



**योजना तथा वास्तुकला विद्यालय, विजयवाड़ा**  
**School of Planning and Architecture, Vijayawada**  
**An Institute of National Importance, Ministry of Education Gov. of India**

**Department of Architecture**

**Course:** MLAR122; Ecology, Ecosystem Analysis and Field Ecology

**Class:** I Yr. II Sem. M.Arch (landscape),2023-2025

**Instructor:** Dr.M.Banu Chitra

**Internal Assessment:** 50

**Contact Periods/ week:** 03 Slots each of 50 min. per week

**External Theory Exam:** 50

Credits: 3

**Attendance:** Min 75%

**Objective:** The objective of this seminar is to strengthen the management aspect of the selected conservation thesis project.

**LECTURE PLAN**

S. No.	Week	TOPIC OF CLASS LECTURE & DISCUSSION	CLASS ACTIVITIES & ASSIGNMENTS
1	Week 1	Introduction,Evolution: Earth and Life. Concept of Ecosystem, General Structure and Function: i) Energy flow, Primary & Secondary Production	Lecture & Discussion (Introduction to <b>Assignment I</b> on sponge hand book of Chennai)
2	Week 2	Types of Bio-geochemical cycles; Carbon cycle, Global water cycles, nitrogen cycle,bioaccumulation and bio-magnifications,Concept of ecosystem services	Lecture & Discussion
3	Week 3	Types of Ecosystems, Structure of the Plant Community in general.	Lecture & Discussion (Field Measurement of Effective Leaf Area Index using Plant canopy analyser )
4	Week 4	Concept of ecosystem services, Types of Ecosystems, Plant Community in general	Lecture & Discussion
5	Week 5	Concept of ecological Succession and Maturity, Types of succession its Analysis, Description and Evaluation	Lecture & Discussion
6	Week 6	Systems Ecology: Introduction to systems approach and mathematical models in ecology;	Lecture & Discussion (Introduction to <b>Assignment II</b> on selective topics)
7	Week 7	Population Census techniques	Lecture & Discussion

8	Week 8	Selected topics in ecosystem management:	Lecture & Discussion
9	Week 9	Climate change – causes and consequences, Aquatic ecology – fresh water and marine	Lecture & Discussion
10	Week 10	Field Ecology, Quadrat, line transect, community analysis	Field measurement based on the types of analysis
11	Week 11	Field work and laboratory analysis of data	Lecture & Discussion Mid-Semester Examination
12	Week 12	Field work and laboratory analysis of data	Field measurement based on the types of analysis
13	Week 13	Field work and laboratory analysis of data	Lecture & Discussion
14	Week 14	Revision -1	Discussion
15	Week 15	Revision -2	Discussion Submission of Internal Assessment-III
16	Week 16	Revision -3	Discussion

**Tentative break-up of Internal Assessment Marks:**

S.No.	CATEGORIES OF EVALUATION	MARKS
1	Internal Assessment-I	15
2	Internal Assessment-I	15
3	Final Test/Internal Assessment-III	20
	<b>Total</b>	<b>50</b>

***References:***

1. Odum, E.P. (1959) Fundamentals of ecology , 5th edition, America: University of Georgia.
2. Keith, R. (1974) Man, nature and ecology , Aldus book limited.
3. Kluwer academic publishers (2018) Landscape Ecology, 3rd edition, Netherlands: Springer Netherlands.
4. Ambasht, R.S. and Ambasht, N.K. (2002) Modern Trends in Applied Terrestrial Ecology, 1st edition, US: Springer US.
5. Jr., G.T.M. (2004) Living in the Environment: Principles, Connections, and Solutions, Brooks / Cole publishers co
6. Biswas, S.K., Raj, P., R S, L., Balaganesan, B., & KP, S. (2019) 'The Sponge Handbook: Chennai
7. Kormondy, E.J. (1969) Concepts of Ecology , 4th edition, Prentice Hall. Landscape Ecology, Kluwer Academic Publishers.
8. Marsh, W.M. (1997) Landscape planning – Environmental Application, John Wiley and sons Inc.
9. Turner, M. G. (2005) Landscape ecology: what is the state of the science? Annual Review of Ecology, Evolution and Systematics 36,
10. Belshe EF, Schuur EAG, Bolker BM, Bracho R (2012) Incorporating spatial heterogeneity created by permafrost thaw into a landscape carbon estimate. J Geophys Res Biogeosci

11. Almusaed, A. (Ed.). (2016). Landscape Ecology - The Influences of Land Use and Anthropogenic Impacts of Landscape Creation. InTech.

Dr.M.Banu Chitra

**Course Instructor:**

**Head of the Department**