

4Y B.Sc. (Honours) (Major in Environmental Science) {2025 Pattern} Programme

Minutes of the PAC Meeting held on 09.09.2024

Meeting No.: 02

Date: 09th September, 2024

Time: 03.00 to 5.30pm

The PAC Meeting for 4Y B.Sc. (Honours) (Major in Environmental Science) {2025 Pattern} programme as per NEP 2020 of **School of Sciences** was held online on **Monday, 09-09-2024 at 03:00 PM**, School meeting hall. Following members and invitees were present,

01	Dr. Chetana Kamlaskar	(Chairperson) and Member
02	Dr. Sunanda More	Member
03	Dr. Pravin Nalawade	Member
04	Dr. Ashish Mane	Member
05	Dr. Kailas Dandge	Member
06	Dr. Jagruti Chavan	Academic Coordinator (Environment Science) and Invitee
07	Ms. Minakshi Kadel	Invitee
08	Mr. Ravindra Bharsat	Invitee
09	Ms. Tejaswi Kadam	Invitee
10	Dr. Dnyaneshwar Bhusnur	Invitee

Dr. Chetana Kamlaskar, Chairperson and Member of the PAC first welcomed PAC members and introduced the members about the purpose of the meeting. During the meeting following items were discussed.

SN	Details of Items	Resolution				
1	Agenda Item 1: To finalize and approve the detailed syllabus (semester 01 to 03) related to Open Elective (OE) courses under Environmental Science programme for other faculty, as per NEP 2020 guidelines.	The PAC members unanimously finalized and approved the proposed Open Elective (OE) Courses along with their syllabus offered under Environmental Science discipline for the learners other than Environmental Science Major, in accordance with NEP2020 guidelines. The following suggestions were made by the PAC members during the discussion: 1. The title of one the Open Elective courses has been changed as follows: <table><tr><th>Proposed Course Title</th><th>Finalized Course Title</th></tr><tr><td>Smart City</td><td>Futuristic approach for smart City</td></tr></table> 2. Dr. Ashish Mane (PAC member) suggested that current trends and developments in specialized fields be incorporated into the syllabus for all five OE courses. 3. In the OE course ‘Environmental Law’, all 4 Unit titles for the second credit, should be renamed to reflect the specific content of each unit. 4. One more OE, namely ‘Ecotourism’, is suggested by PAC members to be added to the list of Open Elective (OE) baskets. 5. The list of OE will be modified in the future as per demand of the learners.	Proposed Course Title	Finalized Course Title	Smart City	Futuristic approach for smart City
Proposed Course Title	Finalized Course Title					
Smart City	Futuristic approach for smart City					
	Action Taken: The Programme structure and syllabus have been updated following the discussion in the PAC meeting. Refer Appendix I & II for updated programme structure and syllabus.					
	Agenda 2: To Finalization the position of discipline specific Indian Knowledge system course in programme structure. (Environment: Indian Culture & Traditions.)	The PAC members unanimously finalized the position of the proposed discipline specific IKS Course at semester 03 entitled as ‘Environment: Indian Culture & Traditions’, of the following proposed Environmental Science programmes as per NEP2020 guidelines: i) 4 Year B.Sc. (Honours) (Major in Environmental Science and Minor in Zoology) ii) 4 Year B.Sc. (Honours) (Major in Environmental Science and Minor in Botany) The Following suggestions were made by the PAC members:				

		1. It is advised to offer discipline specific IKS 2 credit course in place of 'Pollution Monitoring Technique' in semester 03. 2. Additionally, the content of 'Pollution Monitoring Technique' should be covered in the form of Term Work in the Skill Enhancement Course (SEC) offered in Semester II as 'Environmental Pollution Analysis'
	Action Taken: The Programme structure and syllabus have been updated based on the discussions in the PAC meeting. Refer Appendix II for Programme structure and revised syllabus.	
3	Agenda 3: To finalize the courses and syllabus from last verticals (VSC, SEC, AEC, VEC, IKS, OJT, FP, CEP, CC, RP) that will be offered common for all 4Y UG B.Sc. (Honours) programmes of School of Sciences.	Few courses from the last verticals (SEC, AEC, VSC, IKS, CC, CEP etc.) that will be offered common for all programmes have been discussed and approved along with their syllabus. To finalize these courses at the university level, if required, the PAC members unanimously gave authority to the School Director to update the courses in accordance with the university decision as needed.
	Action Taken: The syllabus has been updated as per the discussion in the PAC meeting. Refer Appendix II for updated syllabus.	
4	Agenda 4: Identification of Writers/ Editors for SLM development task	The PAC members unanimously gave their consent for the writing/editing of the Self Learning Material (SLM) for the proposed B.Sc. (Honours) (Major in Environmental Science) programme. For a few courses, the PAC members have given their consent for SLM development. They also agreed to recommend experts for the new courses, in due course of time. It was also resolved to authorize the Director of this School to enrich and update the list of writers/editors for the Self Learning Material (SLM) development task from time to time as per the University Policy decisions/norms.

