

School of Basic Sciences : Bachelor of Science (Honours with Research) in Climate Change and Sustainability (4Yrs)

Year 1						
Semester-I						
S. No.	Category	Name of the Course				
			L	T	P	C
1	Core	Introduction to Climate Science	3	1	0	4
2	Core	Introduction to Natural Resources and Sustainability	3	1	0	4
3	AEC-1	English Proficiency I	0	0	2	2
4	AEC-2	Today's Science, Tomorrow's World I	2	0	0	2
5	MDC-1	Foundation of Programming	2	0	2	4
6	GE	Minor / Interdisciplinary Elective I	-	-	-	4
Total Credits						20
Semester-II						
S. No.	Category	Name of the Course				
			L	T	P	C
1	Core	Earth System Processes	3	1	0	4
2	Core	Environment pollution and mitigation techniques	3	0	1	4
3	Core	Sustainable Agriculture and Food Systems	3	1	0	4
4	AEC-3	English Proficiency II	-	-	-	2
5	VAC-1	Data and Digital Literacy	-	-	-	2
6	GE	Minor / Interdisciplinary Elective II	-	-	-	4
Total Credits						20
Year 2						
Semester-III						
S. No.	Category	Name of the Course				
			L	T	P	C
1	Core	Climate Modelling and Projections	3	0	1	4
2	Core	Biodiversity and Conservation	3	1	0	4
3	Core	Data Analytics for Sustainability	3	0	1	4

4	VAC-2	AI and Cognitive Systems	-	-	-	2
5	SEC-1	Statistical Computing with R	1	0	2	3
36	Internship	Academic Internship	-	-	-	2
7	GE	Minor / Interdisciplinary Elective III	-	-	-	4
Total Credits						23
Semester-IV						
S. No.	Category	Name of the Course				
			L	T	P	C
1	Core	Water Resources and Climate Resilience	3	0	1	4
2	Core	Climate change law and policy	3	1	0	4
3	Core	Energy Systems and Transitions	3	1	0	4
4	VAC-3	Prompting and AI Tools	-	-	-	2
5	SEC-2	Choose From the Basket	-	-	-	3
6	MDC-2	Choose From the Basket	-	-	-	2
7	GE	Minor / Interdisciplinary Elective IV	-	-	-	4
Total Credits						23
Year 3						
Semester-V						
S. No.	Category	Name of the Course				
			L	T	P	C
1	Core	Urban Sustainability and Smart Cities	3	1	0	4
2	Core	Waste Management and Circular Economy	3	0	1	4
3	Elective	Specialised Elective-1	-	-	-	4
4	GE	Minor / Interdisciplinary Elective V	-	-	-	4
5	SEC-3	AI-Driven Data Visualisation and Storytelling	1	0	2	3
6	AEC-4	Today's Science, Tomorrow's World II	2	0	0	2
7	Internship	Academic/Research/Industry	-	-	-	2
Total Credits						23

Semester-VI						
S. No.	Category	Name of the Course				
			L	T	P	C
1	Elective	Specialized Elective-2	-	-	-	4
2	Elective	Specialized Elective-3	-	-	-	4
3	Elective	Specialized Elective-4	-	-	-	4
4	Elective	Specialized Elective-5	-	-	-	4
5	GE	Minor / Interdisciplinary Elective VI	-	-	-	4
6	MDC-3	Choose From the Basket	-	-	-	3
Total Credits						23
Year 4						
Semester-VII						
S. No.	Category	Name of the Course				
			L	T	P	C
1	Core	Green Technology and Innovation	3	1	0	4
2	Elective	Specialised Elective-6	-	-	-	4
3	Elective	Specialised Elective-7	-	-	-	4
4	GE	Minor / Interdisciplinary Elective VII	-	-	-	4
5	GE	Minor / Interdisciplinary Elective VIII	-	-	-	4
Total Credits						20
Semester-VIII						
S. No.	Category	Name of the Course				
			L	T	P	C
1	Project	Dissertation				12
Total Credits						12
Total Credit in 4Years=164						
Discipline Specific Electives						
S. No.	Category	Name of the Course				
			L	T	P	C
1	Elective 1	Carbon sequestration and sustainability	3	1	0	4
2		Disaster Risk Reduction	3	1	0	4

