


UNIVERSITY OF MYSORE
Estd. 1916

Vishwavidyanilaya Karyasoudha
Crawford Hall, Mysuru- 570 005
Dated: 07.07.2018

No.AC.2(S)/31/18-19

NOTIFICATION

Sub: Revision of syllabus for Environmental Studies as per CBCS pattern from the Academic year 2018-19.

Ref: 1. Decision of the Academic Council meeting held on 19.06.2018.
2. Decision of Board of Studies in Environmental Science (CB) meeting held on 04.07.2018.

As per decision of the Academic council held on 19.06.2018, the Board of Studies in Environmental Science (CB) was convened a special BOS meeting on 4th July, 2018 has recommended to revise credit pattern and the syllabus for Environmental Studies (UG) as per CBCS pattern from the academic year 2018-19 & the same is hereby notified.

The syllabus may be downloaded from the University Website i.e., www.uni-mysore.ac.in.

Draft approved by the Registrar


Deputy Registrar (Academic)

To:

1. The Registrar (Evaluation), University of Mysore, Mysore.
2. The Dean, Faculty of Science & Technology, DOS in Physics, Manasagangotri, Mysore.
3. The Chairperson, BOS in Environmental Science (CB), DOS in Environmental Science, Manasagangotri, Mysore.
4. The Chairperson, Department of Studies in Environmental Science, Manasagangotri, Mysore.
5. The Director, College Development Council, Moulya Bhavan, Manasagangotri, Mysore.
6. The Principals of the Affiliated Under Graduate Colleges University of Mysore, Mysore.
7. The Deputy/Assistant Registrar/Superintendent, AB and EB, UOM, Mysore.
8. The P.A. to the Vice-Chancellor/Registrar/Registrar (Evaluation), UOM, Mysore.
9. Office file.

Ability Enhancement Compulsory Courses (AECC – Environmental Studies)

Unit 1: Introduction to environmental studies

- Multidisciplinary nature of environmental studies; components of environment – atmosphere, hydrosphere, lithosphere and biosphere.
 - Scope and importance; Concept of sustainability and sustainable development. (1)
- (2 Lectures)

Unit 2: Ecosystems

- What is an ecosystem? Structure and function of ecosystem; Energy flow in an ecosystem: food chain, food web and ecological succession. Case studies of the following ecosystems:
 - a) Forest ecosystem
 - b) Grassland ecosystem
 - c) Desert ecosystem
 - d) Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries)
- (6 Lectures)

Unit 3: Natural Resources: Renewable and Non-renewable Resources

- Land Resources and land use change; Land degradation, soil erosion and desertification.
 - Deforestation: Causes and impacts due to mining, dam building on environment, forests, biodiversity and tribal populations. (1)
 - Water: Use and over-exploitation of surface and ground water, floods, droughts, conflicts over water (international & inter-state).
 - Heating of earth and circulation of air; air mass formation and precipitation.
 - Energy resources: Renewable and non-renewable energy sources, use of alternate energy sources, growing energy needs, case studies. (1)
- (8 Lectures)

Unit 4: Biodiversity and Conservation

- Levels of biological diversity :genetic, species and ecosystem diversity; Biogeography zones of India; Biodiversity patterns and global biodiversity hot spots
- India as a mega-biodiversity nation; Endangered and endemic species of India
- Threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts, biological invasions; Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity.
- Ecosystem and biodiversity services: Ecological, economic, social, ethical, aesthetic and Informational value. (T)

(8 Lectures)

Unit 5: Environmental Pollution

- Environmental pollution : types, causes, effects and controls; Air, water, soil, chemical and noise pollution
- Nuclear hazards and human health risks
- Solid waste management: Control measures of urban and industrial waste..
- Pollution case studies. (T)

(8 Lectures)

Unit 6: Environmental Policies & Practices

- Climate change, global warming, ozone layer depletion, acid rain and impacts on human communities and agriculture.
- Environment Laws : Environment Protection Act; Air (Prevention & Control of Pollution) Act; Water (Prevention and control of Pollution) Act; Wildlife Protection Act; Forest Conservation Act; International agreements; Montreal and Kyoto protocols and conservation on Biological Diversity (CBD). The Chemical Weapons Convention (CWC).
- Nature reserves, tribal population and rights, and human, wildlife conflicts in Indian context (T)