Meeting ends with vote of thanks by **Dr. Jagruti Chavan.**

Thank You



(Dr. Chetana Kamlaskar)
Chairperson, PAC B.Sc. (Honours)
 (Major in Environmental Science)

APPENDIX I: PROGRAMME STRUCTURE:
ENVIRONMENTAL SCIENCE: MAJOR, ELECTIVES, MINOR, OE, VSC, SEC, AEC, VEC, OJT, FP, CC, CEP, IKS COURSES.
{2025 PATTERN}

Abbreviations: Yr.: Year; Sem.: Semester; Cumulative Credits: Cum. Cr. ; T- Theory Course; P- Practical course; TW-Term Work; PW- Project Work

Level	Sem	Major				Minor	OE		VSC, SEC (VSEC)		AEC, VEC, IKS		OJT, FP, CEP, CC, RP		Cum. Cr. / Sem		
		Mandatory		Electives													
4.5	I	EVS101: Ecology and Ecosystem (T)	4	-		-		OE-101	2		2		2	2	22		
		EVS102: Lab activities on EVS101 (P)	2					OE-102	2		2	IKS101: General IKS(T)	2				
	II	EVS103: Environmental Chemistry and Physics (T)	4	-		EVS103: Environmental Chemistry and Physics (T)	2	OE-103	2	VSC102: Lab Activity on Environmental Chemistry and Physics (P)	2		2	2	22		
		EVS104: Lab activities on EVS103 (P)	2					OE-104	2	EVS105:Environmental Pollution Analysis (TW)	2		2				
	Cum. Cr.		12		00		02		08		08		10		04		44
5.0	III	EVS 201: Biodiversity Conservation (T)	4	-		EVS 201: Biodiversity Conservation (T)	4	OE-201	2	VSC201: Lab Activity on Biodiversity Conservation (P)	2				2	22	
		EVS 202: Environment: Indian Culture & Traditions (IKS)	2														
		EVS 203: Lab Activity on EVS201 (P)	2													2	
	IV	EVS 205: Pollution Control Technologies (T)	4	-		EVS 204: Pollution Control Technologies (T)	4	OE202: Intellectual Property Rights (TW)	2		2		2	EVS208: Bee Keeping (TW)	2	22	
		EVS 206: Natural Resource Management (T)	2												2		
		EVS 207: Lab Activity on EVS204(P)	2														
	Cum. Cr.		28		00		10		12		12		14		12		88

Level	Sem	Major				Minor	OE		VSC, SEC (VSEC)		AEC, VEC, IKS	OJT, FP, CEP, CC, RP		Cum. Cr. / Sem		
		Mandatory		Electives												
5-5	V	EVS 301: Environmental Legislation and Audit(T)	4	EVS 304: Environmental Geosciences (T) OR EVS 305: Alternate Energy Resources (T) OR EVS 306: Urban Ecosystem & Sustainable Development (T)	4	EVS 301: Environmental Legislation and Audit (T)	4			VSC301: Environmental Legislation and Audit (P)	2		EVS307 : Field Project (TW) OR EVS308: Awareness of SDG (TW)	2	22	
		EVS 302: Environment Impact assessment(T)	2													
		EVS 303: Lab Activities on EVS301, EVS302 and Elective (P)	4													
	VI	EVS 309: Remote Sensing and GIS (T)	4	EVS 312: Atmospheric Sciences (T) OR EVS 313: Environmental Statistics (T) OR EVS 314: Environmental Toxicology, Human Health & Safety (T)	4	EVS 309: Remote Sensing and GIS (T)	4					EVS315 : On-Job Training (TW)	4	22		
		EVS 310: Environmental Biotechnology (T)	2													
		EVS 311: Lab Activities on EVS307, EVS308 and Elective (P)	4													
Cum. Cr.		48		08		18		12		14		14		18		132

