

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)**Sem: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)orT(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)orT(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)orT(4)	24ScBleU1301	Introduction to Biochemistry	2		2		20	30	50
	24ScBleU1302	Lab Course on 24ScBleU1301		2		4	20	30	50
IKST(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
AECT(2)	24CpCopU1701/ 24CpCopU1702	MIL-I(Hindi)/MIL-I(Marathi)	2		2		20	30	50
VECT(2)	24CpCopU1801	Environmental Science	2		2		20	30	50
Total			14	08	14	16			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)**Sem: 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) orT(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
SECT(2)	24ScBLEU2601	Immunology	2		2		20	30	50
AECT(2)	24CpCopU2703	English Communication Skills I	2		2		20	30	50
VECT(2)	24CpCopU2801	Democracy ,Election and Governance	2		2		20	30	50
CC(2)	24CpCopU2001/	Physical Education/	2		2		20	30	50
	24CpCopU2011/ 24CpCopU2021/ 24CpCopU2031/ 24CpCopU2041/ 24CpCopU2051/ 24CpCopU2061/ 24CpCopU2071	Cultural Activities/ NSS / NCC/ Fine Arts / Applied Arts / Visual Arts / Performing Arts							
Total			14	08	14	16			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) Sem: 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

VSCP(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+2 or 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
AECT(2)	24CpCopU3703	English Communication Skills II	2		2		20	30	50
CCT(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) Sem: 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+2 or 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)**Sem:-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 or4+2+2or 4+4)P(2+2 or4)	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 Animal Sciences and Biochemistry		2		4	20	30	50
	24ScBLEU5106	Lab course on Molecular Biology and Genetic Engineering		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 plant sciences		2		4	20	30	50
	24ScBLEU5203	Ecology and Environment	2		2		20	30	50
	24ScBLEU5204	Lab course on Ecology and Environment		2		4	20	30	50
VSCP(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			4	20	30	50
Total			14	08	14	16			550

Level:- 5.5 (Third Year)**Sem:-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+2 or 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 evolutionary developmental biology and systematic and evolution		2		4	20	30	50
	24ScBLEU6106	Lab Course on microorganisms and diseases and computational biology		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 scientific writing		2		4	20	30	50
	24ScBLEU6203	Biodiversity	2		2		20	30	50
	24ScBLEU6204	Lab course on Biodiversity		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			12	10	12	20			550