

1.3.1. Institution integrates crosscutting issues relevant to Professional Ethics, Gender, Human Values, Environment and Sustainability into the Curriculum

Please tick (✓) wherever applicable, in the following table regarding the information about the inclusion of any of the topics into the curriculum addressing any of the following cross cutting issues:

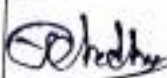






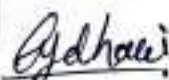


- 1) Professional ethics (व्यावसायिक नैतिकता) 2) Gender (लिंग समभाव) 3) Human Values (मानवी मूल्ये) 4) Environment and Sustainability (पर्यावरण व शाश्वतता)

Programme/ Scheme	Class	Name of the course	Cross Cutting Issues				Signature of Concerned Teacher/Co- ordinator/Head
			Professional ethics	Gender	Human Values	Environment and Sustainability	
B.Sc	F.Y.	CH-101 Physical and Inorganic Chemistry I	—	—	—	—	<i>File</i>
		CH-102 Organic and Inorganic Chemistry I	—	—	—	✓	<i>Mygrade</i>
		CH-201 Physical & Inorganic Chemistry II	—	—	—	—	<i>File</i>
		CH-202 Organic & Inorganic Chemistry II	—	—	—	✓	<i>Mygrade</i>
	S.Y.	General Knowledge					<i>File</i>
		Ch-301 Physical And Inorganic Chemistry	—	—	—	—	<i>PRD</i>
		CH-302 Organic and Inorganic Chemistry				✓	<i>PRD</i>
		CH-401 Physical And Inorganic Chemistry	—	—	—	—	<i>PRD</i>
		CH-402 Organic and Inorganic Chemistry	—	—	—	✓	<i>PRD</i>



Programme/ Scheme	Class	Name of the course	Cross Cutting Issues				Signature of Concerned Teacher/Co- ordinator/Head
			Professional ethics	Gender	Human Values	Environment and Sustainability	
B.Sc.	T.Y.	CH-501 Principles of Physical Chemistry-I	-	-	-	✓	Mopde
		CH-502 Inorganic Chemistry	✓		✓	✓	Shal
		CH-503 Organic Reaction Mechanism				✓	Khandan
		CH - 504 Industrial Chemistry	-	-	-	✓	Shal
		SEC CH - 505 Analytical Instrumentation	-	-	-	-	Shal
		CH - 506 (A) Biochemistry	-			✓	PRG
		AC-512 Sports	✓	-	✓	-	Mopde
		CH - 601 Principles of Physical Chemistry-II	-	-	-	✓	Mopde
		CH - 602 Chemistry of Inorganic Solids	✓		✓	✓	Shal
		CH - 603 Spectroscopic Methods of Structure Determination	-	-	-	-	Khandan
		CH - 604 Chemistry of Industrially Important Products	-	-	-	-	Shal
		CH - 605 Analytical Techniques	✓	-	-	-	Shal
		CH - 606 (A) Polymer Chemistry	✓		✓		PRG
		AC-611 Yoga	-	-	✓	-	Mopde



Programme/ Scheme	Class	Name of the course	Cross Cutting Issues				Signature of Concerned Teacher/Co- ordinator/Head
			Professional ethics	Gender	Human Values	Environment and Sustainability	
M.Sc.	F.Y.	CH-110 Physical Chemistry-I	-	-	-	-	
		CH-130 Core Inorganic Chemistry-I	-	-	-	-	
		CH-150 Organic Chemistry-I	-	-	-	-	
		CH-190 (Skill Based) Industrial Safety and Good Laboratory Practices	-	-	-	-	
		AC-101 (Audit Course) Practicing Cleanliness					
		CH-210 Physical Chemistry-II					
		CH-230 Inorganic Chemistry-II	-	-	-	-	
		CH-250 Organic Chemistry-II					
		CH-290 (Skill Based) Instrumentation and Analysis	✓	-	-	-	
		AC-201 (C): (Audit Course) Practicing Yoga	-	-	✓	-	



