

17.4.4

Sustainability literacy of students

Manav Rachna University (MRU) systematically measures the sustainability literacy of its students as part of its commitment to the United Nations Sustainable Development Goals (SDGs). The university has embedded sustainability concepts across its curriculum and designed **specific rubrics and assessment frameworks** to evaluate students' understanding, attitudes, and application of sustainability principles.

Through a combination of **project-based learning approaches**, interdisciplinary courses, and experiential activities, students are encouraged to connect theoretical concepts with real-world sustainability challenges. Their learning outcomes are continuously assessed using structured rubrics that measure cognitive understanding, practical implementation, and ethical awareness related to the SDGs.

This holistic approach ensures that MRU graduates are not only aware of global sustainability issues but are also equipped with the necessary skills to design and implement sustainable solutions in their respective fields.

Following is the sample of a course assessment aligned with SDGs.

Green Computing:

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING									
ODD SEMESTER (JULY-DEC-2023)									
COURSE ASSESSMENT PLAN (CAP)									
FACULTY NAME: Dr. Sachin Lakra, Team Members: Ms. Anu Priya Sharma, Mr. Imran Agha, Mr. Sanjay Kumar				NAME OF COURSE COORDINATOR: Dr. Sachin Lakra					
COURSE NAME: Green Computing			COURSE CODE: CS5325-T		CREDIT: 1				
CO1. Acquire and remember knowledge of basic green computing concepts. CO2. Understand environmental problems being caused by computers and their solutions. CO3. Learn and apply power management techniques in computers and datacenters. CO4. Learn techniques of how to follow an environment-friendly lifestyle at work. CO5. Understand techniques of recycling e-waste. CO6. Analyze how to make information systems green.									
COURSE NAME: Green Computing			COURSE CODE: CS5325-T	CREDITS: 1	ASSESSMENT METHOD				
SECTION AS PER SYLLABUS	COURSE OUTCOME	WEIGHTAGE IN % OF ASSESSMENT	TEST T1 (NL)	TEST T2 (NL)	QUIZ (5)	ASSIGNMENT (15)	SEMINAR (5)	TEST T3 (20)	
SECTION A	CO1, CO2	25%	NOT APPLICABLE	NOT APPLICABLE	√			√	
SECTION B	CO3	25%				√		√	
SECTION C	CO4, CO5	25%			√				√
SECTION D	CO6	25%					√		√
TOTAL WEIGHTAGE			NA	NA	5%	15%	5%	20%	

All COs aligned with SDGs

CO-PO Mapping

CO/PO-PSO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3 (AIML)	PSO3 (CDFD)	PSO3 (CSTI)
CSS325BT.1.	3					2										
CSS325BT.2.		2				3	2						2			
CSS325BT.3.		3				3									2	
CSS325BT.4.						3										
CSS325BT.5.		3	2			2						2	2	2		2

MOOCS FOR SELF-LEARNING: PROMOTING SUSTAINABILITY AWARENESS

To enhance sustainability literacy and promote self-paced learning among students, the university encourages enrollment in Massive Open Online Courses (MOOCs) from reputed platforms such as **NPTEL** and **LinkedIn Learning**. These courses are designed to foster environmental consciousness, responsible professional practices, and integration of sustainability concepts in various disciplines.

1. NPTEL

- Course Title:** SUSTAINABLE ENERGY TECHNOLOGY
Link: https://onlinecourses.nptel.ac.in/noc25_me178/preview
Focus Area: This course introduces students to the principles and technologies of sustainable energy systems, emphasizing renewable sources and energy efficiency measures.

2. LINKEDIN LEARNING COURSES

Students are encouraged to complete the following curated courses that address global sustainability challenges, corporate responsibility, and green innovation across industries.

S. No.	Course Title	Platform	Key Focus
1	Climate Change: A Top ESG Concern	LinkedIn Learning	Understanding climate change as a core ESG factor
2	Corporate Finance: Environmental, Social and Governance (ESG)	LinkedIn Learning	Integrating ESG criteria in financial decisions
3	Learning Design for Sustainability	LinkedIn Learning	Designing sustainable learning frameworks
4	Employee Engagement – Making Sustainability Part of Everybody’s Job	LinkedIn Learning	Encouraging sustainability in workplace culture
5	Sustainability for Design, Construction and Manufacturing	LinkedIn Learning	Applying sustainability in engineering and industrial processes

PROJECT-BASED LEARNING (PBL) APPROACH ALIGNED WITH SDGS

The university follows a **Project-Based Learning (PBL)** approach that emphasizes experiential and outcome-driven education while promoting awareness and action toward the **United Nations Sustainable Development Goals (SDGs)**. Through interdisciplinary projects, students are encouraged to identify real-world problems related to sustainability, such as clean energy, responsible consumption, health, and quality education, and develop innovative, practical solutions.

This learner-centric approach enhances critical thinking, collaboration, and problem-solving skills, enabling students to become responsible global citizens and change agents for sustainable development.

Student performance under PBL is **evaluated using structured rubrics** that assess multiple dimensions, including problem relevance to SDGs, depth of research, technical implementation, creativity, teamwork, ethical responsibility, and societal impact. These rubrics ensure a **comprehensive and transparent assessment** of learning outcomes while fostering a culture of sustainability-driven innovation across all disciplines.

Following are the rubrics according to which students are evaluated.

PBL Rubrics							
Stage I:- Ideation (15 Marks)							
Sno	Rubrics	Group/ Individual	Max Marks				
R1.1	Problem Statement	Group	2	The problem chosen is very common and being solved using fundamental ML algorithms	The problem chosen is very common and being solved using latest learning algorithms	The problem chosen is unique and less addressed and being solved using latest learning algorithms	
			scale	1	2	3	
R1.2	Holistic Scope of Sustainability	Group	2	Project is not aligned with UN SDGs	Project clearly demonstrate support for more than one UN SDGs		
			scale	1	2		
R1.3	Presentation	Individual	3	No coherence /logical flow of data	Moderate coherence /logical flow of data	Good coherence /logical flow of data	
			scale	1	2	3	
R1.4	Communication	Individual	3	Possess poor communication skills	Possess fair communication skills	Possess excellent communication skills	
			scale	1	2	3	
R1.5	Dataset identified (Real Time /Downloaded)	Group	4	Data Source has not been identified	Data Source has been Partially identified	Data Source has been identified	
			scale	0	2	4	
R1.6	Punctuality	Individual	1	Late Submission	Timely Submission		
			scale	1	2		