



# UNIVERSITY OF JAMMU

(NAAC ACCREDITED 'A ++' GRADE' UNIVERSITY)  
Baba Sahib Ambedkar Road, Jammu-180006 (J&K)

Academic Section

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## NOTIFICATION

(25/July/Adp./23)

It is hereby notified for the information of all concerned that the Vice-Chancellor, in anticipation of the approval of the Academic Council, is pleased to authorize the following: -

1. Introduction of two value added courses of Environmental Sciences of 2 credits each as compulsory courses for semester I and II in the **Four Year Under Graduate Programme (FYUGP)** as per NEP – 2020 from the academic session 2025-2026 as per details given below:

Semester	Title of the course	Type of course	Course No.	Credits
I	Environmental Education –I	Value added course (VAC)	UVAEVT105	2-Credits
II	Environmental Education–II	Value added course (VAC)	UVAEVT205	2-Credits

2. Adoption of Syllabi and Courses of Studies of two value added courses of Environmental Sciences of 2 credits each as compulsory courses for semester I and II in the **Four Year Under Graduate Programme (FYUGP)** as per NEP – 2020 for the examinations to be held in the years as mentioned below:-

Course	Semester	Course No.	For the examinations to be held in the year
Environmental Education-I	Semester-I	UVAEVT105	December 2025, 2026 and 2027
Environmental Education-II	Semester-II	UVAEVT205	May 2026, 2027 and 2028

The Syllabi of the courses is also available on the University website: [www.jammuuniversity.ac.in](http://www.jammuuniversity.ac.in)

Anji Sharma  
DEAN ACADEMIC AFFAIRS  
No. F. Acd/II/25/  
Dated: 01/07/25 5155-5215 30/7/25

Copy for information and necessary action to:

1. Dean, Faculty of Life Science.
2. Convener, Board of Studies in Environmental Science.
3. Sr. P.A. to the Controller of Examinations/Director CDC.
4. Director, Centre for IT Enabled services and Management, University of Jammu for information and for uploading on University Website.
5. All members of the Board of Studies.
6. All the Principals of affiliated Degree Colleges.
7. Joint Registrar (Evaluation/P.G. Exam.)
8. I/C Director, Computer Centre, University of Jammu

**UNIVERSITY OF JAMMU**  
**Syllabus for FYUGP in ENVIRONMENTAL SCIENCES**  
**(Under CBCS as per NEP-2020)**

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**UNIVERSITY OF JAMMU**  
Following Courses of Study are prescribed for  
**1<sup>st</sup> and 2<sup>nd</sup> Semester**  
**FYUGP in the subject of ENVIRONMENTAL SCIENCES**  
**Under CBCS as per National Education Policy 2020**

**SEMESTER-1<sup>st</sup> and 2<sup>nd</sup>**

S. No.	TYPE OF THE COURSE	TITLE OF THE COURSE	COURSE NO.	CREDITS T-Teaching P-Practical
1.	VALUE ADDED COURSE (VAC)	ENVIRONMENTAL EDUCATION-I	UVAEVT105	2-Credits
2.	VALUE ADDED COURSE (VAC)	ENVIRONMENTAL EDUCATION-II	UVAEVT205	2-Credits

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**Syllabus for FYUGP in ENVIRONMENTAL SCIENCES**  
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**UG SEMESTER-1**

Syllabus for FYUGP as per NEP-2020

Course Title: Environmental Education-I

VALUE ADDED COURSE (VAC)

Examinations to be held in December 2025, 2026, 2027

Credits 2

Max. Marks: 50

Mid Semester Test: 10 marks

Duration of Examination: 1 hour

Course Code: UVAEVT105

No. of Lectures: 30

End Semester Exam: 40 marks

Duration of Examination: 2.5 hours

**Learning Objectives:**

The course attempts to create pro-environmental attitude and behavioral pattern in student community and society to create sustainable lifestyle through optimal utilization of natural resources and awareness on various environmental issues.

**Learning Outcomes:**

The students shall be able to

- understand and appreciate the historical context of human interactions with the environment.
- identify types of natural resources, their socio-cultural, economic and environmental relevance.
- identify the major environmental pollutants and other human-induced interferences resulting into biodiversity loss, ecosystem degradation and human health risks.

