

Course Description

Upon successful completion of the course, the student will be able to:

Understand current issues of climate change adaptation.

Analyse different approaches of CCA.

COURSE OUTLINE

1. Introduction

- Climate change and climate variability
- Major impacts of climate change on agriculture, water resources, forestry, biodiversity, human health and hydro-meteorological phenomena

2. Climate Change Adaptation

- Overview of Climate Change Adaptation
- International protocols
- Climate Change and extreme hydro-meteorological events
- Criteria for prioritization of Climate Change Adaptation

3. Climate Change Vulnerability

- Climate change and vulnerabilities
- Local coping strategies, indigenous knowledge in climate change adaptation

4. Climate Change Adaptation in Pakistan

- Climate change adaptation in Pakistan
- Climate Change and agriculture, water, forestry, biodiversity, health sectors

Teaching Methodologies:

- Lectures
- Documentaries and visuals
- Interactive discussions and talks
- Assignments and quizzes

Assessment Criteria:

1st Term (25%) Assignments/Quizzes and Presentations

Mid Term (35%) Written (Long Questions, Short Questions, MCQs)

Final Term (40%) Written (Long Questions, Short Questions, MCQs)

Textbooks:

1. Gopalakrishnan, C., Okada, N., & Sapat, A. (Eds.). (2023). *Climate Change and Disaster Resilience: Challenges, Actions and Innovations*. Routledge.

2. Shaw, R., Pulhin, J., & Pereira, J. J. (Eds.). (2022). *Climate Change Adaptation and Disaster Risk Reduction: An Asian Perspective*. Springer.
3. Leal Filho, W. (Ed.). (2021). *Handbook of Climate Change Adaptation*. Springer.
4. Thomas, V. (2023). *Climate Change and Natural Disasters: Transforming Economies and Policies for a Sustainable Future*. Routledge.
5. Ford, J. D., & Berrang-Ford, L. (Eds.). (2021). *Climate Change Adaptation in Developed Nations: From Theory to Practice*. Springer.
6. Adger, W. N., Lorenzoni, I., & O'Brien, K. L. (Eds.). (2021). *Adapting to Climate Change: Thresholds, Values, Governance*. Cambridge University Press
7. Major, D. C., & Schmandt, M. L. (2022). *Climate Change Adaptation in Coastal Cities: A Guidebook for Citizens, Public Officials and Planners*. CRC Press.
8. Mechler, R., Schinko, T., & Surminski, S. (Eds.). (2022). *Climate Change and Disaster Risk Management*. Springer.
9. Field, C. B., Barros, V., & Stocker, T. F. (Eds.). (2022). *Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation: Special Report of the Intergovernmental Panel on Climate Change*. Cambridge University Press.
10. Ng, A. K. Y., Becker, A., & Cahoon, S. (Eds.). (2023). *Climate Change and Adaptation Planning for Ports*. Routledge.
11. BURROUGHS, William James (2007) *Climate Change: A Multidisciplinary Approach*. 2nd Edition, Cambridge University Press, UK.
12. COOKE, R. U. and Doornkamp, J. C. (1990) *Geomorphology in Environmental Management*. Clarendon Press Oxford.
13. GOVERNMENT of Pakistan (GOP) (1981) *Environmental Profile of Pakistan*. Environment and Urban Affairs Division, Government of Pakistan, Islamabad.
14. KININMONTH, William (2004) *Climate Change: A Natural Hazard*. Multi-Science,
15. LEHMANN, Steffen (2010) *The Principles of Green Urbanism: Regenerating the Post-Industrial City*. Earthscan, London, UK.
16. SABH, M. I. and Murty, S. (Eds.) (1988) *Natural and Manmade Hazards*. Academic Publisher Group.
17. KHAN, A. N. (2009) *Integrating Disaster Management and Climate Change Adaptation into Policy Making*. Proceedings of the International Disaster Management Conference -2009, Baragali – Summer Campus, University of Peshawar, Khyber Pakhtunkhwa, Pakistan.
18. INTERGOVERNMENTAL Panel on Climate Change (IPCC) (2013) *Managing the Risks of Extreme Events and Disasters to Advance Climate*