Level	Sem	Major				Minor		OE		VSC, SEC (VSEC)		AEC, VEC, IKS		OJT, FP, CEP, CC, RP		Cum . Cr. / Sem		
		Mandatory		Electives														
6.0	VII	EVS 401: Environmental Science and Environmental Biology (T)		4	EVS 406: Environmental Education, Policies & Legislation (T) OR EVS 407: Management of Water Resources (T)		4	RES405: Research Methodology (T)		4							22	
		EVS 402: Natural Resources and Their Conservation (T)		2														
		EVS 403: Biodiversity and Conservation (T)		4														
		EVS 404: Lab Activities on EVS 401, EVS 402 & EVS 403 (P)		4														
	VIII	EVS 409: Environmental Chemistry (T)		4	EVS 415: Environmental Sustainability (T) OR EVS 416: Solid & Hazardous Waste Management (T)		4								EVS413: On-Job Training (TW) OR EVS414: Field Project (TW)		4	22
		EVS 410: Environmental Geosciences & Computer Applications (T)		2														
		EVS 411: Herbal Wealth (T)		4														
		EVS 412: Lab Activities on EVS 409, EVS 410 & EVS 411 (P)		4														
Cum. Cr.		76			16			22		12		14		14		22		176

Programme Structure: B.Sc. (Honours) (Major in Environmental Science and Minor in Botany) (2025 Pattern)

Level	Sem	Major				Minor	OE		VSC, SEC (VSEC)		AEC, VEC, IKS		OJT, FP, CEP, CC, RP		Cum. Cr. / Sem	
		Mandatory		Electives												
4-5	I	EVS101: Ecology and Ecosystem (T)	4	-	-		OE-101	2	VSC101: Basic Instrumentation Skills (TW)	2	AEC101: English Communication-I (T)	2	CC101: Photography Techniques and Bird Watching (TW)	2	22	
		EVS102: Lab activities on EVS101 (P)	2				OE-102	2	SEC101: MS-Excel with AI (TW)	2	VEC101: Environmental Education-I (T)	2				
											IKS101: Generic (T)	2				
	II	EVS103: Environmental Chemistry and Physics (T)	4	-	BOT103: Evolution and Diversity of Pteridophytes and Gymnosperms (T)	2	OE-103	2	VSC102: Lab Activity on Evolution and Diversity of Pteridophytes and Gymnosperms (P)	2	AEC102: English Communication-II (T)	2	CC102: Yoga (TW)	2	22	
		EVS104: Lab activities on EVS103 (P)	2				OE-104	2	EVS105:Environmental Pollution Analysis (TW)	2	VEC102: Environmental Education-II (T)	2				
	Cum. Cr.		12		00		02		08		08		10		04	
Exit option: Award of UG Certificate in Environmental Science as Major with 44 credits and an additional 4 credits core NSQF course/ Internship OR Continue with Major and Minor																
5.0	III	EVS 201: Biodiversity Conservation (T)	4			BOT301: Angiosperms Morphology, Taxonomy and Diversity (T)	4	OE-201	2	VSC201: Lab Activity on Angiosperms Morphology, Taxonomy and Diversity (P)	2	AEC201: Modern Indian Language - I (T)	2	EVS204: Field Project (TW)	2	22
		EVS 202: Environment: Indian Culture & Traditions (IKS)	2											CC201: Applied Arts (TW)	2	
		EVS 203: Lab Activity on EVS201 (P)	2													
	IV	EVS 205: Pollution Control Technologies (T)	4		BOT304: Plant Physiology and Metabolism (T)	4	OE202: Intellectual Property Rights (TW)	2	SEC201: Financial & Investment Skills (TW)	2	AEC202: Modern Indian Language - II (T)	2	EVS208: Bee Keeping (TW)	2	22	
		EVS 206: Natural Resource Management (T)	2										CC202: Astronomy for Beginners (TW)	2		
		EVS 207: Lab Activity on EVS204(P)	2													
Cum. Cr.		28		00		10		12		12		14		12		88
Exit option: Award of UG Diploma in Environmental Science as Major and Botany as Minor with 88 credits and an additional 4 credits core NSQF course/ Internship OR Continue with Major and Minor																