Programme/ Scheme	Class	Name of the course	Cross Cutting Issues				Signature of Concerned Teacher/Co- ordinator/Head
			Professional ethics	Gender	Human Values	Environment and Sustainability	
B.Sc.	F.Y.	CS 101 Essentials of Computer					
		CS 102 C Programming Language-I					
		CS 201 Internet Computing					
		CS 202 C Programming Language-II					
	S.Y.	Data Structure-I					
		Programming in C++ - I					
		SEC I Software & Hardware Installation Skills					
		Data Structure-II					
		Programming in C++-II					
		SEC II Network Security					
B.Sc.	F.Y.	AEC - A) English Communication	-	-	-	-	
		AEC - B) मराठी (Marathi)	✓	✓	✓		
		AEC - C) हिंदी (Hindi)					
		Environmental Studies	✓	✓	✓	✓	
	S.Y.	AEC - मराठी (Marathi)	✓	✓	✓		
		AEC - A) English Communication	-	-	-	-	
B.Sc./ B.A.	S.Y.	General Knowledge	-	-	✓	✓	

Syllabus change
(2020-21)

Syllabus
(2020-21)



Programme/ Scheme	Class	Name of the course	Cross Cutting Issues				Signature of Concerned Teacher/Co- ordinator/Head
			Professional ethics	Gender	Human Values	Environment and Sustainability	
B.Sc.	F.Y.	PHY-101 Basic Mechanics					
		PHY-102 Dynamics and Elasticity					
		PHY-201 Electricity and Electrostatics					
		PHY-202 Magnetism and Electromagnetism					
	S.Y.	PHY 301 Thermodynamics and Kinetic theory of gases					
		PHY 302(A) Electronics-I					
		PHY 304: (SEC) Renewable energy and Energy Harvesting				✓	
		PHY 401 Waves, Oscillations and acoustics					
		PHY 402 Optics and LASERS					
		PHY 404: (SEC) Electrical Circuits and Network Skills					
NSS (National Service Scheme)	F.Y./S.Y. B.A./B.Sc.	NA (Regular Activities)	-	✓	✓	✓	








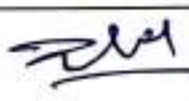


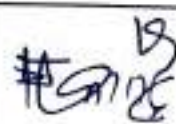
DB Chaudhary

(Dr. P. A. Savale)

Programme/ Scheme	Class	Name of the course	Cross Cutting Issues				Signature of Concerned Teacher/Co- ordinator/Head
			Professional ethics	Gender	Human Values	Environment and Sustainability	
B.Sc.	T.Y.	CS - 501 System Programming	-	-	-		
		CS - 502 Database Management System					
		CS - 503 Software Engineering					
		CS - 504 Computer Aided Graphics					
		(Skill Based) CS - 505 Python Programming - I					
		CS - 506 (B) Elective -B JAVA Programming-I					
		CS - Lab - 507 Lab on Python Programming - I					
		AC - 501 (C) Sports	✓	-	✓	-	
		CS - 601 Operating System					
		CS - 602 R -DBMS					
		CS - 603 Computer Network					
		CS - 604 Theoretical Computer Science					
		CS - 605 Python Programming - II					
		CS - 606 (B) Elective -B JAVA ProgrammingII					
		AC - 601 (A) Soft Skill					
		AC - 601 (B) Yoga	✓	-	✓	-	




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Programme/ Scheme	Class	Name of the course	Cross Cutting Issues				
			Professional ethics	Gender	Human Values	Environment and Sustainability	Signature of Concerned Teacher/Co- ordinator/Head
B.A.	F.Y.	MAR G - 111 (A) Vishishta Vangmay Prakaracha Abhyas- Katha	✓	✓	✓	✓	
		MAR G - 121 (A) Vishishta Vangmay Prakaracha Abhyas- Kavita	✓	✓	✓	✓	
	S.Y.	MAR-231 Vaicharik Gadyalekhanacha Abhyas	✓	✓	✓	✓	
		MAR 241 Charitra- Atmacharitra Lekhanacha Abhyas	✓	✓	✓	✓	
		MAR-232 Adhunik Vangmayparakar - Kadambari	✓	✓	✓	✓	
		MAR-242 Adhunik Vangmayparakar - Kavita	✓	✓	✓	✓	
		MAR-233 and MAR- 243 Sahityavichar (Bhartiya ani Pashchatya)			✓		
		MAR-234 and MAR- 244 SEC Lekhankaushalye					
		MAR 236 and MAR 246 MIL Mudrit Madhyamansathi Lekhan			✓		



