



Kot, Bhalwal, Jammu



Model Institute of Engineering
& Technology (Autonomous)
Course Handout

COURSE HANDOUT

ENVIRONMENTAL SUSTAINABILITY (UGMDC-102(B))

BCA(H)-1ST SEMESTER

ACADEMIC YEAR (2024-25)

Ms. Shivani Kanaria

Assistant Professor

School of Management - UG



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Model Institute of Engineering & Technology (Autonomous)

KotBhalwal, Jammu - 181122

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Course Code	Course Name	Course Type	Cd	L	T	P	Marks		
							Mid Semester	Final Semester	Total
UGMDC-102(B)	Environmental Sustainability	Multidisciplinary	3	3	0	0	40	60	100

COURSE OUTCOMES

At the end of the course the student will be able to: -	
CO1	Describe the basic concepts of Environmental Sustainability
CO2	Interpret the key environmental challenges facing the planet
CO3	Analyze a range of potential solutions for achieving environmental sustainability
CO4	Appraise the various dimensions of environmental sustainability.
CO5	Evaluate potential future scenarios and pathways towards sustainability

Detailed Syllabus

Section A

Unit I: Introduction to Environmental Sustainability: Concept of Sustainable Development; Meaning and Importance of Environmental Sustainability; Environmental Sustainability- Targets and Indicators (Millennium Development Goals, Sustainable Development Goals and Life Cycle Assessment; Environmental ethics and values. (08 Hrs)

Unit II: Environmental Challenges: Climate Change- Causes, impacts, and mitigation strategies; Biodiversity Loss- Threats and conservation efforts, Pollution- Air, water, and soil pollution sources and control measures, Resource Depletion- Sustainable management of natural resources; Population Growth and Consumption Patterns. (08 Hrs)

Unit III: Sustainable Solutions: Renewable Energy Sources- Solar, wind, geothermal, etc.; Energy Efficiency and Conservation Strategies; Sustainable Practices in Agriculture and Food Systems; Circular Economy- Reduce, Reuse, Recycle; Green Infrastructure and Urban Sustainability. (08 Hrs)

Section B

Unit IV: The Social and Economic Dimensions of Sustainability: Environmental Justice- Equity in environmental decision-making; The role of government policies and regulations; Economic Systems and their impact on the environment; Sustainable Business Practices- Corporate Social Responsibility; The role of individual action and behaviour change. (06 Hrs)

Unit V: Building a Sustainable Future: The role of education and public awareness; International cooperation and global environmental challenges; The future of sustainability- Scenarios and pathways; Individual action and empowerment. (06 Hrs)

Textbooks

S. No.	Name of the Books	Author	Publisher	Edition (Pub. Yr.)
1.	Environmental Science	G. Tyler Miller and Scott S. Kinnison	Brooks/Cole	16 th (2018)
2.	Sustainability: A Comprehensive Introduction	Lauren Baker	Routledge	1 st (2005)

Reference Books

S. No.	Name of the Books	Author	Publisher	Edition (Pub. Yr.)
1.	Essentials of Environmental Science	Daniel D. Chiras	Jones and Bartlett	10 th (2014)



COURSE PLAN		
Unit - I Introduction to Environmental Sustainability		
S.No	Topics	Recommended Books
1	Concept of Sustainable Development	https://www.sdcommission.org.uk/pages/what-is-sustainable-development.html
2	Meaning and Importance of Environmental Sustainability	https://www.snhu.edu/about-us/newsroom/stem/what-is-environmentalsustainability#:~:text=Environmental%20sustainability%20refers%20to%20the,future%20generations%20to%20meet%20theirs.
3	Environmental Sustainability- Targets and Indicators	https://www.nonviolenceny.org/post/the-millennium-development-goals-and-sustainable-development-goals
4	Environmental ethics and values	https://www.geeksforgeeks.org/environmental-ethics/ https://ozcoasts.org.au/management/emf_frame/value/
Unit - II Environmental Challenges		
8	Climate Change- Causes, impacts, and mitigation strategies	https://www.ifp.co.in/health/climate-change-causes-impacts-and-mitigation-measures
9	Biodiversity Loss- Threats and conservation efforts	Book 1, Chapter 4
10	Pollution- Air, water, and soil pollution sources and control measures	Book 1, Chapter 1, 11, 15
11	Resource Depletion- Sustainable management of natural resources	Book 1, Chapter 10,
12	Population Growth and Consumption Patterns	Book 1, Chapter 6
Unit - III Sustainable Solutions		
16	Renewable Energy Sources- Solar, wind, geothermal, etc	Book 1, Chapter 13
17	Energy Efficiency and Conservation Strategies	Book 1, Chapter 13
18	Sustainable Practices in Agriculture and Food Systems	Book 1, Chapter 10
19	Circular Economy- Reduce, Reuse, Recycle	https://www.jabil.com/blog/sustainable-packaging-reduce-reuse-recycle.html#:~:text=From%20the%20processes%20we%20use,%E2%80%9393%20Reduce%2C%20Reuse%20and%20Recycle.
20	Green Infrastructure and Urban Sustainability	https://greeninfrastructureontario.org/what-is-green-infrastructure/
Unit - IV The Social and Economic Dimensions of Sustainability		
22	Environmental Justice- Equity in environmental decision-making	Book 1, Chapter 16
23	The role of government policies and regulations	https://www.britannica.com/topic/environmental-policy/Guiding-concepts



24	Economic Systems and their impact on the environment	Book 1, Chapter 17
25	Sustainable Business Practices- Corporate Social Responsibility	https://weareprimegroup.com/insights/sustainability-and-corporate-responsibility-changing-the-corporate-landscape/
26	The role of individual action and behaviour change	Book 1, Chapter 8
Unit - V Building a Sustainable Future		
29	The role of education and public awareness	https://earth.org/environmental-education/
30	International cooperation and global environmental challenges	https://environment.ec.europa.eu/international-cooperation_en https://beeindia.gov.in/sites/default/files/1Ch9.pdf
31	The future of sustainability- Scenarios and pathways	https://sustainabledevelopment.un.org/content/documents/4239Chapter%204%20Visions,%20scenarios%20and%20future%20pathways%20towards%20sustainable%20development2.pdf
32	Individual action and empowerment	Book 1, Chapter 8

ADDITIONAL WEB RESOURCES

1.	MOOC: Environmental Sustainability https://onlinecourses.swayam2.ac.in/nou24_ag16/preview
2.	NPTEL: Environmental Science https://onlinecourses.nptel.ac.in/noc24_hs160/preview

GRADING AND ASSESSMENT

- **Sessional Test:** 20 marks
- **Assignment:** 10 marks
- **Attendance:** 10 marks
- **Final Examination:** 60 marks

COURSE POLICIES

- **Attendance:** Minimum 75% attendance is mandatory to appear in the final examination of the course.
- **Academic Integrity:** MIET's academic integrity policies apply. Plagiarism will not be tolerated.
- **Late Submissions:** Assignments and projects must be submitted by the specified timelines.

FACULTY INFORMATION

- **Office Hours**
Monday (02:35 PM - 03:00 PM)
Friday (02:35 PM - 03:00 PM)
- **Contact Information**
Shivani.bba@mietjammu.in