

विभाग
पत्रावली सं०



टीपें एवं आख्या
Notes & Order

पृष्ठ सं० 28

The minutes of ROS conducted on 25.03.2023 are attached RHS at page no 370 to 371. Program project report of M.Sc. (Environmental Science), M.A. (Environmental Studies) and Syllabus of these programmes along with B.Sc. (Subject forestry) are attached. RHS of this file at page no 299 to 368. Same is to be approved. Also it is to be placed in academic council meeting.

Dr. H. C. Joshi
Program
Coordinator

Director (S.E.S.)

Forwarded

28.04.23

V.C. / Reg.

Put before AC/EC
Approved in anticipation

27/4/23

Reg.

27/4/23

कुलपति

28/4/23
कुलसचिव

Programme Project Report (PPR)

(As Per Annexure V of UGC Regulation 2020)

Name of Programme: M.Sc. (Environmental Science)

Programme Code: MSES23

Total Credits: 72

- i) **Programme mission and objectives:** The programme on Environmental Science is an interdisciplinary program that focuses on the state of the environment and serious environmental problems that the world faces. Through a series of academic courses, laboratory exercises and project/ dissertation activities, students will be able to learn about the human activities which adversely impact the environment and will also be able to develop critical thinking and problem-solving skills necessary to find out appropriate solutions for region specific local problems and global problems. The Environmental Program mission also supports the directive of hon'ble Supreme Court on the environmental education. Further, environmental protection, including forests, wildlife, lakes and rivers has been identified as '**Fundamental duty**' of every citizen through Indian Constitution through its 42nd amendment (Article 48-A and Article 58-A (g)).

After successful completion of the programme, the learners will be:

- well-equipped with latest knowledge, technologies, policies, legal initiatives and experience-based skills for enabling environment and sustainable development
- make a critical analysis of local, national, regional and global agendas and policies for environment in context of sustainable development,
- able to apply the principles of ecology, environmental science and tools of environmental management to design and develop a project or enterprise or extend consulting services
- to work in technical and/ or administrative fields related to environmental management, clean technologies, environmental laws and policies, and environmental communication

- ii) **Relevance of the program with HEIs Mission and Goals:** One of the mission of higher education particularly Open and Distance Learning Institutions is to provide greater opportunities of access to Higher Education with equity to all the eligible persons and in particular to the vulnerable sections. At present, there are very few Universities and colleges that provide Masters level education on environment. Therefore, majority of the aspirants remain devoid of environmental education at this level. Therefore, M.Sc. (Environmental Science) in ODL mode will provide opportunity to majority of the aspirants particularly residing in far flung remote areas and in particular to weaker and deprived sections of the society. Another mission of the Higher education Institutions is to initiate policies and programmes for strengthening research and innovations, and encourage institutions - public or private to engage in stretching the frontiers of knowledge. By bringing such an interdisciplinary programme in Open and Distance Learning mode will also help to achieve this mission.

- iii) **Nature of prospective target group of learners:**

- Environmental Studies is compulsory at School level and at Undergraduate level by hon'ble Supreme Court. At present teachers from life sciences are usually engaged as faculty with Masters degree in Environmental Science are meager. Therefore, learners who wish to take up teaching environmental studies at school level or at higher education level are targeted through this programme.
- Environment Science being a multidisciplinary subject has its usefulness and applicability in every sphere of life, society, culture and organization. Those learners who wish to opt career in Environment related Government organizations such as Ministry of Environment, Forests and Climate Change, State Forest Department, Forest Research Institute, Forest Management, Environmental Management etc. and or/ Non-Government organizations such as The Energy Resource Institute (TERI), World Wildlife Fund (WWF),

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International Union for Conservation of Natural Resources (IUCN), Food and Agriculture Organisation (FAO), International Fund for Agricultural Development (IFAD) and other Environmental Conservation and Sustainable development based organizations, will be the target group of learners. Further, consultants are required for Industrial audits and Environmental Impact assessments, etc. In addition to this, faculties are required to teach compulsory foundation course on Environmental Studies at Under Graduate level in conventional Universities and professional/ technical Universities or Colleges.

