

M. Tech. Department of Civil Engineering (Audit Course)				
Course code: Course Title	Course Structure. Credit=2			Pre-Requisite
UCE517: Multi-Dimensional Poverty Indices for Developing Countries	L	T	P	Nil
	2	0	0	

Course Objective: This course provides an in-depth understanding of multi-dimensional poverty measurement approaches beyond income-based metrics. It explores theoretical frameworks, methodologies, and practical applications of poverty indices in developing countries, equipping students with the skills to assess and develop policies for poverty alleviation.

S. No	Course Outcomes (CO)		
CO1	Understand the concept of multi-dimensional poverty and its significance.		
CO2	Analyse different poverty measurement frameworks and their applications.		
CO3	Use statistical tools and software to calculate and interpret multi-dimensional poverty indices.		
CO4	Evaluate the effectiveness of poverty alleviation policies.		
CO5	Develop case studies and policy recommendations based on empirical data.		
CO-PO Articulation Metrics			
Course Outcome	PO1	PO2	PO3
CO1	3	1	1
CO2	3	2	1
CO3	3	2	1
CO4	3	3	2
CO5	3	3	3
S. No	Contents		Contact Hours
UNIT 1	Introduction to Poverty and Multi-Dimensional Approaches: Definitions and concepts of poverty, Limitations of income-based poverty measures, Evolution of multi-dimensional poverty indices (MDPI), Case studies from developing countries.		3

UNIT 2	Theoretical Foundations of Multi-Dimensional Poverty : Capability Approach (Amartya Sen), Human Development and Well-being Frameworks, Sustainable Development Goals (SDGs) and Poverty Reduction.	2
UNIT 3	Measuring Multi-Dimensional Poverty: The Alkire-Foster Methodology, Choice of indicators, dimensions, and weights, Data sources: Household surveys, census data, and global indices, Statistical techniques for computation and visualization.	3
UNIT 4	Global and National Indices: UNDP's Global Multi-Dimensional Poverty Index (MPI), National MPIs: India, Mexico, South Africa, and others. Applications and Policy Implications: Role of MPI in policy-making and program design, Case studies on poverty alleviation programs, Challenges and future directions in poverty measurement.	3
UNIT 5	Practical Applications and Research Project: Hands-on training with software (Stata, R, or Python, MATLAB) for poverty measurement, Group research projects analyzing poverty data from developing countries, Presentation and policy recommendations based on findings.	3
	TOTAL	14

REFERENCES		
S. No	Name of Books/Authors/Publishers	Year of Publication Reprint
1	Alkire, S. & Foster, J. (2011). Counting and multidimensional poverty measurement.	2016
2	UNDP Human Development Reports	2008
3	World Bank Poverty and Shared Prosperity Reports	2013
4	Sen, A. (1999). Development as Freedom.	2024
5	Alkire, S. & Foster, J. (2011). Counting and multidimensional poverty measurement.	2016
6	Multidimensional Poverty in India, Niti Aayog.	2024

Note: Program Outcomes (Qualitative Correlation as 3-High, 2-Medium, 1-Low):

PO1: An ability to independently carry out research/investigation and development work to solve practical problems.

PO2: An ability to write and present a substantial technical report/ document.

PO3: Students should be able to demonstrate a degree of mastery over the area as per the specialisation of the program. The mastery should be at a level higher than the requirements in the appropriate bachelor program.