

तार : विश्वविद्यालय
Gram : UNIVERSITY



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बुन्देलखण्ड विश्वविद्यालय, झाँसी BUNDELKHAND UNIVERSITY, JHANSI

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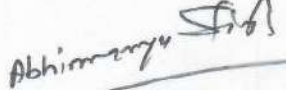
संदर्भ...BU/Env.Sc/2022-1058

दिनांक...2/12/2022

The Minutes of Meeting of BOS

In reference to the BOS of department of Environmental
Science....., Institute of Environment and
Development Studies..... held on 14/6/2022 regarding the
revision of syllabus in tune with CBCS/NEP-2020 and subsequent
approval from Academic Council. This is to certify that the syllabus is
100% revised.


Registrar
Bundelkhand University
JHANSI


For HOD/Coordinator
Dr. Adhishankar Singh
Co-ordinator
Institute of Environmental Science
Bundelkhand University, Jhansi (U.P.)

INSTITUTE OF ENVIRONMENT AND DEVELOPMENT STUDIES
BUNDELKHAND UNIVERSITY, JHANSI

Minutes of Board of Studies Meeting for the session 2021 – 22

According to the letter no. BU/Acad./2022/6310-6350 dt. 09.06.2022, the Board of Studies meeting of Institute of Environment and Development Studies, B.U. Jhansi was held on 14.06.2022 regarding the modification and upgradation of syllabus of the courses B.Sc. (Hons.) Environmental Science, M.Sc. Environmental Science and Post Graduation Diploma in Environmental Management (PGDEM) in the meeting hall of VC Committee room. In this meeting following members were present:

1. Dr. Vinit Kumar, *Convener, BoS, IE DS*
2. Dr. Smriti Tripathi, *Coordinator, IE DS*
3. Dr. A.K. Giri, *Member*
4. Dr. Abhimanyu Singh, *Member*
5. Dr. Amit Pal, *Member*
6. Dr. Sandeep Arya, *Member*
7. Prof. R.P. Singh, *External Expert*
8. Dr. Sanjay Singh, *External Expert*
9. Prof. N.C. Gautam, *External Expert*
10. Prof. Kusum Arunachalam, *External Expert*

In this meeting held on 14.06.2022 the upgradation and minor syllabus revision of B.Sc. (Hons.) Environmental Science, M.Sc. Environmental Science and Post Graduation Diploma in Environmental Management (PGDEM) was discussed and implemented. The expert panel list for examination of the session 2022 -23 was also finalized in this meeting. Implementation of New Education Policy (NEP) at (UG and PG) level for the academic session 2022 – 23 is also accepted in this BoS meeting.



Co-ordinator
Institute of Environment & Development Studies
Bundelkhand University, JHANSI (U.P.)

Dr. Smriti Tripathi
Coordinator, IE DS
BU, Jhansi

**Institute of Environment and Development Studies
Bundelkhand University, Jhansi**

Syllabus

P G DIPLOMA IN ENVIRONMENTAL MANAGEMENT

Program Educational Objectives (PEOs)	
PEO1	To support a holistic approach to the protection of the environment in the context of sustainable development goals.
PEO2	Identifying a strengthening initiatives that help improve people's quality of life and transforming aspirations into reality.
PEO3	Make students understand the importance of environmental protection and sustainable development goals for inclusive societies and vibrant economies.
PEO4	To inspire students to take action at local, national and international levels to achieve sustainable development goals.

PROGRAMME SPECIFIC OUTCOMES (PSOs)	
<p>The programme specified outcomes (PSOs) are a list of competencies and abilities that specify the skills and abilities that a post-graduate will possess at the program's conclusion.</p> <p>Students who successfully complete the M.Sc. in Environmental Sciences will be able to</p>	
PSO1	Student Developed relevant skills and in-depth knowledge of the environment and understand the fundamentals of environment.
PSO2	To be able to build analytical capabilities as well as to use statistical techniques, ICT and instrumentation techniques for the collection and analysis of scientific data and environmental analysis.
PSO3	Learning ability to plan and execute environmental initiatives, prepare scientific reports, communicate research findings and contribute to the management of the environment.
PSO4	The capacity to use experimentally based environmental strategies and methodologies and scientific knowledge to address environmental pollution issues and promote sustainable development.
PSO5	Students also having the immense opportunities to pursue higher studies in various research fields such as environmental pollution, environmental chemistry, waste management and bioremediation, environmental microbiology, waste water treatment, recycle, reuse and management, sustainable environmental food security, bio-resource utilization and biodiversity conservation, functional and ecosystem ecology, environmental toxicology, agro-waste ecosystem.