iv) **Appropriateness of programme to be conducted in Open and Distance Learning mode to acquire specific skills and competence:**

There are very few institutions/ Universities/ Colleges in India that impart Master level education on environment. Therefore, access to knowledge on the subject is not accessible easily to those aspirants who reside in far remote areas and those who belong to weaker and marginal sections of the society. Therefore, initiating such programme in Open and Distance Learning (ODL) mode will help aspirants particularly residing in far-flung areas and those who belong to weaker sections, to acquire skill and knowledge on the subject area. In order to communicate effectively with the learners University has adopted the following tools:

- self-instructional printed material
- audio / video cassettes and CDs
- audio-video programmes transmitted through FM Radio and EduSat
- face-to- face counselling at study centres by academic counselors
- reference library at study centre
- web based academic support
- assignments
- practical

v) **Instructional design**

a) **Curriculum design**

Programme Code: MSES-23

Total Credits: 72

COURSE CODE	TITLE OF THE COURSE	CREDITS	Total Marks (Th. / Assign.)
SEMESTER I			
CORE COURSES (Compulsory)			
ENS 501	Environment and Ecology	4	100 (70/30)
ENS 502	Land, Water and Bio-Resources	4	100 (70/30)
ENS 503	Energy Resources	4	100 (70/30)
ENS 504	Environmental Physics and Chemistry	4	100 (70/30)
ENS 521 (L)	Laboratory-cum-Field Studies I	4	100
SEMESTER II			
ENS 506	Environmental Pollution and Health	4	100 (70/30)
ENS 507	Environmental Planning, Policies and Acts	4	100 (70/30)
ENS 508	Environmental Economics and Sustainable Development	4	100 (70/30)
ENS 509	Environmental Impact Assessment and Environmental Auditing	4	100 (70/30)
ENS 522 (L)	Laboratory-cum-Field Studies II	4	100
SEMESTER III			
ENS 601	Atmosphere and Climate Change	4	100 (70/30)
ENS 602	Research Methodology for Environmental Studies	4	100 (70/30)
ENS 621 (L)	Laboratory-cum-Field Studies III	4	100
	Elective Course	4	100 (70/30)

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SEMESTER IV			
N.B.			
1. A learner has two options available in this semester - <u>Option A</u> OR <u>Option B</u> .			
2. <u>OPTION B</u> is available for only those learners who secure more than 75% marks in the first year (Semester I and II) of the programme.			
OPTION A			
ENS 622	Project Activity and Viva Voce	8	100
	Elective Course	4	100 (70/30)
	Elective Course	4	100 (70/30)
OPTION B			
ENS 623	Dissertation and Viva Voce	12	200
	Elective Course	4	100 (70/30)
LIST OF ELECTIVE COURSES			
ENSE 651	Eco-development and Eco-tourism	4	100 (70/30)
ENSE 652	Environmental Geology	4	100 (70/30)
ENSE 653	Environmental Microbiology and Biotechnology	4	100 (70/30)
ENSE 654	Ecophysiology and Ecotoxicology	4	100 (70/30)
ENSE 655	Clean Technologies	4	100 (70/30)
ENSE 656	RS, GIS and GPS: Basics and Applications	4	100 (70/30)
ENSE 657	Disaster management	4	100 (70/30)
ENSE 658	Occupational Health Hazards	4	100 (70/30)
ENSE 659	Hazardous Wastes and their Management	4	100 (70/30)
ENSE 660	Environmental Quality Management: Standards and Practices	4	100 (70/30)
ENSE 661	Waste Treatment Designs and Waste Utilization	4	100 (70/30)