Programme/ Scheme	Class	Name of the course	Cross Cutting Issues				Signature of Concerned Teacher/Co- ordinator/Head
			Professional ethics	Gender	Human Values	Environment and Sustainability	
B.A.	F.Y.	HIN A-1 : Hindi Kahani	✓	✓	✓		Phande
		HIN A-2 : Hindi Kavita	✓	✓	✓		
	S.Y.	Kavyashastra S1		✓	✓		
		Upanyas Vidha S2 (Samay Sargam)	✓		✓		
		Kathetar Gadya Vidhayen Gen	✓	✓	✓		
		Bhashik Sampreshan and Anuvad Vigyan SEC	✓	✓	✓		
		Lekhankaushalya Media Evam Sahitya (Laghukatha and Geet Naveet) MIL	✓	✓	✓	✓	
		Natak Vidha (Dharati Aba)		✓	✓		
		Shrshtha Hindi Ekanki GEN	✓	✓	✓		
	T.Y.	S3 Hindi Sahitya Ka Itihas	✓				
		S4 Hindi Bhasha Ka Vikas and Bhasha Vigyan	✓		✓		
		G3 Vishesh Vidha Yatra Sahitya and Bhartiya Santa Kavya	✓		✓		
		Hindi Ki Rashtriya Kavyadhara Generic	✓	✓	✓		
		Khandesh Ka Lok sahitya Generic			✓		
		Hindi Vyakaran Tatha Abhivyakati Kaushalya SEC	✓	✓	✓		
		Hindi Bhasha ka Manakikaran aur Ashudhhi shodhan SEC	✓		✓		
		Samapadan lekhan aur Sahitya (Mudrit Madhyam)	✓		✓	✓	
		Hindi Cinema aur Sahitya (Electronic Madhyam) MIL	✓	✓	✓		Phande



Programme/ Scheme	Class	Name of the course	Cross Cutting Issues				Signature of Concerned Teacher/Co- ordinator/Head
			Professional ethics	Gender	Human Values	Environment and Sustainability	
B.A.	F.Y.	ECO-101 and 201 Principles of Micro Economics –I and II			✓		
	S.Y.	ECO 231 and 241 - Indian Economy since 1980-I and II		✓	✓	✓	
		ECO 232 and 242 Agricultural Economics-I and II	✓		✓	✓	
		ECO 233 and 243 Advanced Macro Economics-I and II	✓				
		ECO 234 and 244 SEC Research Methodology for Economics-I and II					
	T.Y.	Eco-351 and 361 Indian Economy Since 1980 –III and IV			✓	✓	Kunte
		Eco-352 and 362 Economics of Public Finance –I and II			✓		
		Eco-353 and 363 Theory of International Trade and Practices-I and II					
		SEC Eco-354 Modern Banking					
		SEC Eco-364 Indian Financial Market					
		GE Eco-355 and 365 Indian Economic Environment- I and II				✓	



Programme/ Scheme	Class	Name of the course	Cross Cutting Issues				Signature of Concerned Teacher/Co- ordinator/Head
			Professional ethics	Gender	Human Values	Environment and Sustainability	
B.A.	F.Y.	POL - G 101 - A - Indian Constitution		✓	✓		Pratik Mule
		POL - G - 201 - B - Indian Government		✓	✓		Pratik Mule
	S.Y.	Pol -232 A Reading Mahatma Gandhi		✓	✓	✓	Pratik Mule
		Pol-242 B – Reading Dr. Ambedkar		✓	✓		Pratik Mule
		Pol-231 Introduction to Administration of Maharashtra					Pratik Mule
		Pol-241 Introduction to Local & District Administration of Maharashtra					Pratik Mule
		SEC- 1 Research Methodology in Political Science					Pratik Mule
		SEC – 2 Election Management		✓	✓		Pratik Mule
		Western Political Thinker Part – I and II					Pratik Mule
		Political Sociology Part – I and II					Pratik Mule
	T.Y.	Indian Political Thinker Part – I and II ✓		✓	✓		Pratik Mule
		SEC Journalism and Mass Communication					Pratik Mule
		SEC Political Journalism					Pratik Mule
		GE 1 A Indian Civil Services		✓			Pratik Mule
		GE 1 B Management and Good Governance					Pratik Mule



