

PROGRAM STRUCTURE

Academic year: 2026-27 onward

PROGRAM: PG DIPLOMA IN ENVIRONMENTAL SUSTAINABILITY & CLIMATE RESILIENCE

Semester 1:

Sr. No.	Course Code	Course Title	Theory/ Practical	Course Category	Course sub-category	L	T	P	Credits	Total Marks
1	17330101	Environment, Ecosystems and SDGs	Theory	DSC	DSCC	2	1	--	3	100
2	17330102	Environmental Laws and Compliance	Theory	DSC	DSCC	2	1	--	3	100
3	17330103	ESG Principles, Ethics and Governance	Theory	DSC	DSCC	2	1	--	3	100
4	17330104	Climate Change, Decarbonization and Carbon Management	Theory	DSC	DSCC	1	1	--	3	100
5	17330105	ESG Reporting and Sustainability Analytics	Theory	SEC	SEC	1	1	--	2	800
6	17330106	Environmental Monitoring and Assessment	Practical	DSC	DSCC	--	-	4	2	100
7	17330107	Carbon Accounting and ESG Reporting	Practical	DSC	DSCC	--	--	4	2	100
8	17330108	Industrial Training/Project-1	Practical	DSC	DSCC	--	--	6	3	100
						Total			21	800

Semester 2:

Sr. No.	Course Code	Course Title	Theory/ Practical	Course Category	Course sub-category	L	T	P	Credits	Total Marks
1	17330201	Sustainability Economics, Policy and Strategy	Theory	DSC	DSCC	2	1	--	3	100
2	17330202	Climate Risk, Adaptation & Governance	Theory	DSC	DSCC	2	1	--	3	100
3	17330203	ESG and EHS Management	Theory	DSC	DSCC	2	1	--	3	100
4	17330204	Green Buildings and Sustainable Infrastructure	Theory	DSC	DSCC	1	1	--	3	100
5	17330205	Green Finance and Responsible Investment	Theory	SEC	SEC	1	1	--	2	100
6	17330206	Sustainability in the Digital Age	Practical	DSC	DSCC	--	-	4	2	100
7	17330207	ESG Auditing and Compliance Practice	Practical	DSC	DSCC	--	--	4	2	100
8	17330208	Industrial Training/Project-2	Practical	DSC	DSCC	--	--	6	3	100
						Total			21	800

PG DIPLOMA IN ENVIRONMENTAL SUSTAINABILITY & CLIMATE RESILIENCE

Semester-I

1. Name of the Department: Environmental Science					
2. Course Name	Environment, Ecosystems and SDGs	L	T	P	Credits
3. Course Code	17330101	2	1	0	3
4. Type of Course (use tick mark)	DSC(√)			SEC ()	
5. Pre-requisite (if any)		6. Frequency (use tick marks)	Even ()	Odd(√)	Either Sem ()
7. Total Number of Lectures, Tutorials, Practical (assuming 15 weeks of one semester)					
Lectures = 45		Tutorials = Nil		Practical = Nil	
8. Course Description:					
This course introduces the fundamentals of environment and ecosystems, biodiversity, sustainability challenges, and the United Nations Sustainable Development Goals (SDGs). It emphasizes ecosystem management, resilience, and community-based approaches to sustainability.					
9. Course Objectives:					
The objectives of this course are:					
1. To understand fundamental environmental and ecological concepts. 2. To examine ecosystem functions, biodiversity, and natural resource conservation. 3. To evaluate major environmental challenges and sustainability concerns. 4. To develop knowledge of sustainable development principles and SDGs. 5. To understand ecosystem management and climate-resilient sustainability approaches.					
10. Course Outcomes (COs):					
Upon successful completion of this course, students will be able to:					
1. Explain environmental components and ecosystem processes. 2. Analyze biodiversity, ecosystem services, and ecological interactions. 3. Evaluate environmental degradation and sustainability challenges. 4. Apply SDG frameworks to environmental problem-solving. 5. Recommend ecosystem restoration and sustainability strategies.					
11. Unit wise detailed content					
Unit-1	Number of lectures = 8	Fundamentals of Environment and Ecosystem			
Human and Environment Relationship; Components of the environment and their role; Ecosystem structure and ecological interactions; Biodiversity & ecosystem services ; Natural resources and their conservation; Concept of Ecosystem resistance, resilience, and carrying capacity					
Unit-2	Number of lectures = 7	Environmental Challenges and Sustainability Issues			
Environmental pollution; Climate change and environmental degradation; Waste generation and resource depletion; Environmental health and sustainability concerns; Applications of GIS and Remote Sensing in environmental monitoring and sustainability assessment					
Unit – 3	Number of lectures = 7	Sustainable Development and SDGs			
Evolution of sustainable development concepts; Triple Bottom Line framework; United Nations Sustainable Development Goals (SDGs); SDG implementation challenges and opportunities					
Unit – 4	Number of lectures = 8	Ecosystem Management and Sustainability Approaches			
Introduction to ecosystem restoration and conservation approaches; Sustainable land use and landscape management; Nature-based climate solutions ; Community-based natural resource management ; Climate Innovation and Emerging Sustainability Ventures					
12. Brief Description of self learning / E-learning component					

- | |
|---|
| <ol style="list-style-type: none">1. UN Sustainable Development Goals Knowledge Platform2. Convention on Biological Diversity – Ecosystem Services |
| 13. Books Recommended |
| <ol style="list-style-type: none">1. Environmental Science: A Global Concern – William P. Cunningham & Mary Ann Cunningham, McGraw Hill, ISBN: 97812605707332. Principles of Ecology and Environmental Science – P.D. Sharma, Rastogi Publications, ISBN: 97881713397473. Sustainability Principles and Practice – Margaret Robertson, Routledge, ISBN: 97803673335664. Biodiversity and Conservation – Michael J. Jeffries, Routledge, ISBN: 97804153911915. Our Common Future – World Commission on Environment and Development (Brundtland Report), Oxford University Press, ISBN: 9780192820808 |

