Bangalore University
Department of Environmental Science
Jnanabharathi Campus
Bengaluru – 560 056

Syllabus for

ABILITY ENHANCEMENT COMPULSORY COURSE (AECC)

ENVIRONMENTAL STUDIES

Under-Graduate (UG) Program

Framed according to the National Education Policy (NEP 2020)

September 21, 2021

Board of Studies (UG) members present and approved the Syllabus

Sl No	Name and Association	Designation
1	Dr. B. C. Nagaraja Department of Environmental Science, Bangalore University, Bangalore	Chairperson
2	Prof. N. Nandini Department of Environmental Science, Bangalore University, Bangalore	Member
3	Dr. K.L. Prakash Department of Environmental Science, Bangalore University, Bangalore	Member
4	Dr. Helen Roseline, Associate Professor, Department of Environmental Science, Mount Carmel College, Bangalore	Member
5	Dr. Alkananda J Adur Assistant Professor Department of Environmental Science, Surana College, Bangalore	Member
6	Dr. Kavitha K R Associate Professor, Department of Botany Government Science College, Bangalore	Member
7	Dr. P. Anitha, Associate Professor, Department of Botany, BMS College for Women, Bangalore	Member
8	Dr. Rinku Verma Associate Professor, Department of Forestry & Environmental Science, University of Agriculture Science, Bangalore	Member

BANGALORE UNIVERSITY
DEPARTMENT OF ENVIRONMENTAL SCIENCE

Jnanabharathi Campus, Bangalore – 560056

Proceedings of the Board of Studies (UG) meeting held on 20th & 21st September, 2021 in the Department of Environmental Science, Bangalore University, Bangalore – 560056.

A meeting of BOS (UG) was convened on 20th & 21st September, 2021 in the Department of Environmental Science, JB campus, Bangalore University, Bangalore.

The Chairperson welcomed all the members of the BOS (UG) in the beginning and then the members were invited to discuss on the agenda of the meeting.

a) Approval of Under graduate first year syllabus (I & II Semester) for implementation from the academic year of 2021-22 as per New National Education Policy.

b) Approval of the Ability Enhancement Compulsory Course "Environmental Studies" for implementation in the Academic year of 2021-22.

c) Course Pattern and Scheme of Examination, 2021-22

Members gone through the scheme and syllabus submitted by Expert committee constituted by Government of Karnataka. The committee members have discussed and approved the scheme and syllabus for first and second semester UG course for implementation from Academic year 2021-22. The meeting ended with vote of thanks by the Chairperson.

Members Present

Prof. N. Nandini

Dr. P. Anitha, 21/9/21.

Dr. K.L.Prakash 21/09/2021

Dr. Helen Roseline 21/9/21

Dr. Alakananda J Adur 21/9/21

Dr. Kavitha K.R. 21/9/2021

Dr. Rinku Verma 21/9/21

Members Absent
Dr. Nagaraja Parisara
Dr. Abdul Khayum

21/09/2021

(B.C.Nagaraja)

Dr. B.C. NAGARAJA Ph.D.
Chairman
Dept. of Environmental Science
Bangalore University
Bengaluru - 560056

AECC – ENVIRONMENTAL STUDIES SYLLABUS

Number of Theory Credits	Number of lecture hours	Number of field work hours
2	45	5

Unit	Content	45 hours
Unit 1	**Introduction to Environmental Studies** Multidisciplinary nature of environmental studies Scope and importance; Concept of sustainability andsustainable development.	2
Unit 2	**Ecosystems** Definition, concept, Structure and function of ecosystem; Energy flow in an ecosystem: food chains, food webs and ecological succession. Case studies of the following ecosystems: Forest ecosystem, Grassland ecosystem, Desert ecosystem, Aquatic ecosystems (ponds, streams, lakes, rivers, oceans,estuaries).	6
Unit 3	**Natural Resources: Renewable and Non-Renewable Resources** Land resources, types and distribution 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. Water: Resource types, distribution and status. Use and over-exploitation of surface and ground water, floods, droughts, conflicts over water sharing, types of water sharing (international & inter-state). Energy resources: Renewable and non-renewable energy sources, use of alternate energy sources, growing energy needs, case studies.	8
Unit 4	**Biodiversity and Conservation** Levels of biological diversity: Genetic, species and ecosystem diversity; Biogeographic zones of India;	8

	Biodiversity patterns and global biodiversity hot spots. Biodiversity hotspots of India. 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 and aesthetic value.	
Unit 5	**Environmental Pollution** Environmental pollution: types, causes, effects and controls; Air, water, soil and noise pollution. Climate change, global warming, ozone layer depletion, acidrain and impacts on human communities and agriculture. Nuclear hazards and human health risks. Solid waste management, Control measures of urban and industrial waste Pollution case studies.	**8**
Unit 6	**Environmental Policies and Practices** Environment Laws: Environment Protection Act; Air (Prevention & Control of Pollution) Act; Water (Prevention and control of Pollution) Act; Wildlife Protection Act; Forest Conservation Act, Solid Waste Management Rules. International Conventions on Environment: Ramsar convention, Montreal protocol, Paris agreement, Basel convention and Convention on Biological Diversity (CBD). Nature reserves, tribal populations and rights, and human wildlife conflicts in Indian context	**7**
Unit 7	**Human Communities and the Environment** Human population growth: Impacts on environment, human health and welfare. Resettlement and rehabilitation of project affected persons; case studies. Disaster management: floods, earthquake, cyclones and landslides. Environmental movements: Chipko, Silent valley, Apikko, Salumarada Thimmakka. Environmental ethics: Role of Indian and other religions and cultures in environmental conservation Environmental communication and public awareness, case studies (Solar energy park of Karnataka).	**6**
Unit 8	**Field work**	**5**

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