Programme/Class: Diploma		Year: First	Semester: First
Theory		Subject: Post Graduate Diploma in Environmental Management	
Course Code: PGDEM – 101 (1981)		Course Title: Integrated Environmental Management	
<p>Course outcomes: After completing the course the student will be able to:</p> <ul style="list-style-type: none"> • Learn basic concept of environmental management system. • Develop understanding about role of IT in environment management • Gain knowledge about Environment policy. 			
Max. Marks: 100		Compulsory	
Max. Marks: 25+75		Min. Passing Marks: As per norms.	
Unit	Topic		No. of Lectures
I	Overview of Environmental scenario in India. Environmental Management System – Standard; impact on Social, Economic, Political, Cultural, Legal, Constitutional Sub-system of Environment and their impact on Business Technology and Environment. Carbon foot print		20
II	Role of information Technology and Environmental Management; Specific websites related to Environmental Management; Participatory process Management.		18
III	Environmental Policy and its need; Environmental Equity; Environmental Justice; People’s Movements and NGO’s in India.		12

Programme/Class: Diploma		Year: First	Semester: First
Theory		Subject: Post Graduate Diploma in Environmental Management	
Course Code: PGDEM – 102 (1982)		Course Title: Sustainable Management of Solid Waste	
<p>Course outcomes: After completing the course the student will be able to:</p> <ul style="list-style-type: none"> • Learn about solid waste. • Developing understanding about physical and chemical characteristics of solid waste. • Understand about concept of wealth from waste. 			
Max. Marks: 100		Compulsory	
Max. Marks: 25+75		Min. Passing Marks: As per norms.	
Unit	Topic		No. of Lectures
I	Sources and effects of Solid Waste; Classification of Hazardous solid wastes; Identification of Biomedical waste; Generation and Identification of toxic components of E - waste		20
II	Physical and chemical characteristics of solid waste; Integrated Waste Management (IWM); Concept and Advantages of 3 'R' rule; Concept of Industrial Ecosystem; demanufacturing of E – waste; Processing, Storage and treatment of solid waste.		20
III	Concept of wealth from waste; composting and vermicomposting of solid wastes; Pyrolysis products of solid wastes; Fuel pellets; Waste to energy incinerators; landfill disposal of solid wastes.		10

Programme/Class: Diploma		Year: First	Semester: First
Theory		Subject: Post Graduate Diploma in Environmental Management	
Course Code: PGDEM – 103 (1983)		Course Title: Natural Resource – Conservation and Management	
<p>Course outcomes: After completing the course the student will be able to:</p> <ul style="list-style-type: none"> • Understand about biodiversity. • Learn about the resource depletion. • Gain knowledge about the resource management. 			
Max. Marks: 100		Compulsory	
Max. Marks: 25+75		Min. Passing Marks: As per norms.	
Unit	Topic		No. of Lectures
I	Biodiversity – National / International status, conservation: Forest management and conservation; Importance of wildlife; common flora and fauna in India; Protected areas; Legislative measures for conservation of biological resources.		18
II	Resources –Depletion of natural recourses; Water resources and environment; Sustainable management of Land resources; Mineral resources and reserves – Environmental impact.Problems and solutions of resources for sustainable life style; Resettlement and rehabilitation of people.		18
III	Resource Management – Preservation, Conservation and Restoration; Resource economics; Jobs and life in a sustainable world; The human population challenge (Earth’s carrying capacity); Environmental ethics, issues and possible solutions.		12

Programme/Class: Diploma		Year: First	Semester: First
Theory		Subject: Post Graduate Diploma in Environmental Management	
Course Code: PGDEM – 104 (1984)		Course Title: Environmental Pollution and Management	
<p>Course outcomes: After completing the course the student will be able to:</p> <ul style="list-style-type: none"> • Understand about the effects of air pollution. • Learn about the causes of water pollution. • Understanding about the noise pollution. 			
Max. Marks: 100		Compulsory	
Max. Marks: 25+75		Min. Passing Marks: As per norms.	
Unit	Topic		No. of Lectures
I	Sources and effects of air pollution; Air Pollution episodes; Air pollution control and management; Air quality monitoring.		14
II	Causes and effects of water pollution; Control measures for water pollution; Ground water contamination; Thermal pollution.		14
III	Noise Pollution: Sources and effects of noise pollution; Noise prevention; control measures and standards. Hazardous analysis and critical control points (HACCP), certification – ISO series, IPR copy right.		22