**UNIT 1: HUMANS AND THE ENVIRONMENT**

- 1.1. Human–environment interactions: historical and contemporary relationships
- 1.2. Origin of agriculture and evolution of human civilizations
- 1.3. Industrial revolution, population explosion, natural resource exploitation: their impact on natural resources
- 1.4. Perspectives on environmental conservation: Anthropocentric vs. Ecocentric
- 1.5. Indigenous knowledge, sustainability and environmental conservation

**UNIT 2: NATURAL RESOURCES AND BIODIVERSITY CONSERVATION**

- 2.1 Concept and classification of natural resources: biotic and abiotic; renewable and non-renewable resources
- 2.2 Water resources: types, availability, issues and challenges. Water conflicts
- 2.3 Soil and mineral resources: distribution, degradation, and conservation measures
- 2.4 Energy resources: types, and implications of energy use on the environment
- 2.5 Biodiversity and wildlife conservation: concept, types, hotspots, major threats, and conservation strategies

**UNIT 3: ENVIRONMENTAL POLLUTION AND HEALTH**

- 3.1 Water pollution: sources, types, and impacts; mitigation strategies
- 3.2 Land and agricultural pollution: causes, consequences, and control measures
- 3.3 Air pollution: classification and health impacts of air pollutants, Indoor air pollution
- 3.4 Noise pollution, solid waste, and e-waste: sources and impacts
- 3.5 Thermal and radioactive pollution: causes and effects on ecosystems and human health

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**Syllabus for FYUGP in ENVIRONMENTAL SCIENCES**  
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**UG SEMESTER-1**

**Syllabus for FYUGP as per NEP-2020**

**Course Title: Environmental Education-I**

**VALUE ADDED COURSE (VAC)**

**Examinations to be held in December 2025, 2026, 2027**

**Credits 2**

**Max. Marks: 50**

**Mid Semester Test: 10 marks**

**Duration of Examination: 1 hour**

**Course Code: UVAEVT105**

**No. of Lectures: 30**

**End Semester Exam: 40 marks**

**Duration of Examination: 2.5 hours**

**SUGGESTED READINGS:**

1. Ahluwalia, V. K. (2015). Environmental Pollution, and Health. The Energy and Resources Institute (TERI).
2. Bhagwat, S. (Editor) (2018). Conservation and Development in India: Reimagining Wilderness, Earthscan Conservation and Development, Routledge.
3. Central Pollution Control Board. (2024). Web page for various pollution standards. <https://cpcb.nic.in/standards/>.
4. Fisher, Michael H. (2018). An Environmental History of India- From Earliest Times to the Twenty-First Century, Cambridge University Press.
5. Headrick, Daniel R. (2020). Humans versus Nature- A Global Environmental History, Oxford University Press.
6. John W. Twidell and Anthony D. (2015). Renewable Energy Sources, 3rd Edition, Weir Publisher (ELBS).
7. William P. Cunningham and Mary A. (2015). Cunningham Environmental Science: A Global Concern, Publisher (Mc-Graw Hill, USA).
8. Miller, G. T. and Spoolman, S. (2015). Environmental Science. Cengage Learning.
9. Sinha, N. (2020). Wild and Wilful. Harper Collins, India.

**SCHEME OF EXAMINATION:**

The paper will be of fifty (50) marks comprising ten (10) marks for Mid Semester Test and forty (40) marks for End Semester Examination. The Mid Semester Test will consist of two (2) compulsory short answer type questions of two and half (2.5) marks each and one long answer type question of five (5) marks with internal choice. The responsibility of conducting and evaluating the Mid Semester Test is vested on the teacher designated as Course Coordinator. The End Semester Examination shall be conducted by the concerned University. The End Semester Examination will consist of two sections in question paper with the pattern as follows:

‘Section-A’ will consist of four (4) short answer type questions representing all units/syllabi i.e. at least one question from each unit. Each question shall be of 2.5 marks (**All compulsory**).

‘Section-B’ will consist of six (6) long answer type questions (**Three to be attempted, one from each unit**) representing whole of the syllabi i.e. two questions from each unit. Each question shall be of 10 marks.









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**UG SEMESTER-2**  
**Syllabus for FYUGP as per NEP-2020**  
**Course Title: Environmental Education-II**  
**VALUE ADDED COURSE (VAC)**  
**Examinations to be held in May 2026, 2027, 2028**

**Credits 2**  
**Max. Marks: 50**  
**Mid Semester Test: 10 marks**  
**Duration of Examination: 1 hour**

**Course Code: UVAEVT205**  
**No. of Lectures: 30**  
**End Semester Exam: 40 marks**  
**Duration of Examination: 2.5 hours**

**Learning Objectives:**

The course attempts to aware student about various global environmental issues and introduce them to the key efforts for environmental protection at national and international level.