Level	Sem	Major				Minor	OE		VSC, SEC (VSEC)	AEC, VEC, IKS	OJT, FP, CEP, CC, RP	Cum. Cr. / Sem				
		Mandatory		Electives												
5-5	V	EVS 301: Environmental Legislation and Audit(T)	4	EVS 304: Environmental Geosciences (T) OR EVS 305: Alternate Energy Resources (T) OR EVS 306: Urban Ecosystem & Sustainable Development (T)	4	BOT 206: Cell Biology & Genetics (T)	4			VSC207: Lab Activity on Cell Biology & Genetics (P)	2		FP307: Field Project (TW) OR CEP308: Awareness of SDG (TW)	2	22	
		EVS 302: Environment Impact assessment(T)	2													
		EVS 303: Lab Activities on EVS301, EVS302 and Elective (P)	4													
	VI	EVS 309: Remote Sensing and GIS (T)	4	EVS 312: Atmospheric Sciences (T) OR EVS 313: Environmental Statistics (T) OR EVS 314: Environmental Toxicology, Human Health & Safety (T))	4	BOT 306: Analytical Techniques in Plant Science & Horticulture (T)	4					EVS315 : On-Job Training (TW)	4	22		
		EVS 310: Environmental Biotechnology (T)	2													
		EVS 311: Lab Activities on EVS307, EVS308 and Elective (P)	4													
Cum. Cr.		48		08		18		12		14		14		18		132
Exit option: Award of UG Degree in Environmental Science as Major with 132 credits OR Continue with Major and Minor																

Level	Sem	Major				Minor		OE		VSC, SEC (VSEC)		AEC, VEC, IKS		OJT, FP, CEP, CC, RP		Cum . Cr. / Sem		
		Mandatory		Electives														
6.0	VII	EVS 401: Environmental Science and Environmental Biology (T)		4	EVS 406: Environmental Education, Policies & Legislation (T) OR EVS 407: Management of Water Resources (T)		4	RES405: Research Methodology (T)		4					2	22		
		EVS 402: Natural Resources and Their Conservation (T)		2														
		EVS 403: Biodiversity and Conservation (T)		4														
		EVS 404: Lab Activities on EVS 401, EVS 402 & EVS 403 (P)		4														
	VIII	EVS 409: Environmental Chemistry (T)		4	EVS 415: Environmental Sustainability (T) OR EVS 416: Solid & Hazardous Waste Management (T)		4							EVS413: On-Job Training (TW) OR EVS414: Field Project (TW)		4	22	
		EVS 410: Environmental Geosciences & Computer Applications (T)		2														
		EVS 411: Herbal Wealth (T)		4														
		EVS 412: Lab Activities on EVS 409, EVS 410 & EVS 411 (P)		4														
Cum. Cr.		76			16			22		12		14		14		22		176
Four Year UG Honours Degree in Major in Environmental Science and Minor in Botany with 176 credits																		

Programme Structure: B.Sc. (Honours) (Major in Environmental Science and Minor in Zoology) (2025 Pattern)