1. Name of the Department: Environmental Science					
2. Course Name	Environmental Laws & Compliance	L	T	P	Credits
3. Course Code	17330102	2	1	0	3
4. Type of Course (use tick mark)		DSC (✓)		SEC ()	
5. Prerequisite (if any)		6. Frequency (use tick marks)	Even ()	Odd (✓)	Either Sem ()
7. Total Number of Lectures, Tutorials, Practical (assuming 15 weeks of one semester)					
Lectures = 30		Tutorials = Nil		Practical = Nil	
8. Course Description:					
This course introduces the framework of environmental governance, laws, and compliance mechanisms in India and globally. It covers constitutional provisions, national legislations, compliance systems, and international environmental agreements.					
9. Course Objectives:					
1. To explain constitutional provisions and governance systems related to the environment. 2. To provide knowledge of major environmental laws and regulations in India. 3. To familiarize students with compliance, auditing, and clearance processes. 4. To study international environmental agreements and their relevance. 5. To sensitize students about legal liabilities and penalties in environmental governance.					
10. Course Outcomes (COs):					
Upon successful completion, students will be able to: 1. Understand constitutional provisions and governance structures for environmental protection. 2. Gain knowledge of major environmental acts and waste management rules. 3. Apply compliance and auditing frameworks in environmental management. 4. Evaluate international treaties and agreements for climate and sustainability. 5. Assess legal liabilities and penalties in environmental law.					
11. Unit wise detailed content					
Unit-1	Number of lectures = 7	Environmental Governance Framework			
Constitutional provisions relating to the environment; Environmental institutions and authorities; National environmental policies; Environmental governance systems					
Unit – 2	Number of lectures = 8	Environmental Laws and Regulations			
The Water (Prevention and Control of Pollution) Act, 1974 Air (Prevention and Control of Pollution) Act, 1981 ; The Environment (Protection) Act, 1986 ; Waste Management Rules, 2016 ; Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016; Bio-medical Waste Management Rules, 2016; and E-Waste (Management) Rules, 2022					
Unit – 3	Number of lectures = 8	Environmental Compliance and Auditing			
Environmental clearance systems; Consent mechanisms and reporting; Environmental auditing, monitoring and compliance reporting; Legal liabilities and penalties					
Unit – 4	Number of lectures = 7	International Environmental Agreements			
UN Framework Convention on Climate Change (UNFCCC); UNFCCC-COP's; Paris Agreement; Kyoto Protocol; Montreal Protocol					
12. Brief Description of self-learning / E-learning component					
1. https://www.slideshare.net/monaverma1/indian-environmental-legislation 2. https://www.slideshare.net/monaverma1/international-environmental-legislation					
13. Books Recommended					

1. Environmental Law in India – P. LeelaKrishnan, LexisNexis, 2010.
2. Environmental Law – Nishtha Jaswal & P.S. Jaswal, Allahabad Law Agency, 2017.
3. Environmental Planning, Policies & Programmes in India – K.D. Saxena, Shipra Publications.
4. Reconciling Energy, the Environment and Sustainable Development – Maria João C. Pereira Rolim, Kluwer Law International.
5. Environmental and Energy Law – Jorge E. Venacules, Edward Elgar Publishing Ltd

1. Name of the Department: Environmental Science					
2. Course Name	ESG Principles, Ethics, and Governance	L	T	P	Credits
3. Course Code	17330103	2	1	0	3
4. Type of Course (use tick mark)		DSC(√))		SEC ()	
5. Prerequisite (if any)		6. Frequency (use tick marks)	Even ()	Odd (√)	Either Sem
7. Total Number of Lectures, Tutorials, Practical (assuming 15 weeks of one semester)					
Lectures = 45		Tutorials = Nil		Practical = Nil	
8. Course Description:					
This course introduces Environmental, Social, and Governance (ESG) principles, their evolution, and their role in sustainable business practices. It covers environmental stewardship, social responsibility, corporate governance, and business ethics, with a focus on the Indian corporate context.					
9. Course Objectives:					
1. To explain the evolution and significance of ESG in sustainability. 2. To provide knowledge of environmental dimensions of ESG including carbon management and pollution prevention. 3. To study social sustainability issues such as human rights, diversity, and inclusion. 4. To familiarize students with governance structures, ethics, and compliance systems. 5. To highlight ESG leadership and long-term value creation in business.					
10. Course Outcomes (COs):					
Upon successful completion, students will be able to: 1. Understand the relationship between ESG, CSR, and sustainability. 2. Apply environmental performance indicators and stewardship practices. 3. Evaluate social sustainability frameworks including labour standards and equity. 4. Assess governance structures, ethics, and compliance mechanisms. 5. Develop ESG leadership strategies for sustainable business transformation.					
11. Unit wise detailed content					
Unit-1	Number of lectures = 11	Introduction to ESG and Sustainability			
Evolution and significance of ESG; ESG, CSR, and sustainability relationship; Stakeholder theory and responsible business; Global ESG trends and drivers					
Unit – 2	Number of lectures = 11	Environmental Dimensions of ESG			
Climate responsibility and carbon management; Resource efficiency and environmental stewardship; Pollution prevention systems; Environmental performance indicators					
Unit – 3	Number of lectures = 11	Social Sustainability and Human Capital			
Human rights and labour standards; Diversity, equity and inclusion; Community engagement and social responsibility; Just transition and social equity					
Unit – 4	Number of lectures = 12	Corporate Governance and Business Ethics			
Governance structures, board composition, Greenwashing and misleading sustainability claims, Committees and risk governance; Business ethics, anti-corruption and transparency systems; POSH Act, whistleblower protection and workplace compliance; Sustainable leadership models and change management; ESG leadership and long-term value creation in the Indian corporate context					
12. Brief Description of self learning / E-learning component					
1. UN Principles for Responsible Investment (PRI) 2. Global Reporting Initiative (GRI) – ESG Standards 3. World Economic Forum – ESG and Sustainability Resources					
13. Books Recommended					

1. *Principles of Corporate Governance* – Ferrel, Fraedrich & Linda Ferrell, Cengage Learning, ISBN: 9781285063127
2. *Sustainable Investing: Revolutions in Theory and Practice* – Cary Krosinsky & Nick Robins, Routledge, ISBN: 9780415854955
3. *Business Ethics and Corporate Governance* – A.C. Fernando, Pearson Education India, ISBN: 9788131761369
4. *ESG Investing and Sustainability* – John Hill, Academic Press, ISBN: 9780128223071
5. *Corporate Social Responsibility in India* – Nayan Mitra & Rene Schmidpeter, Springer, ISBN: 9783319667896