(7 Lectures)

Unit 7: Human Communities and the Environment

- Human population and growth: Impacts on environment, human health and welfares.
- Carbon foot-print.
- Resettlement and rehabilitation of project affected persons; case studies.
- Disaster management: floods, earthquakes, cyclones and landslides.
- Environmental movements: Chipko, Silent valley, Bishnios of Rajasthan. (T)
- Environmental ethics: Role of Indian and other religions and cultures in environmental conservation. (T)
- Environmental communication and public awareness, case studies (e.g., CNG vehicles in Delhi). (T)

(6 Lectures)

Unit 8: Field work

- Visit to an area to document environmental assets; river/forest/flora/fauna, etc.
- Visit to a local polluted site – Urban/Rural/Industrial/Agricultural.
- Study of common plants, insects, birds and basic principles of identification.
- Study of simple ecosystems-pond, river, Delhi Ridge, etc.

(Equal to 5 Lectures)


Suggested Readings:

1. Carson, R. 2002. *Silent Spring*. Houghton Mifflin Harcourt.
2. Gadgil, M., & Guha, R. 1993. *This Fissured Land: An Ecological History of India*. Univ. of California Press.
3. Gleeson, B. and Low, N. (eds.) 1999. *Global Ethics and Environment*, London, Routledge.
4. Gleick, P.H. 1993. *Water in Crisis*. Pacific Institute for Studies in Dev., Environment & Security. Stockholm Env. Institute, Oxford Univ. Press.
5. Groom, Martha J. Gary K. Meffe, and Carl Ronald carroll. *Principles of Conservation Biology*. Sunderland: Sinauer Associates, 2006.
6. Grumbine, R. Edward, and Pandit, M.K. 2013. Threats from India's Himalaya dams. *Science*, 339: 36-37.
7. McCully, P. 1996. *Rivers no more: the environmental effects of dams* (pp. 29-64). Zed Books.
8. McNeil, John R. 2000. *Something New Under the Sun: An Environmental History of the Twentieth Century*.

9. Odum, E.P., Odum, h.T. & Andrews, J.1971. *Fundamentals of Ecology*. Philadelphia: Saunders.
10. Pepper, I.L., Gerba, C.P. & Brusseau, M.L. 2011. *Environmental and Pollution Science*. Academic Press.
11. Rao, M.N. & Datta, A.K. 1987. *Waste Water Treatment*. Oxford and IBH Publishing Co. Pvt. Ltd.
12. Raven, P.H., Hassenzahl, D.M. & Berg, L.R. 2012. *Environment*. 8th edition. John Wiley & Sons.
13. Rosencranz, A., Divan, S., & Noble, M.L. 2001. *Environmental law and policy in India*. Tripathi 1992.
14. Sengupta, R. 2003. *Ecology and economics: An approach to sustainable development*. OUP.
15. Singh, J.S., Singh, S.P. and Gupta, S.R. 2014. *Ecology, Environmental Science and Conservation*. S. Chand Publishing, New Delhi.
16. Sodhi, N.S., Gibson, L. & Raven, P.H. (eds). 2013. *Conservation Biology: Voices from the Tropics*. John Wiley & Sons.
17. Thapar, V. 1998. *Land of the Tiger: A Natural History of the Indian Subcontinent*.
18. Warren, C.E. 1971. *Biology and Water Pollution Control*. WB Saunders.
19. Wilson, E.O. 2006. *The Creation: An appeal to save life on earth*. New York: Norton.
20. World Commission on environment and Development. 1987. *Our Common Future*. Oxford University Press.
21. www.nacwc.nic.in
22. www.opcw.org

Note:

1. 'T' Refers to Tutorial Topics in the syllabus.
2. Weekly two hours of Lectures (two Credits) and two hours (one Credit) of Tutorials with minimum 20 to 30 Students in a batch for Tutorials.
3. The examination question paper may have the same Pattern as adopted for the other subjects and the paper has to account for 100 marks with 3hrs duration for examination.


 (Prof. S. L. Belagali)
 Chairman, BOS in Environmental Science
 (UG & PG) (England)
 M.Sc., Ph.D.
 CHAIRMAN
 Board of Studies in
 Environmental Science
 University of Mysore
 Manasagangotri
 MYSORE-570 006