Programme/Class: Diploma		Year: First	Semester: First
Theory		Subject: Post Graduate Diploma in Environmental Management	
Course Code: PGDEM - 105 (1985)		Course Title: Environmental Awareness and Sustainable Development	
<p>Course outcomes: After completing the course the student will be able to:</p> <ul style="list-style-type: none"> • Understand about the ecological foot prints. • Learn about the environment and human health. • Understanding about the unsustainable to sustainable development. 			
Max. Marks: 100		Compulsory	
Max. Marks: 25+75		Min. Passing Marks: As per norms.	
Unit	Topic		No. of Lectures
I	Public awareness for friendly environment; Maintenance of un-balance ecosystem; Measures of reclaimed the wasteland; Social security awareness program; Eco- Mark; Eco-labeling and Ecological foot-prints.		18
II	Environment and Human Health; Environmental Effects of Petro-chemical industries; Thermal Power Plants; Industrial waste; Social impact of large scale mining complex; Green House Effect and Global Warming; Total Quality Management (TQM).		18
III	Un – Sustainable to Sustainable Development; Objectives; Challenges and “No growth to unlimited Growth Scale”; Urban Solid waste; Pollution control by Anti Pollution laws.		14

Programme/Class: Diploma		Year: First	Semester: First
Theory		Subject: Post Graduate Diploma in Environmental Management	
Course Code: PGDEM - 106 (1986)		Course Title: Disaster Management	
<p>Course outcomes: After completing the course the student will be able to:</p> <ul style="list-style-type: none"> • Understand about the disaster and hazards. • Learn about the disaster mapping. • Understanding about the disaster management bill 2005. 			
Max. Marks: 100		Compulsory	
Max. Marks: 25+75		Min. Passing Marks: As per norms.	
Unit	Topic		No. of Lectures
I	Understanding of disaster and hazards; disaster profile of India (earthquake, Tsunami, landslides, flood and cyclone); causes and consequences of disaster.		18
II	Natural disaster preparedness; Disaster mapping, predictability, forecasting and warning; Land use zoning for disaster management; Government role in Disaster Management.		18
III	Institutional framework for disaster management; Evaluation of risk for natural and manmade disasters; On-site and Off-site planning for industrial risk assessment; Disaster Management Bill (2005)		14

Programme/Class: Diploma		Year: First	Semester: First
Theory		Subject: Post Graduate Diploma in Environmental Management	
Course Code: PGDEM - 107 (1987)		Course Title: Environmental Management Practical/ Seminar/ Field Study	
<p>Course outcomes: After completing the course the student will be able to:</p> <ul style="list-style-type: none"> • Understand about the practical analytical work. • Learn about the environment seminar preparation. • Understanding about the environment report presentation. 			
Max. Marks: 100		Compulsory	
Max. Marks: 25+75		Min. Passing Marks: As per norms.	
Unit	Topic		No. of Lectures
I	<ul style="list-style-type: none"> • The seminar based on prescribed syllabus or present scenario of the environment would be conducted in the department. • Practical – analytical work on Air, Water, Soil, Plant samples etc. in lab. • In each semester candidate shall appear at least one seminar before examination related to his / her syllabus. . 		---

Programme/Class: Diploma	Year: First	Semester: Second
Dissertation	Subject: Post Graduate Diploma in Environmental Management	
Course Code: PGDEM - 108	Course Title: Project Work	
Max. Marks: 300	Compulsory	
	Min. Passing Marks: As per norms.	
<p>Course outcome</p> <ul style="list-style-type: none"> • To be able to build analytical capabilities as well as to use statistical techniques, ICT and instrumentation techniques for the collection and analysis of scientific data and environmental analysis. • Learning ability to plan and execute environmental initiatives, prepare scientific reports, communicate research findings and contribute to the management of the environment. • The capacity to use experimentally based environmental strategies and methodologies and scientific knowledge to address environmental pollution issues and promote sustainable development. 		