**Learning Outcomes:**

**The students shall be able to:**

- acquire a comprehensive knowledge of climate change and global environmental issues.
- understand the relevance of national and international agreements and treaties to address climate change and other issues.
- learn about the major international organizations and programmes and their role in environmental protection.

**UNIT 1: CLIMATE CHANGE AND OTHER ENVIRONMENTAL ISSUES**

- 1.1 Environmental issues: global, regional, and local challenges and their interconnections
- 1.2 Ozone layer: depletion, international response, and signs of recovery
- 1.3 Global climate change: historical trends, current scenarios, and projections
- 1.4 Global warming and adaptation strategies
- 1.5 Ocean health: ocean acidification, oil spills, overfishing, and marine habitat degradation

**UNIT 2: ENVIRONMENTAL LEGISLATION, TREATIES AND MANAGEMENT**

- 2.1 Constitutional provisions for environmental protection in India: Article 48A and 51A(g)
- 2.2 Key environmental legislations in India, National Green Tribunal
- 2.3 Environmental Management Systems (EMS): ISO 14001 standards
- 2.4 Circular Economy, life cycle assessment, cost-benefit analysis
- 2.5 Environmental Audit and Impact Assessment: Concept of 3Rs (Reduce, Reuse, Recycle) and sustainability, Ecolabeling/Ecomark schemes

**UNIT 3: GLOBAL EFFORTS FOR ENVIRONMENTAL PROTECTION AND CASE STUDIES**

- 3.1 Stockholm Conference (1972), World Commission on Environment and Development (WCED, 1983), and the Earth Summit (1992)
- 3.2 Ramsar convention on wetlands (1972); Man and Biosphere (MAB) Programme
- 3.3 Convention on International Trade in Endangered Species (CITES, 1973), United Nations Convention to Combat Desertification (UNCCD, 1994)
- 3.4 Major international organizations and initiatives: UNEP, IUCN, UNESCO, IPCC
- 3.5 Case studies and Field visits/activities (one case study and one field visit from the given list)

**Case studies:**

- a) Documentation of campus biodiversity
- b) Inventorization of sustainability initiatives in your campus

**Field visits/activities:**

- a) Participation in plantation drive
- b) Participation in cleanliness drive

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**UG SEMESTER-2**

Syllabus for FYUGP as per NEP-2020

Course Title: Environmental Education-II

VALUE ADDED COURSE (VAC)

Examinations to be held in May 2026, 2027, 2028

Credits 2

Max. Marks: 50

Mid Semester Test: 10 marks

Duration of Examination: 1 hour

Course Code: UVAEVT205

No. of Lectures: 30

End Semester Exam: 40 marks

Duration of Examination: 2.5 hours

**SUGGESTED READINGS:**

1. Adenle A., Azadi H. and Arbiol J. (2015). Global assessment of technological innovation for climate change adaptation and mitigation in developing world, Journal of Environmental Management, 161 (15): 261-275.
2. Barnett J. and O'Neill, S. (2010). Maladaptation. Global Environmental Change—Human and Policy Dimensions 20: 211–213.
3. Berrang-Ford L., Ford J. D. and Paterson J. (2011). Are we adapting to climate change? Global Environmental Change—Human and Policy Dimensions 21: 25-33.
5. India Code. (2024). Digital repository of all Central and State Acts: <https://www.indiacode.nic.in/>
6. Kohli K. and Menon M. (2021). Development of Environment Laws in India, Cambridge University Press.
7. Ministry of Environment, Forests and Climate Change. (2019). A Handbook on International Environment Conventions & Programmes. <https://moef.gov.in/wp-content/uploads/2020/02/convention-V-16-CURVE-web.pdf>.
8. Richard A. Marcantonio, M. L. (2022). Environmental Management: Concepts and Practical Skills. Cambridge University Press.
9. Tiefenbacher J. (ed.) (2022). Environmental Management - Pollution, Habitat, Ecology, and Sustainability, Intech Open, London. 10.5772/.
10. United Nations Environment Programme (UNEP). (2007). Multilateral Environmental Agreement Negotiator's Handbook, University of Joensuu, ISBN 978-952-458-992-5.

**SCHEME OF EXAMINATION:**

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