Programme/ Scheme	Class	Name of the course	Cross Cutting Issues				Signature of Concerned Teacher/Co- ordinator/Head
			Professional ethics	Gender	Human Values	Environment and Sustainability	
B.A.	T.Y.	Ekankika Lekhanacha Abhyas	✓	✓	✓	✓	#Gh
		Lalit Gadya Lekhanacha Abhyas	✓	✓	✓	✓	#Gh
		Madhyayugin Vandmayacha Itihas A and B			✓		#Gh
		Marathicha Bhashik Abhyas A and B					#Gh
		Marathi Lokrang Bhumi A and B	✓	✓	✓	✓	#Gh
		Madhyamansathi Lekhan Va Sanvad MIL					#Gh
		SEC Lekhan Kaushalya					#Gh
	F.Y.	Compulsory English			4		#Gh
	S.Y.	Compulsory English				-	#Gh
	T.Y.	Developing Communication Skills			+	+	#Gh
	F.Y.	HISTORY OF INDIA (1857-1950)	✓	✓	✓		#Gh
	S.Y.	HIS231 and HIS241 History of the Marathas (A.D. 1605 - A.D. 1750)			✓		#Gh
	T.Y.	HIS 351 History of Modern Europe (AD 1781 - AD 1913)			✓		#Gh
		HIS 361 History of Modern Europe (AD 1914 - AD 1945)			✓		#Gh
		SEC HIS 354 Travel and Tourism in India	✓				#Gh
		SEC HIS 364 An Introduction to Museums in India	✓				#Gh





॥ अंतरी पेटवू ज्ञानज्योत ॥

कवयित्री बहिणाबाई चौधरी उत्तर महाराष्ट्र विद्यापीठ, जळगाव

Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon

अभ्यास मंडळ विभाग

जा.क्र. : उमवि/२१/Environmental Studies/५२७/२०१८

दिनांक:- २२/११/२०१८

प्रति,

क.ब.चौ.उमविशी संलग्न सर्व महाविद्यालयांचे मा.प्राचार्य
व मान्यता प्राप्त परिसंस्थांचे मा. संचालक आणि
मा.विभाग प्रमुख विद्यापीठ शैक्षणिक प्रशाळा / विभाग यांना...

विषय :- Environmental Studies या विषयाचे अभ्यासक्रमा संदर्भात.

महोदय / महोदया,

उपरोक्त विषयांस अनुसरून आपणांस कळविण्यात येते की, मा.सर्वोच्च न्यायालयाचे निर्णयानुसार पर्यावरण संतुलन राखण्यासाठी प्रथम वर्षास प्रवेशित विद्यार्थ्यांसाठी सहा महिन्यांचा पर्यावरणशास्त्र विषयाचा अभ्यासक्रम जून, २००४ पासून सर्व विद्याशाखांमध्ये समाविष्ट करण्यात आलेला आहे.

शैक्षणिक वर्ष २०१८-१९ पासून प्रथम वर्ष कला विज्ञान व वाणिज्य वर्गांना Choice Based Credit System लागू करण्यात आलेली असल्याने Environmental Studies या विषयाचा अभ्यासक्रम Ability Enhancement Course अंतर्गत Choice Based Credit System प्रमाणे तयार करणेसाठी नियुक्त समितीच्या सभेत Environmental Studies विषयाच्या गुणांची विभागणी (Marks Pattern) देखील ६०:४० प्रमाणे करण्यात यावी, व गुणांकन (Marks Pattern) पुढील प्रमाणे करण्यात यावे, असे ठरले आहे.

