

Lecture Plan
Department of Planning, School of Planning and Architecture, Vijayawada

Name of Course: Ecological Footprint Analysis (MEPM1210)

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| Programme & Sem: | Master of Planning, Semester Two |
| Course Duration: | January 2024 to April 2024 |
| Course Coordinator: | Rajeev R, Assistant Professor, Dept. of Planning (rajeevnair@spav.ac.in) |
| Subject Category: | Theory (ELECTIVE) |
| Number of Credits: | 03 |
| Total Periods/Week: | 03 (See Time Table for details) |
| Internal Assessment | 50 (minimum pass marks 50%) |
| End Evaluation | 50 (minimum pass marks 50%) – Written Exam. |
| Total Marks | 100 (to be converted to CGPA credit pattern as per regulations) |

Subject Objective: To impart detailed understanding of Ecological footprint analysis as a contemporary tool related to carrying capacity.

| Week | Lecture / Session Topic (Teaching-Learning Objective aimed) | Session Mode (Optional) |
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| Week 1 | Introduction to Ecological Footprints and Carrying Capacity – The Need | Orientation & Lecture |
| Week 2 | Ecology and Planning: Definitions, types and principles of ecology; Population ecology, carrying capacity and human population; importance of urban and human ecology; Ecological theories and practices, Principles of Footprints and values towards planning and development | Lecture, and Interactive Session |
| Week 3 | Carrying Capacity: Understanding limits to growth; Consumption and its dimensions – food, energy, non-biodegradable items, travel; Understanding linkages between Sustainability- Carrying Capacity and Footprints. | Lecture Online Tutorial |
| Week 4 | Ecosystems and footprints: Species evolution and interaction, implications of human intervention in ecological niche; biodiversity and its significance, valuation of biodiversity; Ecological impacts within evolving eco-systems; Delta and wetland ecosystems; arid and semi-arid ecosystems; Forest conservation in Asia and Africa. | Lecture; Online Tutorial |
| Week 5 | Internal Assessment 1 : Assignment (Fact Profiling of Indian Cities w.r.t. Environmental 'Pressure' and Environmental 'State' (in the context of Ecological Footprints) and Identification of Key Drivers that affect Footprints in the Study Area) – 10 marks | Presentation |
| Week 6 & 7 | STUDIO FIELD VISIT | -- |
| Week 8 | Estimating Carrying Capacity – a land-based understanding of carrying capacity; Types of Carrying Capacity (Introduction), SAFE Model, Need for Comprehensive Carrying Capacity | Lecture; Online Tutorial |
| Week 9 | Mid-term Assessment | Written Assessment |
| Week 10 | Assesing Bio-capapcity calculations for a region and its resource base; Assumption factors in bio-capacity. | Lecture and Interactive Discussion |
| Week 11 | Understanding Footprints: Land equivalent of consumption; Energy-Land relation to assess footprints; Cropland footprint, grazing footprint, forest footprint, fishing ground footprint; Urbanisation in the context of footprints. | Lecture, Expert discussion |

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| Week 12 | Consumption land use matrix method for footprint calculations of settlements; Calculating individual footprints. | Lecture, Tutorial |
| Week 13 | Internal Assessment 3 : Assignment - Bio-capacity and Footprints of Indian Cities - 20 marks | |
| Week 14 | Footprints analysis as tool for sustainability studies; Regional analysis in footprints; National Aggregated footprints; Income – trade – footprint relations. | Lecture |
| Week 15 | Finalisation of Internal Assessment Marks | Discussion from previous lectures and assessments; Online Tutorial. |

Suggested Readings/ References from Library:

1. Collins A. (2015), The Ecological Footprint: New Developments in Policy and Practice. Elgar Publishing. Cardiff.
2. Global Footprint Network (2012), Living Planet Report 2012: Biodiversity, Biocapacity and Better choices. WWF International Press. California.
3. Meadows D H, Randers J., Meadows D L. (2012), The Limits to Growth. The 30 year update. Chelsea Green Publishing, Vermont.
4. Wackernagel, M. and W. Rees. (1996), Our Ecological Footprint: Reducing Human Impact on the Earth. New Society Publishers.

Additional Readings/ References/ Materials - Online:

1. Global Footprint Network, 2009. Ecological Footprint Standards 2009. Oakland: Global Footprint Network. Available at www.footprintstandards.org
2. <https://www.footprintnetwork.org/content/uploads/2019/05/WWF-GFN-EU-Overshoot-Day-report.pdf>
3. WWF (2022) Living Planet Report 2022 – Building a naturepositive society. Almond, R.E.A., Grooten, M., Juffe Bignoli, D. & Petersen, T. (Eds). WWF, Gland, Switzerland.
4. The Earth's Human Carrying Capacity: Limitations Assessed, Solutions Proposed (2021) Frederic R. Siegel, Springer Cham, <https://doi.org/10.1007/978-3-030-73476-3>
5. <https://www.routledge.com/Full-House-Reassessing-the-Earths-Population-Carrying-Capacity/Brown-Kane/p/book/9781032548401>

In addition to the reading material:

Video (MOOCs and other open courses) links shall be shared during the tutorial hours assigned pertaining to the subject concerned.

Note:

1. Any other closed holidays as declared by SPAV shall supercede the above lecture plan. Holidays shown above may alter as per Notice from time to time.
2. Assessment Sessions may be re-scheduled, with prior intimation.
3. Reading lists provided is not exhaustive and is subject to addition – students are advised to follow progression of class to keep abreast of the new reading lists, if any.