3		Geophysical Fluid dynamics	3	1	0	4
4	Elective 2	Environmental Planning, Management and Ethics	3	1	0	4
5	Elective 3	Land Use and Climate Change	3	1	0	4
6	Elective 4	Project	-	-	-	4
7	Elective 5	Sustainable Livelihoods	3	1	0	4
8		GIS and Remote Sensing for Climate Studies	3	1	0	4
9	Elective 6	Climate Finance	3	1	0	4
10		Competition and Industrial policy for sustainable development	3	1	0	4
11	Elective 7	Climate Simulation	3	1	0	4
12		Economic development, Gender and Sustainability	3	1	0	4

Specialization in Green Hydrogen and Technology

S. No.	Category	Name of the Course				
			L	T	P	C
1	Elective 1	Green Hydrogen and Renewable Energy Systems	3	1	0	4
2		Water Electrolysis and Photocatalysis for Hydrogen Production	3	0	1	4
3		Hydrogen and the Circular Carbon Economy	3	0	1	4
4	Elective 2	Materials and Technologies for Green Hydrogen	3	0	1	4
5	Elective 3	Sustainable Hydrogen Storage and Distribution Technologies	3	1	0	4
6	Elective 4	Project	-	-	-	4
7	Elective 5	Environmental Impact and Life Cycle Analysis of Hydrogen Technologies	3	1	0	4
8		Hydrogen Applications in Climate-Resilient Sectors	3	1	0	4
9	Elective 6	Policy, Governance, and Economics of Green Hydrogen	3	1	0	4
10		Climate Modelling and Simulation for Hydrogen Integration	3	1	0	4
11	Elective 7	Capstone Project: Designing Sustainable Hydrogen Ecosystems	3	0	1	4

Multidisciplinary Courses (MDC)

S. No.	Category	Name of the Course	L	T	P	C
1	MDC-1	Foundation of Programming	2	0	2	4
2	MDC-2	Indian legal systems for sciences	2	0	0	2
3	MDC-2	Stock exchange	2	0	0	2
4	MDC-2	Machine learning	3	0	0	3
5	MDC-3	Environmental Toxicology and Society	3	0	0	3
6	MDC-3	Research Methodology	3	0	0	3

Value added Courses (VAC)

S. No.	Category	Name of the Course	L	T	P	C
1.	VAC-1	Data and Digital Literacy	-	-	-	2
2.	VAC-2	AI and Cognitive Systems	-	-	-	2
3	VAC-3	Prompting and AI Tools	-	-	-	2
4	VAC-4	IT Tools and Data Analytics	-	-	-	3

Skill Enhancement Courses (SEC)

S. No.	Category	Name of the Course	L	T	P	C
1.	SEC-1	Statistical Computing with R	1	0	2	3
2.	SEC-1	Python for Scientific Computing	2	0	1	3
3.	SEC-2	Introduction to Artificial Intelligence	2	0	1	3
4.	SEC-2	AI-Driven Data Visualisation and Storytelling	1	0	2	3
5.	SEC-3	Testing of Cosmetics and Hygienic Products	2	0	1	3
6.	SEC-3	Innovation and Entrepreneurship	3	0	0	3

Ability Enhancement Courses (AEC)

S. No.	Category	Name of the Course	L	T	P	C
1.	AEC-1	English Proficiency I	0	0	2	2
2.	AEC-2	English Proficiency II	0	0	2	2
3.	AEC-3	Today's Science, Tomorrow's World I	2	0	0	2
4.	AEC-4	Today's Science, Tomorrow's World II	2	0	0	2