1. Name of the Department: Environmental Science					
2. Course Name	Climate Change, Decarbonization and Carbon Management	L	T	P	Credits
3. Course Code	17330104	2	1	0	3
4. Type of Course (use tick mark)		DSC(√)		SEC ()	
5. Prerequisite (if any)		6. Frequency (use tick marks)	Even ()	Odd (√)	Either Sem ()
7. Total Number of Lectures, Tutorials, Practical (assuming 15 weeks of one semester)					
Lectures = 45		Tutorials = Nil		Practical = Nil	
8. Course Description:					
This course provides a scientific understanding of climate change, greenhouse gas emissions, and carbon systems. It explores decarbonization strategies, energy transitions, low-carbon consumption, and carbon markets. Students will learn to evaluate climate commitments and carbon management frameworks at both national and international levels					
9. Course Objectives:					
1. To explain the fundamentals of climate science and greenhouse gas systems. 2. To provide knowledge of carbon footprint methodologies and emission inventories. 3. To study decarbonization strategies and clean energy transitions. 4. To familiarize students with resource efficiency, circular economy, and low-carbon lifestyles. 5. To evaluate carbon markets, offset mechanisms, and international climate commitments.					
10. Course Outcomes (COs):					
Upon successful completion, students will be able to: 1. Understand climate science, greenhouse gases, and vulnerability assessments. 2. Prepare greenhouse gas inventories and calculate Scope 1, 2, and 3 emissions. 3. Apply decarbonization strategies and energy efficiency systems. 4. Evaluate circular economy and sustainable consumption approaches. 5. Assess carbon markets, pricing mechanisms, and India’s climate commitments.					
11. Unit wise detailed content					
Unit-1	Number of lectures = 11	Climate Science and Carbon Systems			
Introduction to Climate Science; Greenhouse gases, global warming and climate change impacts; Climate vulnerability assessment and climate justice; Greenhouse gas inventories and Scope 1, 2 and 3 emissions; Carbon footprint methodologies and measurement					
Unit – 2	Number of lectures = 11	Decarbonization and Energy Transition			
Renewable energy systems and clean energy transition; Industrial decarbonization strategies and low-carbon technologies; Energy efficiency systems and demand management; Net-zero transition pathways and targets					
Unit – 3	Number of lectures = 11	Resource Efficiency and Low-Carbon Consumption			
Water efficiency and conservation as a climate co-benefit; Waste reduction, e-waste management, and extended producer responsibility; Circular economy; Sustainable consumption and low-carbon lifestyle transitions					
Unit – 4	Number of lectures = 12	Carbon Markets and Climate Commitments			
Carbon credits, offset mechanisms, and carbon pricing; Science-Based Targets Initiative — SBTi; CDP and international climate commitment frameworks; India's climate commitments — NDCs and national missions					
12. Brief Description of self-learning / E-learning component					
4. UN Principles for Responsible Investment (PRI) 5. Global Reporting Initiative (GRI) – ESG Standards 6. World Economic Forum – ESG and Sustainability Resources					
13. Books Recommended					

6. *Principles of Corporate Governance* – Ferrel, Fraedrich & Linda Ferrell, Cengage Learning, ISBN: 9781285063127
7. *Sustainable Investing: Revolutions in Theory and Practice* – Cary Krosinsky & Nick Robins, Routledge, ISBN: 9780415854955
8. *Business Ethics and Corporate Governance* – A.C. Fernando, Pearson Education India, ISBN: 9788131761369
9. *ESG Investing and Sustainability* – John Hill, Academic Press, ISBN: 9780128223071
10. *Corporate Social Responsibility in India* – Nayan Mitra & Rene Schmidpeter, Springer, ISBN: 9783319667896

1. Name of the Department: Environmental Science					
2. Course Name	ESG Reporting and Sustainability Analytics	L	T	P	Credits
3. Course Code	17330105	1	1	0	2
4. Type of Course (use tick mark)		DSC ()			SEC (√)
5. Prerequisite (if any)		6. Frequency (use tick marks)	Even ()	Odd (√)	Either Sem ()
7. Total Number of Lectures, Tutorials, and Practical (assuming 15 weeks of one semester)					
Lectures = 30		Tutorials = Nil		Practical = Nil	
8. Course Description:					
This course introduces the principles and practices of ESG reporting and sustainability analytics. It emphasizes materiality assessment, stakeholder engagement, global and Indian reporting frameworks, and the use of digital tools for sustainability communication. Students will learn to interpret ESG metrics, evaluate sustainability performance, and prepare disclosure reports.					
9. Course Objectives:					
1. To explain the fundamentals of ESG reporting and sustainability communication. 2. To provide knowledge of global and Indian reporting frameworks such as GRI, TCFD, SASB, ISSB, and BRSR. 3. To study ESG analytics, KPIs, benchmarking, and SDG mapping. 4. To familiarize students with digital reporting platforms and research methods. 5. To develop skills for clear, accessible communication of sustainability performance to diverse stakeholders.					
10. Course Outcomes (COs):					
Upon successful completion of this course, the student will be able to: 1. Understand ESG reporting principles and materiality assessment. 2. Apply global and Indian reporting frameworks for sustainability disclosure. 3. Interpret ESG metrics and evaluate sustainability performance. 4. Use digital tools and dashboards for sustainability reporting. 5. Prepare sustainability reports aligned with SDGs and stakeholder expectations.					
11. Unit wise detailed content					
Unit-1	Number of lectures = 11		Sustainability Reporting Fundamentals		
ESG reporting principles; Materiality assessment; Stakeholder mapping, engagement planning and sustainability communication; Sustainability performance indicators					
Unit – 2	Number of lectures = 11		Global and Indian Reporting Frameworks		
GRI Standards; TCFD Framework; SASB Standards and ISSB Framework; BRSR and SEBI disclosure requirements					
Unit – 3	Number of lectures = 11		ESG Analytics and Sustainability Metrics		
ESG KPIs and benchmarking; Sustainability metrics and indicators; Data interpretation and visualization techniques; Sustainability performance evaluation; SDG mapping and performance reporting					
Unit – 4	Number of lectures = 12		Digital Reporting and Research Methods		
ESG dashboards and digital tools; Sustainability reporting platforms; Survey methods and data collection; Basic research methodology and sustainability analytics					
12. Brief Description of self-learning / E-learning component					
1. Global Reporting Initiative (GRI) Standards 2. Task Force on Climate-related Financial Disclosures (TCFD) 3. SASB Standards – Sustainability Accounting Standards Board 4. SEBI Business Responsibility and Sustainability Report (BRSR) (sebi.gov.in)					
13. Books Recommended					
1. Sustainability Reporting and Communications – GRI Publications, ISBN: 9789082348600 2. Corporate Sustainability Reporting: Concepts and Cases – Subhash C. Kundu, Excel Books, ISBN: 9788174469496 3. ESG and Responsible Institutional Investing Around the World – Pedro Matos, CFA Institute Research Foundation, ISBN: 9781952927020 4. Sustainability Analytics: Data-Driven Decision Making – Peter A. Soyka, Routledge, ISBN: 9780367333566					