Th. = Theory; Assign. = Assignment

b) Detailed Syllabus (Annexure II)

c) **Duration of the programme:** Minimum duration of programme is two (02) years and maximum duration four (04) years. ** The existing staff structure includes one (01) Director of School (SoES), one (01) Programme Coordinator (Assistant Professor) and two (02) Contractual Faculty (Assistant Professors).*

d) **Faculty and support staff requirement:** ** Five (05) faculty members are available in the Department of Forestry and Environmental Science, of which 03 Faculty members are Permanent whereas (One at Professor level and two at Assistant Professor level), two faculty members are working on contract (Assistant Professor level). Keeping in view the workload and smooth functioning of the Department there is an urgent need of one (01) Professor, one (01) Associate Professor and two (02) Assistant Professors at regular basis.*

e) **Instructional delivery mechanism:** The programme will be offered in the Open and Distance Learning (ODL) mode. Guided self-study using print (SLM) and electronic media; lecture/ counseling sessions; special counseling sessions and group interactions in Workshop at cluster level; debate on key environmental issues; self-reliant study activities; individual / group work assignment; through MOOC; Project work; Lab sessions and excursion. The delivery material will include printed SLM, assignment, Face to face counseling at the designated study centres during Saturday and Sundays. Laboratory workshop will be conducted for 10 days at designated Study Centres.

vi) Procedure for admission, curriculum transaction and evaluation

Eligibility: Bachelor of Science in any science subject discipline with minimum 40% at UG level.

Fee structure: Rs. 10000 per annum (Rs. 5000 per semester)

Evaluation norms: A learner will be evaluated through continuous evaluation (Assignments) and term end evaluation (Term end examination) at the end of semester. Continuous evaluation will carry 20% weightage whereas term end evaluation will carry 80% weightage

Annexure II
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- vii) **Requirement of the laboratory support and Library Resources:** In order to carry out laboratory exercises, laboratory is compulsory requirement of the programme and in order to meet this requirement, the laboratory facilities of study centres will be utilized. S/he will be provided laboratory manual as per the need of the programme. Similarly for library, a learner may utilize the resources available at the designated study centre.
- viii) **Cost estimates for development of the programme:** For own SLM development 12 Lakh will be required.
- ix) **Quality assurance mechanism and expected programme outcomes:** The programme will help in the development of professionally skilled and sound indigenous human capital with interdisciplinary perspective for services related to rural development, urban planning, sustainable development, natural resource management, biodiversity development, wasteland rehabilitation, disaster management and environmental management, in general, and in corporate sector, in particular.
- The programme will be implemented through only those Government Degree Colleges/ Universities / Institutions which have facilities for conducting laboratory counseling. In addition to this University will organize Laboratory workshop in designated places once (year/semester) for additional back up to the students so that competent and skilled human resource is produced. Further, the Programme and SLM developed will be continuously upgraded and necessarily be revised after a period of 5 years.

Programme outcomes

- Professionally- sound indigenous human capital with interdisciplinary perspective for services related to rural development, urban planning, sustainable development, natural resource management, biodiversity development, wasteland rehabilitation, disaster management and environmental management, in general, and in corporate sector, in particular
- Promotion of responsible consumerism from home to market, and holistic humanistic marketing and business
- Bridge the flow of information between civil society, professionals, corporates, and policy and decision-makers

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उत्तराखण्ड मुक्त विश्वविद्यालय हल्द्वानी



विद्या परिषद की 15वीं बैठक की कार्यसूची

स्थान : विश्वविद्यालय सभागार

दिनांक : 29 जुलाई, 2019 (सोमवार)

समय : प्रातः 11.30 बजे

प्रस्ताव संख्या 15.04- विश्वविद्यालय की विभिन्न विद्याशाखाओं के अन्तर्गत सम्पन्न अध्ययन बोर्डों (Board of Studies) की संस्तुतियों पर विचार एवं अनुमोदन हेतु प्रस्ताव।

विद्या परिषद की 12वीं बैठक दिनांक 28 सितम्बर, 2017 के उपरान्त विभिन्न विद्याशाखाओं के अन्तर्गत विभिन्न विषयों की सम्पन्न अध्ययन बोर्डों (Board of Studies) द्वारा वर्तमान तथा नवीन प्रस्तावित कार्यक्रमों पर विचार-विमर्श/संशोधन किया गया है, जिनका विवरण निम्नानुसार है:-