लेखी परीक्षा (Theory)

६० गुण

अंतर्गत (Internal) परीक्षा फिल्ड वर्क / व्हायवा

४० गुण

एकूण १०० गुण

अंतर्गत ४० गुणांची विभागणी पुढील प्रमाणे करण्यात यावी.

उपस्थिती (Attendance)

०५ गुण

वर्तणूक (Behaviour)

०५ गुण

व्हायवा (Viva-voce)

१० गुण

फिल्ड वर्क (Report of field Work)

२० गुण

४० गुण

त्याअनुषंगाने Environmental Studies या विषयाचा अभ्यासक्रम विद्यापीठ अनुदान आयोगाने दिलेला असून तो जसाचे तसा लागू करण्यात आलेला असल्याने अभ्यासक्रमात बदल न करता अभ्यासक्रम तोच ठेवण्यात आला आहे. सदरचा अभ्यासक्रम उमविच्या संकेत स्थळावर अपलोड करण्यात आला आहे. तरी वरील आशय सर्व संबंधित प्राध्यापक व विद्यार्थी यांचे निदर्शनास आणून देवून पुढील योग्य ती कार्यवाही करून विद्यापीठास सहकार्य करावे, ही विनंती.

म.कळावे,

आपला विश्वासू,


(ए.सी.मनारे)

उपकुलसचिव

अभ्यास मंडळ विभाग

☎ : (९१) ०२५७- २२५७२९४, २९७

फॅक्स : (९१) ०२५७- २२५८४०६

वेबसाईट : www.nmu.ac.in

ई-मेल : acmanore@nmua.ac.in

**Six Months Module Syllabus
for
Environmental Studies
for
Under Graduate Courses**



UNIVERSITY GRANTS COMMISSION

**BAHADURSHAH ZAFAR MARG
NEW DELHI- 110 002**

2003

CORE MODULE SYLLABUS FOR ENVIRONMENTAL STUDIES
FOR UNDER GRADUATE COURSES OF ALL BRANCHES
OF HIGHER EDUCATION

Vision

The importance of environmental science and environmental studies cannot be disputed. The need for sustainable development is a key to the future of mankind. Continuing problems of pollution, loss of forest, solid waste disposal, degradation of environment, issues like economic productivity and national security, Global warming, the depletion of ozone layer and loss of biodiversity have made everyone aware of environmental issues. The United Nations Conference on Environment and Development held in Rio de Janeiro in 1992 and World Summit on Sustainable Development at Johannesburg in 2002 have drawn the attention of people around the globe to the deteriorating condition of our environment. It is clear that no citizen of the earth can afford to be ignorant of environment issues. Environmental management has captured the attention of health care managers. Managing environmental hazards has become very important.

Human beings have been interested in ecology since the beginning of civilization. Even our ancient scriptures have emphasized about practices and values of environmental conservation. It is now even more critical than ever before for mankind as a whole to have a clear understanding of environmental concerns and to follow sustainable development practices.

India is rich in biodiversity which provides various resources for people. It is also basis for biotechnology.

Only about 1.7 million living organisms have been described and named globally. Still many more remain to be identified and described. Attempts are made to

conserve them in ex-situ and in-situ situations. Intellectual property rights (IPRs) have become important in a biodiversity-rich country like India to protect microbes, plants and animals that have useful genetic properties. Destruction of habitats, over-use of energy resource and environmental pollution have been found to be responsible for the loss of a large number of life-forms. It is feared that a large proportion of life on earth may get wiped out in the near future.

In spite of the deteriorating status of the environment, study of environment has so far not received adequate attention in our academic programmes. Recognizing this, the Hon'ble Supreme Court directed the UGC to introduce a basic course on environment at every level in college education. Accordingly, the matter was considered by UGC and it was decided that a six months compulsory core module course in environmental studies may be prepared and compulsorily implemented in all the University/Colleges of India.

The experts committee appointed by the UGC has looked into all the pertinent questions, issues and other relevant matters. This was followed by framing of the core module syllabus for environmental studies for undergraduate courses of all branches of Higher Education. We are deeply conscious that there are bound to be gaps between the ideal and real. Genuine endeavour is required to minimize the gaps by intellectual and material inputs. The success of this course will depend on the initiative and drive of the teachers and the receptive students.