5. Business Responsibility and Sustainability Reporting in India – SEBI Handbook, Government of India Publications

1. Name of the Department: Environmental Sciences					
2. Course Name	Environmental Monitoring and Assessment	L	T	P	Credits
3. Course Code	17330106	0	0	4	2
4. Type of Course (use tick mark)		DSC (√)		SEC ()	
5. Prerequisite (if any)		6. Frequency (use tick marks)	Even ()	Odd (√)	Either Sem ()
7. Total Number of Lectures, Tutorials, Practical.					
Lectures = Nil		Tutorials = Nil		Practical = 4	
8. Course Description:					
This course introduces students to practical methods of environmental monitoring and assessment. It covers water, waste, and energy audits, carbon footprint analysis, GIS-based mapping, and sustainability performance evaluation. Students will gain hands-on experience in applying tools and techniques for environmental data analysis and reporting.					
9. Course Objectives:					
The objectives of this course are: 1. To understand methods of environmental data collection and analysis. 2. To gain knowledge of water, waste, and energy auditing techniques. 3. To apply carbon footprint assessment methodologies. 4. To learn GIS-based mapping for biodiversity and pollution hotspots. 5. To prepare sustainability scorecards and benchmarking reports.					
10. Course Outcomes (COs):					
Upon successful completion of this course, the student will be able to: 1. Conduct water, waste, and energy audits for resource optimization. 2. Calculate carbon footprints of selected activities or operations. 3. Perform SDG mapping and sustainability performance evaluation. 4. Develop GIS-based maps for biodiversity, water quality, and air pollution hotspots. 5. Prepare sustainability scorecards and benchmarking reports for organizations.					
11. List of Experiments					
1. Analyse and interpret environmental data using graphical and statistical tools. 2. Prepare water audit reports. 3. Prepare waste audit reports. 4. Prepare energy audit reports and identify opportunities for energy efficiency and resource optimization. 5. Determine the carbon footprint of selected activities or operations. 6. Perform SDG mapping and sustainability performance evaluation. 7. Prepare sustainability scorecards and benchmarking reports. 8. Develop a GIS-Based Biodiversity Map of a Selected Region. 9. Identify and Map Air Pollution Hotspots using GIS. 10. Create a Water Quality Risk Map Using GIS Technique					

12. Books Recommended
1. Environmental Monitoring and Characterization – Janick Artiola, Ian L. Pepper, Mark Brusseau, Academic Press, ISBN: 9780120644775 2. Environmental Data Analysis with MatLab – William Menke, Academic Press, ISBN: 9780128046519 3. GIS for Environmental Management – Robert Scally, ESRI Press, ISBN: 9781589481429 4. Handbook of Environmental Engineering Assessment – Ravi Jain, Butterworth-Heinemann, ISBN: 9780123810030 5. Sustainability Assessment: Tools and Indicators – Mohammad Ali, Springer, ISBN: 9783319725978

1. Name of the Department: Environmental Science					
2. Course Name	Carbon Accounting and ESG Reporting	L	T	P	Credits
3. Course Code	17330107	0	0	4	2
4. Type of Course (use tick mark)	DSE (✓)			SEC ()	
5. Prerequisite (if any)		6. Frequency (use tick marks)	Even ()	Odd (✓)	Either Sem ()
7. Total Number of Lectures, Tutorials, Practical.					
Lectures = Nil		Tutorials = Nil		Practical = 4	
8. Course Description:					
This course provides hands-on training in greenhouse gas (GHG) accounting, carbon footprint analysis, and ESG reporting. Students will learn to classify emissions, prepare inventories, calculate carbon emissions, and develop decarbonization pathways. The course also covers ESG disclosure preparation using frameworks such as BRSR and GRI.					
9. Course Objectives:					
1. To understand classification of GHG emissions into Scope 1, 2, and 3 categories. 2. To gain knowledge of carbon footprint calculation methodologies. 3. To analyze emission sources and identify reduction opportunities. 4. To apply ESG KPIs and materiality assessments for reporting. 5. To prepare draft ESG disclosure reports using recognized frameworks.					
10. Course Outcomes (COs):					
Upon successful completion of this course, the student will be able to: 1. Identify and classify GHG emission sources. 2. Prepare GHG inventories and calculate emissions from electricity and transportation. 3. Assess emission hotspots and reduction opportunities. 4. Evaluate ESG KPIs and perform materiality assessments. 5. Draft ESG disclosure reports aligned with BRSR or other frameworks.					
11. List of Case Studies / Experiments					
1. Identify and classify greenhouse gas emission sources into Scope 1, Scope 2 and Scope 3 categories. 2. Collect activity data and prepare a greenhouse gas (GHG) inventory. 3. Calculate carbon emissions from electricity consumption using standard emission factors. 4. Quantify carbon emissions from transportation-related activities. 5. Analyse major emission sources and identify emission hotspots. 6. Assess emission reduction opportunities through energy and resource efficiency measures. 7. Prepare a decarbonization pathway and carbon reduction action plan. 8. Calculate and evaluate Environmental, Social and Governance (ESG) Key Performance Indicators (KPIs). 9. Perform a materiality assessment and identify key sustainability issues for reporting. 10. Prepare a draft BRSR/ESG disclosure report using a selected reporting framework.					
11. Books Recommended					
1. Greenhouse Gas Inventories: Dealing with Uncertainty – Thomas White, Springer, ISBN: 9781402036175 2. Carbon Accounting: Reporting and Management of Greenhouse Gas Emissions – Michael Gillenwater, CRC Press, ISBN: 9780367333566 3. ESG Reporting and Analysis – Cary Krosinsky, Routledge, ISBN: 9780367333566 4. Corporate Carbon and Climate Accounting – Stefan Schaltegger, Springer, ISBN: 9789400729735 5. Business Responsibility and Sustainability Reporting in India – SEBI Handbook, Government of India Publications					