क्रम सं०	विद्या शाखा का नाम	विषय	पाठ्यक्रम का नाम	संलग्नक
1.	पत्रकारिता एवं मीडिया अध्ययन	पत्रकारिता एवं जनसंचार	1. पी0जी0 डिप्लोमा पाठ्यक्रमों में लघु शोध प्रबंध की जगह एक माह की इंटर्नशिप पर विचार। 2. एम0ए0 पाठ्यक्रमों के चौथे सेमेस्टर में लघु शोध प्रबंध का विस्तार। 3. डिप्लोमा और डिग्री कार्यक्रमों के Syllabus पर विचार। 4. रेडियो प्रोडक्शन एवं प्रजेंटेशन के डिप्लोमा के Syllabus पर विचार। 5. मीडिया लिटरेसी के Syllabus पर विचार। अध्ययन बोर्ड की संस्तुतियां कार्यवृत्त सहित अनुमोदनार्थ प्रस्तुत।	क
2.	मानविकी	संगीत	1. स्नातकोत्तर स्तर के पाठ्यक्रम में आवश्यक संशोधन किये गये हैं परन्तु संशोधित पाठ्यक्रम पूर्ण रूप से तैयार होने पर ही लागू किये जाने तथा सत्र 2019-20 में पूर्व के स्वीकृत पाठ्यक्रम संचालित किये जाने की संस्तुति। 2. संगीत विषय के स्नातकोत्तर स्तर के पाठ्यक्रम का नामकरण यू0जी0सी0 के दिशा-निर्देशानुसार एम0ए0 (संगीत) के स्थान पर एम0पी0ए0(संगीत) किये जाने एवं पाठ्यक्रम कोड एम0पी0ए0एम0-19 किये जाने पर सहमति। 3. प्रदर्शन कला में स्नातकोत्तर पाठ्यक्रम एम0पी0ए0एम0-19 के प्रश्न पत्रों के कोड का पुनर्निर्धारण एवं स्नातकोत्तर पाठ्यक्रम के	ख

		जन्तुविज्ञान	<p>1. Adoption of (M.Sc. Zoology) syllabus and SLM of Dr. B.R. Ambedkar Open University, Hyderabad for year 2019-20 (M.Sc.I) and 2020-21 (M.Sc. II) as such. After 2020-21 (M.Sc.I) onward, the semester mode syllabus and SLM for Master level developed by Uttarakhand Open University will be introduced.</p> <p>2. Approved the names of experts for both B.Sc. and M.Sc. programme.</p> <p>अध्ययन बोर्ड की संस्तुतियां कार्यवृत्त सहित अनुमोदनार्थ प्रस्तुत।</p>	ठ
8.	भौमिकी एवं पर्यावरण विज्ञान	वानिकी एवं पर्यावरण विज्ञान	<p>1. Adoption of M.Sc. (Environmental Science) syllabus and SLM of Dr. B.R. Ambedkar Open University, Hyderabad.</p> <p>2. Approval of Programme Project Report (PPR) as per UGC ODL Regulation 2017 and revision of in-house syllabus for M.Sc. (Environmental Science), M.Sc./ M.A. (Environmental Studies), M.Sc./M.A. (Environmental Management), P.G. Diploma (Environmental Studies), P.G. Diploma (Environmental Management).</p> <p>3. Revision of Forestry course syllabus under B.Sc. Programme.</p> <p>4. Proposal on Ph.D. (Environmental Studies) under Department of Forestry and Environmental Science as per UGC Regulations in regular mode.</p> <p>अध्ययन बोर्ड की संस्तुतियां कार्यवृत्त सहित अनुमोदनार्थ प्रस्तुत।</p>	ड
		आपदा प्रबंधन	<p>आपदा प्रबंधन में नवीन पाठ्यक्रमों की संस्तुति:-</p> <p>1. Certificate in Community Based Disaster Management.</p> <p>2. Diploma in Disaster Management.</p> <p>3. PG Diploma in Disaster Management.</p> <p>अध्ययन बोर्ड की संस्तुतियां कार्यवृत्त सहित अनुमोदनार्थ प्रस्तुत।</p>	द