30	50
VSC P(2)	24ScBleU3501	Introductory Scientific Computing and modelling for biology		2		4	20	30	50
IKS (T/P) (2)	24ScBleU3901	Application of IKS in Biology	2		2		20	30	50
FP (2)	24ScBleU3002	Field Project I		2		4	20	30	50
Minor (T/P) (2+2or 4)	24ScBleU3301	Reactions and Synthesis	2		2		20	30	50
	24ScBleU3302	Lab Course on 24ScBleU3301		2		4	20	30	50
GE/OE (T/P) (2)	24ScBleU3401	Biology and Human Welfare III		2		4	20	30	50
AEC T(2)	24CpCopU3703	English Communication Skills II	2		2		20	30	50
CC T(2)	24CpCopU3001	Online Course on Yoga	2		2		20	30	50
Total			12	10	12	20			550
Non CGPA credits	24ScBleU3401	Vector Calculus and Differential Equations	4		4		40	60	100
Non CGPA credits	24ScBleU3402	Quantum Mechanics and Thermodynamics	2		2		20	30	50
Non CGPA credits	24ScBleU3403	Lab Course Based on 24ScBleU3402		2		4	20	30	50

Level 5.0 (Second Year) Semester IV

Course Type	Course Code	Course Title	Credits		Teaching Scheme Hr/Week		Evaluation Scheme and Max Marks		
			TH	PR	TH	PR	CE	EE	Total
Major Core T(2+2or4), (T/P)(2)	24ScBleU4101	Genetics, Evolution and Ecology	4		4		40	60	100
	24ScBleU4102	Lab Course Based on 24ScBleU4101		2		4	20	30	50
VSCP(2)	24ScBleU4501	Introductory Scientific Computing and Modelling For Biology		2		4	20	30	50
CEPP(2)	24CpCopU4003	Community Engagement Project		2		4	20	30	50
Minor (T/P)(2+2or 4)	24ScBleU4301	Structure and Properties	2		2		20	30	50
	24ScBleU4302	Lab Course Based on 24ScBleU4301		2		4	20	30	50
/OE(T/P) (2)	24ScBleU4401	Biology and Human Welfare IV	2		2		20	30	50
SEC T(2)	24ScBleU4601	Introduction to Cyber Security	2		2		20	30	50
AECT(2)	24CpCopU4701 / 24CpCopU4702	MIL-II(Hindi)/ MIL-II(Marathi)	2		2		20	30	50
CCT(2)	24CpCopU4001	Health and Wellness	2		2		20	30	50
Total			14	08	14	16			550
Non CGPA credits	24ScBleU3401	Probability and Statistics	4		4		40	60	100
Non CGPA credits	24ScBleU3402	Electricity, Magnetism , Special Relativity and Optics	2		2		20	30	50
	24ScBleU3402	Lab Course Based on 24ScBleU3402		2		4	20	30	50

Level 5.5 (Third Year) Semester V

Course Type	Course Code	Course Title	Credits		Teaching Scheme Hr/Week		Evaluation Scheme and Max Marks		
			TH	PR	TH	PR	CE	EE	Total
Major Core T (2+2+2+2 or 4+2+2 or 4+4) P(2+2 or 4)	24ScBleU5101	Biochemistry	2		2		20	30	50
	24ScBleU5102	Molecular Biology	2		2		20	30	50
	24ScBleU5103	Genetic Engineering	2		2		20	30	50
	24ScBleU5104	Animal Sciences	2		2		20	30	50
	24ScBleU5105	Lab course on 24ScBleU5101 & 24ScBleU5104		2		4	20	30	50
	24ScBleU5106	Lab course on 24ScBleU5102 & 24ScBleU5103		2		4	20	30	50
Major Elective(T/P) (2+2 or 4)	24ScBleU5201	Plant Sciences	2		2		20	30	50
	24ScBleU5202	Lab course on 24ScBleU5201		2		4	20	30	50
	OR								
	24ScBleU5203	Ecology and Environment	2		2		20	30	50
	24ScBleU5204	Lab course on 24ScBleU5203		2		4	20	30	50
VSC P(2)	24ScBleU5501	Analysis of Biological Data		2		4	20	30	50
FP(2)	24ScBleU5001	Field Project I		2		4	20	30	50
Minor (T/P) (2)	24ScBleU5302	Methods in biology(T)	2		2		20	30	50
Total			12	10	12	20			550

Level 5.5 (Third Year) Semester VI

Course Type	Course Code	Course Title	Credits		Teaching Scheme Hr/Week		Evaluation Scheme and Max Marks		
			TH	PR	TH	PR	CE	EE	Total
Major Core T (2+2+2+2 Or 4+2+2 or 4+4) P (2+2or 4)	24ScBleU6101	Evolutionary Developmental Biology	2		2		20	30	50
	24ScBleU6102	Systematics and Evolution	2		2		20	30	50
	24ScBleU6103	Microorganisms and Diseases	2		2		20	30	50
	24ScBleU6104	Computational Biology	2		2		20	30	50
	24ScBleU6105	Lab course based on 24ScBleU6101 & 24ScBleU6102		2		4	20	30	50
	24ScBleU6106	Lab Course on 24ScBleU6103 & 24ScBleU6104		2		4	20	30	50
Major Elective(T/P) (2+2 or 4)	24ScBleU6201	Scientific Writing	2		2		20	30	50
	24ScBleU6202	Lab course on 24ScBleU6201		2		4	20	30	50
	24ScBleU6203	Biodiversity	2		2		20	30	50
	24ScBleU6204	Lab course on 24ScBleU6203		2		4	20	30	50
VSCP(2)	24ScBleU6501	Applied Biology		2		4	20	30	50
OJT (2)	24ScBleU6004	On Job Training		4		8	40	60	100
Total			10	12	10	24			550