Industrial Training/Project

Course Code: 17330108

Practical

Note: Minimum placement duration, eligible organisation criteria and assessment standards to be defined by the institution as per programme guidelines. **Students will undertake a dissertation, internship, industrial training, or industry-linked sustainability project under the guidance of academic and/or industry mentors. The programme aims to strengthen practical skills, industry collaboration, professional competencies, and application of sustainability concepts in real-world settings.**

Semester-II

1. Name of the Department: Environmental Science					
2. Course Name	Sustainability Economics, Policy, and Strategy	L	T	P	Credits
3. Course Code	17330201	2	1	0	3
4. Type of Course (use tick mark)		DSC (√)			SEC ()
5. Prerequisite (if any)		6. Frequency (use tick marks)	Even (√)	Odd ()	Either Sem ()
7. Total Number of Lectures, Tutorials, and Practical (assuming 15 weeks of one semester)					
Lectures = 45		Tutorials = Nil		Practical = Nil	
8. Course Description:					
This course introduces the principles of environmental economics, sustainability policy frameworks, and corporate sustainability strategies. It emphasizes green growth, sustainable business models, governance systems, and implementation planning for sustainability transitions.					
9. Course Objectives:					
The objectives of this course are:					
1. To explain the principles of environmental and natural resource economics.					
2. To provide knowledge of sustainability governance mechanisms and policy instruments.					
3. To study green business models and sustainability transitions.					
4. To familiarize students with just transition and inclusive sustainability approaches.					
5. To develop corporate sustainability strategies and implementation roadmaps.					
10. Course Outcomes (COs):					
Upon successful completion of this course, the student will be able to:					
CO 1: Understand environmental economics and valuation of natural resources.					
CO 2: Evaluate sustainability governance systems and policy frameworks.					
CO 3: Apply green business models and innovation strategies.					
CO 4: Assess just transition approaches for inclusive sustainability.					
CO 5: Develop sustainability strategies, targets, and monitoring systems.					
11. Unit wise detailed content					
Unit-1	Number of lectures = 11		Sustainability Reporting Fundamentals		
Environmental economics principles; Natural resource economics; Green growth and sustainable development; Economic valuation of environmental resources					
Unit – 2	Number of lectures = 11		Global and Indian Reporting Frameworks		
Environmental policy instruments; Sustainability governance mechanisms; Sustainable development policy frameworks; Public policy for climate and sustainability					
Unit – 3	Number of lectures = 11		ESG Analytics and Sustainability Metrics		
Green business models; Sustainability transitions and innovation; Sustainable industrial development; Just transition and inclusive sustainability; Sustainable development models and future sustainability transitions					
Unit – 4	Number of lectures = 12		Digital Reporting and Research Methods		
Corporate sustainability strategy development and goal setting; Sustainability target setting, roadmap planning and milestones; Sustainability governance integration and cross-functional alignment; Monitoring, evaluation and continuous improvement in sustainability					
12. Brief Description of self-learning / E-learning component					
OECD – Green Growth and Sustainable Development (oecd.org)					
UN Sustainable Development Policy Resources					

13. Books Recommended

1. Environmental Economics: An Introduction – Barry C. Field & Martha K. Field, McGraw Hill, ISBN: 9781259653948
2. Sustainability Economics – Peter Bartelmus, Springer, ISBN: 9789048187307
3. Green Growth: Managing the Transition to a Sustainable Economy – Gareth Dale, Routledge, ISBN: 9780415525824
4. Corporate Sustainability Strategies – Mark W. McElroy, Routledge, ISBN: 9780415876452
5. Just Transitions: Social Justice in the Shift Towards a Low-Carbon World – David Schlosberg & Lisette B. Collins, Cambridge University Press, ISBN: 9781108792280

