

B.Sc. Physical Sciences

(Physics, Chemistry, Mathematics)

Choice Based Credit System

Course Structure

B.Sc. Physical Sciences

(2022-23)



School of Vocational Studies and Applied Sciences

Gautam Buddha University, Greater Noida, UP-201312

India

**Bachelor of Science Physical Sciences
(Physics, Chemistry, Mathematics)**

SEMESTER		COURSE OPTED	COURSE NAME	CREDITS
CC: Core Course, AECC: Ability Enhancement Compulsory Course, SEC: Skill Enhancement Course				
DSE: Discipline Specific Elective				
I	EN-101	AECC-I	English Proficiency	2
	PH-105	CC-I	Mechanics	4
	PH-107	CC-I Practical	Mechanics Lab	2
	CH-101	CC-II	Atomic structure, Bonding, General organic chemistry, Aliphatic Hydrocarbons	4
	CH-103	CC-II Practical	Laboratory (Atomic structure, Bonding, General organic chemistry, Aliphatic Hydrocarbon)-I	2
	MA-111	CC-III	Calculus-I	3
	MA-113	CC-IV	Matrices	3
		Contact Hours		23
II	ES-101	AECC-II	Environmental Science	2
	PH-106	CC-V	Electricity and Magnetism	4
	PH-108	CC-V Practical	Electricity and Magnetism Lab	2
	CH-102	CC-VI	Chemical Energetics, Phase equilibrium, Functional group organic Chemistry-I	4
	CH-104	CC-VI Practical	Laboratory (Chemical Energetics, Phase equilibrium, Functional group organic Chemistry Practicals)-II	2
	MA-112	CC-VII	Algebra	3

	MA-114	CC-VIII	Calculus-II	3
	BS-101	AECC-III	Human Values & Buddhist Studies	2
III	PH-201	CC-IX	Thermal Physics and Statistical Mechanics	4
	PH-203	CC-IX Practical	Thermal Physics and Statistical Mechanics Lab	2
	CH-201	CC-X	Solution, Phase Equilibrium, Conductance, Electrochemistry & Functional Group Organic Chemistry-II	4
	CH-203	CC-X Practical	Laboratory (Conductance, Electrochemistry & Functional Group Organic Chemistry-II)-III	2
	MA-213	CC-XI	Real Analysis	3
	MA-215	CC-XII	Introduction to Ordinary Differential Equation	3
	NSS-101	AECC-IV	NSS Paper 1	2
		Skill Enhancement Course -1	SEC-1	2
	IV	PH-202	CC-XIII	Waves and Optics
PH-204		CC-XIII Practical	Waves and Optics Lab	2
CH-202		CC-XIV	Transition Metal & Coordination Chemistry, States of matter & Chemical kinetics	4
CH-204		CC-XIV Practical	Laboratory (Transition Metal & Coordination Chemistry, States of matter & Chemical kinetics)-IV	2
MA-212		CC-XV	Introduction to Partial Differential Equation	3
MA-214		CC-XVI	Mathematical Methods	3
NSS-102		AECC-V	NSS Paper-II	2
		Skill Enhancement Course -2	SEC-2	2
V			Skill Enhancement	SEC-3

		Course -3		
		Discipline Specific Elective -1	DSE-1	6
		Discipline Specific Elective -2	DSE-2	6
		Discipline Specific Elective -3	DSE-3	6
VI		Skill Enhancement Course -4	SEC-4	2
		Discipline Specific Elective -4	DSE-4	6
		Discipline Specific Elective -5	DSE-5	6
		Discipline Specific Elective -6	DSE-6	6
		Total Credits		120

	Code	Discipline Specific Electives (DSE-1)	Credits
1	PH-301	Solid State Physics	4
	PH-303	Solid State Physics Lab	2
2	PH-305	Physics of Semiconductor Devices	4
	PH-307	Physics of Semiconductor Devices Lab	2
3	PH-309	Introductory Atmospheric Physics	3
	PH-311	Basics of Nanoscience	3
	Code	Discipline Specific Electives (DSE-2)	Credits
1	CH-301	Industrial Chemicals & Environment	4
	CH-303	Laboratory (Industrial Chemicals & Environment)-V	2
2	CH-305	Quantum Chemistry, Spectroscopy & Photochemistry	4
	CH-307	Laboratory (Quantum Chemistry, Spectroscopy & Photochemistry)-V	2
	Code	Discipline Specific Electives (DSE-3)	Credits
1	MA-301	Programming in C	3
2	MA-303	Linear Algebra	3
3	MA-305	Tensor & Geometry	3
	Code	Discipline Specific Electives (DSE-4)	Credits
1	PH-302	Atomic, Molecular and Nuclear Physics	4
	PH-304	Atomic, Molecular and Nuclear Physics Lab	2
2	PH-306	Modern Physics and Quantum Mechanics	4
	PH-308	Modern Physics and Quantum Mechanics Lab	2
	Code	Discipline Specific Electives (DSE-5)	Credits
1	CH-302	Molecules of Life	4

	CH-304	Laboratory (Molecules of Life)-VI	2
2	CH-306	Chemistry of Main Group Elements, Theories of Acids and Bases	4
	CH-308	Laboratory (Chemistry of Main Group Elements, Theories of Acids and Bases)-VI	2
	Discipline Specific Electives (DSE-6)		
	Code		
1	MA-302	Numerical Methods	3
2	MA-304	Linear Programming	3
3	MA-306	Theory of Complex Variable	3

Skill Enhancement Course (SEC)								
Physics Based			Math Based			Chemistry Based		
SEC-I	PH-205	Renewable Energy and Energy harvesting,	SEC-I	MA-215	Theory of Equations	SEC-I	CH -205	Intellectual Property Rights
SEC-II	PH-206	Computational Physics	SEC-II	MA-222	Programming in C/C++	SEC-II	CH-206	Green Methods in Chemistry
SEC-III	PH-341	Photolithography and Device fabrication	SEC-III	MA-317	Mathematical Modelling	SEC-III	CH-309	Pharmaceutical Chemistry
SEC-IV	PH-310	Simulation Experiments in Physics	SEC-IV	MA-318	Experimental Statistics using R	SEC-IV	CH-310	Chemistry of Cosmetics & Perfumes