SYLLABUS

Unit 1 : Multidisciplinary nature of environmental studies

Definition, scope and importance

(2 lectures)

Need for public awareness.

Unit 2 : Natural Resources :

Renewable and non-renewable resources :

Natural resources and associated problems.

- a) Forest resources : Use and over-exploitation, deforestation, case studies.
Timber extraction, mining, dams and their effects on forest and tribal people.
 - b) Water resources : Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dams-benefits and problems.
 - c) Mineral resources : Use and exploitation, environmental effects of extracting and using mineral resources, case studies.
 - d) Food resources : World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity, case studies.
 - e) Energy resources : Growing energy needs, renewable and non renewable energy sources, use of alternate energy sources. Case studies.
 - f) Land resources : Land as a resource, land degradation, man induced landslides, soil erosion and desertification.
- Role of an individual in conservation of natural resources.
 - Equitable use of resources for sustainable lifestyles.

(8 lectures)

Unit 3 : Ecosystems

- Concept of an ecosystem.

- Structure and function of an ecosystem.
- Producers, consumers and decomposers.
- Energy flow in the ecosystem.
- Ecological succession.
- Food chains, food webs and ecological pyramids.
- Introduction, types, characteristic features, structure and function of the

following ecosystem :-

- a. Forest ecosystem
- b. Grassland ecosystem
- c. Desert ecosystem
- d. Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries)

(6 lectures)

Unit 4 : Biodiversity and its conservation

- Introduction – Definition : genetic, species and ecosystem diversity.
- Biogeographical classification of India
- Value of biodiversity : consumptive use, productive use, social, ethical, aesthetic and option values
- Biodiversity at global, National and local levels.
- India as a mega-diversity nation

- Hot-spots of biodiversity.
- Threats to biodiversity : habitat loss, poaching of wildlife, man-wildlife conflicts.
- Endangered and endemic species of India
- Conservation of biodiversity : In-situ and Ex-situ conservation of biodiversity.

(8 lectures)

Unit 5 : Environmental Pollution

Definition

- Cause, effects and control measures of :-
 - a. Air pollution
 - b. Water pollution
 - c. Soil pollution
 - d. Marine pollution
 - e. Noise pollution
 - f. Thermal pollution
 - g. Nuclear hazards
- Solid waste Management : Causes, effects and control measures of urban and industrial wastes.
- Role of an individual in prevention of pollution.
- Pollution case studies.
- Disaster management : floods, earthquake, cyclone and landslides.

(8 lectures)

Unit 6 : Social Issues and the Environment

- From Unsustainable to Sustainable development
- Urban problems related to energy
- Water conservation, rain water harvesting, watershed management
- Resettlement and rehabilitation of people; its problems and concerns. Case Studies
- Environmental ethics : Issues and possible solutions.
- Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust. Case Studies.
- Wasteland reclamation.
- Consumerism and waste products.
- Environment Protection Act.
- Air (Prevention and Control of Pollution) Act.
- Water (Prevention and control of Pollution) Act
- Wildlife Protection Act
- Forest Conservation Act
- Issues involved in enforcement of environmental legislation.
- Public awareness.

(7 lectures)

Unit 7 : Human Population and the Environment

- Population growth, variation among nations.
- Population explosion – Family Welfare Programme.

- Environment and human health.
- Human Rights.
- Value Education.
- HIV/AIDS.
- Women and Child Welfare.
- Role of Information Technology in Environment and human health.
- Case Studies.

(6 lectures)

Unit 8 : Field work

- Visit to a local area to document environmental assets-
river/forest/grassland/hill/mountain
- Visit to a local polluted site-Urban/Rural/Industrial/Agricultural
- Study of common plants, insects, birds.
- Study of simple ecosystems-pond, river, hill slopes, etc. (Field work Equal to 5
lecture hours)

Photo Proofs of Environmental Awareness Related Activities:

1) Environmental Awareness Rally of NSS Students



2) Making of Bird Water Feeder by Zoology Department