1. Name of the Department: Environmental Science					
2. Course Name	Climate Risk, Adaptation, and Governance	L	T	P	Credits
3. Course Code	17330202	2	1	0	3
4. Type of Course (use tick mark)		DSC (✓)		SEC ()	
5. Prerequisite (if any)		6. Frequency (use tick marks)	Even (✓)	dd ()	Either Semester ()
7. Total Number of Lectures, Tutorials, Practical (assuming 15 weeks of one semester)					
Lectures = 45		Tutorials = Nil		Practical = Nil	
8. Course Description:					
This course introduces students to climate risk assessment, adaptation planning, and governance systems. It covers physical and transition risks, vulnerability and resilience frameworks, nature-based solutions, environmental and social impact assessments, and India’s climate governance architecture.					
9. Course Objectives:					
The objectives of this course are:					
1. To explain climate hazards, exposure, and risk assessment frameworks.					
2. To provide knowledge of adaptation planning and nature-based solutions.					
3. To study environmental and social impact assessment methodologies.					
4. To familiarize students with stakeholder consultation and environmental management plans.					
5. To evaluate India’s climate governance, national missions, and institutional roles.					
10. Course Outcomes (COs):					
Upon successful completion of this course, the student will be able to:					
1. Understand climate hazards, transition risks, and vulnerability assessments.					
2. Apply adaptation frameworks and nature-based solutions for resilience.					
3. Conduct environmental and social impact assessments including stakeholder consultation.					
4. Evaluate life cycle assessment methodologies for sustainability.					
5. Assess India’s climate governance systems, NAPCC missions, and institutional roles.					
11. Unit wise detailed content					
Unit-1	Number of lectures = 8		Climate Risk and Vulnerability		
Climate hazards, exposure and physical risks; Transition climate risks- policy, legal, technology, market; Vulnerability and resilience assessment; Climate justice, loss - damage and differential impacts; Biodiversity loss and nature-related risks as dimensions of climate and business risk					
Unit – 2	Number of lectures = 8		Climate Adaptation and Nature-Based Solutions		
Adaptation planning frameworks and approaches; Nature-based solutions (NbS) and watershed management; Infrastructure-based and technology-driven adaptation; Community and urban resilience systems					
Unit – 3	Number of lectures = 7		Environmental and Social Impact Assessment		
Environmental Impact Assessment — process and requirements; Social Impact Assessment — methodology and application; Stakeholder consultation and environmental management plan (EMP); Life Cycle Assessment					
Unit – 4	Number of lectures = 7		India Climate Governance and Policy		
NAPCC — eight national missions and implementation; India's NDC commitments and domestic climate policy; Institutional roles — MoEF&CC, BEE, NABARD, NIIF; SEBI and RBI regulatory mandates on climate disclosure					
12. Brief Description of self learning / E-learning component					
1. UNFCCC – Climate Risk and Adaptation Resources (unfccc.int)					
2. National Action Plan on Climate Change (NAPCC) – Government of India (moef.gov.in)					
11. Books Recommended					
1. Climate Risk and Resilience in India – Anil Markandya, Routledge, ISBN: 9780367333566					
2. Adaptation to Climate Change: A Multilevel Assessment – S. Agrawala, OECD, ISBN: 9789264035419					
3. Environmental Impact Assessment – R.K. Jain, S. Rao, L.V. Urban, G.S. Rao, Concept Publishing, ISBN: 9788170223054					
4. Nature-Based Solutions to Climate Change Adaptation in Urban Areas – Nadja Kabisch et al., Springer, ISBN: 9783319590040					
5. Climate Governance in India and the Global South – Aarti Gupta, Routledge, ISBN: 9780367333566					
William Andrew. ISBN: 978-0941459020					

1. Name of the Department: Environmental Science					
2. Course Name	ESG, EHS and Sustainability Management	L	T	P	Credits
3. Course Code	17330203	2	1	0	3
4. Type of Course (use tick mark)	DSC (☒)			SEC ()	
5.Prerequisite (if any)		6. Frequency (use tick marks)	Even (☒)	Odd ()	Either Semester ()
7. Total Number of Lectures, Tutorials, Practical (assuming 15 weeks of one semester)					
Lectures = 45		Tutorials = Nil		Practical = Nil	
8. Course Description:					
This course focuses on the operational aspects of ESG and EHS management within organizations. It covers policy development, ISO frameworks, occupational safety, ESG auditing, compliance systems, and sustainable supply chain management. Students will gain practical knowledge of integrating ESG into organizational processes and procurement systems.					
9. Course Objectives:					
The objectives of this course are:					
1. To explain ESG policy development and organizational integration. 2. To provide knowledge of environmental and occupational health and safety management systems. 3. To study ESG auditing methodologies and compliance monitoring. 4. To familiarize students with documentation, evidence management, and corrective action systems. 5. To evaluate sustainable supply chains, responsible procurement, and Scope 3 emissions management.					
10. Course Outcomes (COs):					
Upon successful completion of this course, the student will be able to:					
1. Develop and implement ESG policies within organizations. 2. Apply ISO 14001 and ISO 45001 frameworks for environmental and occupational safety management. 3. Conduct ESG audits and compliance assessments. 4. Prepare documentation and corrective action reports. 5. Assess sustainable procurement systems and manage Scope 3 supply chain emissions.					
11. Unit wise detailed content					
Unit-1	Number of lectures = 12	ESG Management and Organizational Integration			
ESG policy development and implementation; ISO 14001 Environmental Management Systems; ESG performance management systems; Organizational ESG integration and mainstreaming; ESG roles, responsibilities and accountability frameworks					
Unit – 2	Number of lectures = 11	EHS Management and Occupational Safety			
Occupational health and safety systems; ISO 45001 framework and principles; Hazard Identification and Risk Assessment (HIRA); Incident investigation and contractor safety					
Unit – 3	Number of lectures = 11	ESG Auditing and Compliance Management			
ESG audit methodologies; Compliance monitoring systems; Documentation and evidence management; Corrective and preventive action systems					
Unit – 4	Number of lectures = 11	Sustainable Supply Chains and Responsible Procurement			
Responsible sourcing systems; Vendor ESG assessment and due diligence; Scope 3 emissions management; Sustainable procurement and supply chain resilience					
12. Brief Description of self learning / E-learning component					
1. ISO 14001 Environmental Management Systems (iso.org) 2. ISO 45001 Occupational Health and Safety (iso.org) 3. CDP Supply Chain Program (cdp.net)					
13. Books Recommended					
1. Environmental Management Systems: ISO 14001 Implementation Guide – Christopher Sheldon, Routledge, ISBN: 9780415235914 2. Occupational Health and Safety Management Systems: ISO 45001 – Naeem Sadiq, Routledge, ISBN: 9780367333566 3. ESG and Corporate Governance – Alan S. Gutterman, Routledge, ISBN: 9781032121984 4. Sustainable Supply Chains: A Research-Based Textbook – Yann Bouchery et al., Springer, ISBN: 9783319297918 5. Auditing for Environmental and Sustainability Management – Sanjay Sharma, Springer, ISBN: 9789400724303					

1. Name of the Department: Environmental Science					
2. Course Name	Green Buildings and Sustainable Infrastructure	L	T	P	Credits
3. Course Code	17330204	2	1	0	3
4. Type of Course (use tick mark)		DSC (√)		SEC ()	
5. Prerequisite (if any)		6. Frequency (use tick marks)	Even (√)	Odd ()	Every Sem ()
7. Total Number of Lectures, Tutorials, Practical (assuming 15 weeks of one semester)					
Lectures = 45		Tutorials = Nil		Practical = Nil	
8. Course Description:					
This course introduces the principles of green building design, rating systems, and sustainable infrastructure. It covers energy and water efficiency, climate-resilient construction, lifecycle analysis, and urban applications of sustainable built environments. Students will learn to evaluate building performance and apply strategies for sustainable urban development.					
9. Course Objectives:					
The objectives of this course are:					
1. To explain the principles and benefits of green buildings. 2. To provide knowledge of rating systems such as GRIHA, LEED, BREEAM, and BEE Star. 3. To study sustainable construction materials, methods, and climate-proofing strategies. 4. To familiarize students with building operations, performance assessment, and occupant well-being. 5. To evaluate urban applications of green building clusters and sustainable city planning.					
10. Course Outcomes (COs):					
Upon successful completion of this course, the student will be able to:					
1. Understand green building concepts and rating systems. 2. Apply sustainable construction methods and climate-resilient design principles. 3. Conduct building energy audits and performance assessments. 4. Evaluate water efficiency, waste management, and indoor environment quality. 5. Develop strategies for sustainable neighborhoods and urban resilience.					
11. Unit wise detailed content					
Unit-1	Number of lectures = 12	Green Building Concepts and Rating Systems			
Green building principles and benefits; GRIHA, LEED, BREEAM and BEE Star rating systems; Green building design and construction standards; Energy and water efficiency in buildings					
Unit – 2	Number of lectures = 11	Sustainable Infrastructure and Climate-Resilient Design			
Sustainable construction materials and methods; Infrastructure resilience and climate-proofing; Low-carbon construction and embodied carbon; Building lifecycle analysis					
Unit – 3	Number of lectures = 11	Green Building Operations and Performance			
Building energy auditing and performance assessment; Water efficiency and waste management in buildings; Indoor environment quality and occupant well-being; Green building operations and facilities management					
Unit – 4	Number of lectures = 11	Urban Applications and Sustainable Built Environments			
Green building clusters and sustainable neighborhood planning; Urban heat mitigation and cooling strategies; Sustainable urban drainage systems and building level applications; Transition from green buildings to sustainable cities					
12. Brief Description of self learning / E-learning component					
1. GRIHA – Green Rating for Integrated Habitat Assessment 2. LEED – Leadership in Energy and Environmental Design 3. BREEAM – Building Research Establishment Environmental Assessment Method					

13. Books Recommended

1. *Green Building Principles and Practices in Residential Construction* – Abe Kruger & Carl Seville, Cengage Learning, ISBN: 9781111308281
2. *Sustainable Construction: Green Building Design and Delivery* – Charles J. Kibert, Wiley, ISBN: 9781119055170
3. *Handbook of Green Building Design and Construction* – Sam Kubba, Butterworth-Heinemann, ISBN: 9780128104325
4. *Sustainable Urban Development Reader* – Stephen M. Wheeler & Timothy Beatley, Routledge, ISBN: 9780415702102
5. *Green Infrastructure: Linking Landscapes and Communities* – Mark A. Benedict & Edward T. McMahon, Island Press, ISBN: 9781597266840

1. Name of the Department: Environmental Science					
2. Course Name	Green Finance and Responsible Investment	L	T	P	Credits
3. Course Code	17330205	1	1	0	2
4. Type of Course (use tick mark)	DSC ()			SEC (✓)	
5. Prerequisite (if any)	.	6. Frequency (use tick marks)	Even (✓)	Odd ()	Either Sem ()
7. Total Number of Lectures, Tutorials, Practical (assuming 15 weeks of one semester)					
Lectures =30		Tutorials = Nil		Practical = Nil	
8. Course Description:					
This course introduces the fundamentals of sustainable finance, climate finance instruments, and responsible investment standards. It covers green bonds, blended finance mechanisms, ESG risk assessment, investor relations, and global classification systems such as the EU Taxonomy. Students will learn to evaluate financial strategies that integrate sustainability principles.					
9. Course Objectives:					
1. To explain the evolution of sustainable finance and green banking systems. 2. To provide knowledge of climate finance instruments including green bonds and blended finance. 3. To study responsible investment standards such as IFC Performance Standards and Equator Principles. 4. To familiarize students with ESG risk assessment frameworks and ratings methodologies. 5. To evaluate investor expectations and ESG disclosure practices.					
10. Course Outcomes (COs):					
Upon successful completion of this course student will be able to: 1. Understand basic financial concepts relevant to sustainability professionals. 2. Apply knowledge of green bonds, climate finance funds, and blended finance mechanisms. 3. Evaluate responsible investment standards and project finance frameworks. 4. Assess ESG risks, ratings, and investor relations strategies. 5. Prepare ESG disclosures aligned with investor communication requirements.					
11. Unit wise detailed content					
Unit-1	Number of lectures = 11		Introduction to Finance and Sustainable Finance		
Basic financial concepts for sustainability professionals — capital markets, debt, equity, investment ; Evolution of sustainable finance - from socially responsible investing to ESG integration; Green banking systems and sustainable lending; RBI guidelines on sustainable finance					
Unit – 2	Number of lectures = 11		Climate Finance and ESG Investment Instruments		
Green bonds and sustainability-linked bonds; Climate finance funds and blended finance mechanisms; Climate finance reporting, monitoring, and disclosure — IFC AMR and green bond reporting frameworks; EU Taxonomy and global green finance classification systems					
Unit – 3	Number of lectures = 11		Responsible Investment Standards and Performance Principles		
IFC Performance Standards; Equator Principles and project finance standards; UN Principles for Responsible Investment (UN-PRI); OECD Guidelines for Responsible Business Conduct					
Unit – 4	Number of lectures = 12		ESG Risk, Ratings and Investor Relations		
ESG risk assessment frameworks; ESG ratings agencies and methodologies; Investor ESG expectations and engagement; ESG disclosure for investor communication, Sustainability and climate risk management, Enterprise ESG and sustainability risks					
12. Brief Description of self-learning / E-learning component					

1. [UN Principles for Responsible Investment \(PRI\)](#)
2. [Equator Principles – Project Finance Standards](#)
3. EU Taxonomy for Sustainable Activities ([finance.ec.europa.eu in](https://finance.ec.europa.eu/in))

13. Books Recommended

1. Sustainable Finance and Banking: The Financial Sector and the Future of the Planet – Marcel Jeucken, Routledge, ISBN: 9781853839990
2. Principles for Responsible Investment – Cary Krosinsky, Routledge, ISBN: 9780415854955
3. Green Bonds: A Guide to the World's Fastest Growing Financial Market – Climate Bonds Initiative, ISBN: 9780367333566
4. Responsible Investment Banking – Karen Wendt, Springer, ISBN: 9783319103110
5. The Economics of Sustainable Finance – Dirk Schoenmaker & Willem Schramade, Routledge, ISBN: 9780367333566

1. Name of the Department: Environmental Science					
2. Course Name	Sustainability in the Digital Age	L	T	P	Credits
3. Course Code	17330206	0	0	4	2
4. Type of Course (use tick mark)		DSC(√)			SEC ()
5. Prerequisite (if any)		6. Frequency (use tick marks)	Even (√)	Odd ()	Either Sem ()
7. Total Number of Lectures, Tutorials, Practical.					
Lectures = Nil		Tutorials = Nil		Practical = 4	
8. Course Description:					
This course introduces students to digital tools and platforms for sustainability data management and reporting. It covers ESG data collection, AI applications, visualization techniques, and preparation of integrated digital sustainability reports. Students will gain practical skills in using technology to enhance sustainability communication and analytics.					
9. Course Objectives:					
The objectives of this course are to: 1. To understand digital data management tools for ESG reporting. 2. To gain knowledge of ESG databases and platforms for sustainability analysis. 3. To apply AI tools for sustainability research and report drafting. 4. To learn visualisation techniques for sustainability datasets. 5. To prepare integrated digital sustainability reports using analytics and reporting platforms.					
10. Course Outcomes (COs):					
Upon successful completion of this course, the student will be able to: 1. Collect, clean, and organize ESG data using digital tools. 2. Explore ESG databases and platforms for sustainability analysis. 3. Apply AI tools for sustainability research and content generation. 4. Create charts, graphs, infographics, and digital visualizations. 5. Prepare and present integrated digital sustainability reports.					
11. List of Case Studies / Experiments					
1. Collect, clean and organize ESG data using digital data management tools. 2. Explore ESG databases and digital platforms for sustainability data retrieval and analysis. 3. Apply AI tools for sustainability research, content generation and ESG report drafting. 4. Analyse sustainability datasets and identify trends, patterns and performance insights. 5. Create charts, graphs, infographics and digital visualizations for sustainability reporting. 6. Prepare and present an integrated digital sustainability report using data analytics, AI tools and reporting platforms					
12. Books Recommended					
1. <i>Big Data and Sustainability: A Guide to Data-Driven Decision Making</i> – Peter A. Soyka, Routledge, ISBN: 9780367333566 2. <i>Artificial Intelligence for Sustainable Development</i> – Rabindra Ratan, Springer, ISBN: 9783030641080 3. <i>Data Science for Sustainability</i> – Jingzheng Ren, Elsevier, ISBN: 9780128183566 4. <i>Digital Sustainability: Key Concepts and Practices</i> – Sarah Spiekermann, Routledge, ISBN: 9780367333566 5. <i>Sustainability Analytics: Data-Driven Approaches</i> – Mohammad Ali, Springer, ISBN: 9783319725978					

1. Name of the Department: Environmental Science					
2. Course Name	ESG Auditing and Compliance Practice	L	T	P	Credits
3. Course Code	17330207	0	0	4	2
4. Type of Course (use tick mark)	DSC (√)			SEC ()	
5. Prerequisite (if any)		6. Frequency (use tick marks)	Even (√)	Odd ()	Either Sem ()
7. Total Number of Lectures, Tutorials, Practical.					
Lectures = Nil		Tutorials = Nil		Practical = 4	
8. Course Description:					
This course provides practical training in ESG auditing and compliance management. It covers audit planning, workplace inspections, hazard identification, incident investigation, and compliance verification. Students will learn to integrate ESG, EHS, climate, and governance indicators into sustainability assessments.					
9. Course Objectives:					
The objectives of this course are to:					
6. To understand ESG audit planning and methodologies.					
7. To gain knowledge of workplace inspections and occupational health and safety assessments.					
8. To apply hazard identification and risk assessment techniques.					
9. To conduct incident investigations and root cause analyses.					
10. To verify legal compliance requirements and prepare corrective action reports.					
10. Course Outcomes (COs):					
Upon successful completion of this course, the student will be able to:					
6. Upon successful completion of this course, the student will be able to:					
7. Prepare ESG audit plans, checklists, and methodologies.					
8. Identify nonconformities and prepare audit findings.					
9. Review ESG disclosures against global and Indian reporting standards.					
10. Conduct workplace inspections and hazard assessments.					
11. Integrate ESG, EHS, climate, and governance indicators for sustainability assessment.					
11. List of Case Studies / Experiments					
7. Prepare an ESG audit plans, checklists and audit methodologies for a selected organization.					
8. Identify nonconformities and prepare ESG audit findings and observations.					
9. Review ESG disclosures against GRI, BRSR and other relevant reporting standards.					
10. Conduct workplace inspections and assess occupational health, safety and environmental risks.					
11. Perform Hazard Identification and Risk Assessment (HIRA) and prepare risk registers.					
12. Conduct incident investigation and root cause analysis using case studies or simulated scenarios.					
13. To verify legal compliance requirements and prepare compliance registers and corrective action reports.					
14. Integrate ESG, EHS, climate and governance indicators for sustainability assessment.					
12. Books Recommended					
6. Environmental and Sustainability Auditing – Adrian Henriques, Routledge, ISBN: 9781853839730					
7. ESG and Compliance Management – Alan S. Gutterman, Routledge, ISBN: 9781032121984					
8. Occupational Health and Safety Management Systems: ISO 45001 – Naeem Sadiq, Routledge, ISBN: 9780367333566					
9. Corporate Governance and Sustainability: Challenges for Theory and Practice – Suzanne Benn & Dexter Dunphy, Routledge, ISBN: 9780415384888					
10. Auditing for Social and Environmental Accountability – Rob Gray, Springer, ISBN: 9789400724303					

Industrial Training/Project

Course Code: 17330208

The industry project/dissertation component is designed to provide experiential learning through engagement with industries, organizations, research institutions, government bodies, NGOs, or sustainability consultancies. Students are expected to apply programme knowledge to real-world sustainability challenges and prepare a project report based on their observations, analysis, and recommendations.