Level	Sem	Major				Minor	OE		VSC, SEC (VSEC)		AEC, VEC, IKS		OJT, FP, CEP, CC, RP		Cum. Cr. / Sem	
		Mandatory		Electives												
4.5	I	EVS101: Ecology and Ecosystem (T)	4	-		-		OE-I	2	VSC101: Basic Instrumentation Skills (TW)	2	AEC101: English Communication-I (T)	2	CC101: Photography Techniques and Bird Watching (TW)	2	22
		EVS102: Lab activities on EVS101 (P)	2					OE-II	2	SEC101: MS-Excel with AI (TW)	2	VEC101: Environmental Science-I (T)	2			
												IKS101: Generic (T)	2			
	II	EVS103: Environmental Chemistry and Physics (T)	4	-		ZOO103: Comparative Anatomy & Developmental Biology Vertebrates(T)	2	OE-III	2	VSC102: Lab Activity on Comparative Anatomy & Developmental Biology Vertebrates (P)	2	AEC102: English Communication-II (T)	2	CC102: Yoga (TW)	2	22
		EVS104: Lab activities on EVS103 (P)	2					OE-IV	2	EVS105: Environmental Pollution Analysis (TW)	2	VEC102: Environmental Science-II (T)	2			
	Cum. Cr.		12		00		02		08		08		10		04	
Exit option: Award of UG Certificate in Environmental Science as Major with 44 credits and an additional 4 credits core NSQF course/ Internship OR Continue with Major and Minor																
5.0	III	EVS 201: Biodiversity Conservation (T)	4			ZOO201: Animal Physiology & Ecology (T)	4	OE-201	2	VSC201: Lab Activity on Animal Physiology & Ecology (P)	2	AEC201: Modern Indian Language - I (T)	2	EVS204: Field Project (TW)	2	22
		EVS 202: Environment: Indian Culture & Traditions (IKS)	2											CC201: Applied Arts (TW)	2	
		EVS 203: Lab Activity on EVS201 (P)	2													
	IV	EVS 205: Pollution Control Technologies (T)	4			ZOO204: Genetics & Evolutionary Biology (T)	4	OE202: Intellectual Property Rights (TW)	2	SEC201: Financial & Investment Skills (TW)	2	AEC202: Modern Indian Language - II (T)	2	EVS208: Bee Keeping (TW)	2	22
		EVS 206: Natural Resource Management (T)	2											CC202: Astronomy for Beginners (TW)	2	
		EVS 207: Lab Activity on EVS205(P)	2													
Cum. Cr.		28		00		10		12		12		14		12		88
Exit option: Award of UG Diploma in Environmental Science as Major and Zoology as Minor with 88 credits and an additional 4 credits core NSQF course/ Internship OR Continue with Major and Minor																

Level	Sem	Major				Minor		OE		VSC, SEC (VSEC)		AEC, VEC, IKS		OJT, FP, CEP, CC, RP		Cum. Cr. / Sem
		Mandatory		Electives												
5-5	V	EVS 301: Environmental Legislation and Audit(T)	4	EVS 304: Environmental Geosciences (T) OR EVS 305: Alternate Energy Resources (T) OR EVS 306: Urban Ecosystem & Sustainable Development (T)	4	ZOO301: Mammalian Histology(T)	4			VSC207: Lab Activity on Mammalian Histology (P)	2			FP307: Field Project (TW) OR CEP308: Awareness of SDG (TW)	2	22
		EVS 302: Environment Impact assessment(T)	2													
		EVS 303: Lab Activities on EVS301, EVS302 and Elective (P)	4													
	VI	EVS 309: Remote Sensing and GIS (T)	4	EVS 312: Atmospheric Sciences (T) OR EVS 313: Environmental Statistics (T) OR EVS 314: Environmental Toxicology, Human Health & Safety (T)	4	ZOO307: Pest Management & Parasitology (T)	4						EVS315 : On-Job Training (TW)	4	22	
		EVS 310: Environmental Biotechnology (T)	2													
		EVS 311: Lab Activities on EVS309, EVS310 and Elective (P)	4													
Cum. Cr.		48		08		18		12		14		14		18		132
Exit option: Award of UG Degree in Environmental Science as Major with 132 credits OR Continue with Major and Minor																

Level	Sem	Major				Minor		OE		VSC, SEC (VSEC)		AEC, VEC, IKS		OJT, FP, CEP, CC, RP		Cum . Cr. / Sem		
		Mandatory		Electives														
6.0	VII	EVS 401: Environmental Science and Environmental Biology (T)		4	EVS 406: Environmental Education, Policies & Legislation (T) OR EVS 407: Management of Water Resources (T)		4	RES405: Research Methodology (T)		4					2	22		
		EVS 402: Natural Resources and Their Conservation (T)		2														
		EVS 403: Biodiversity and Conservation (T)		4														
		EVS 404: Lab Activities on EVS 401, EVS 402 & EVS 403 (P)		4														
	VIII	EVS 409: Environmental Chemistry (T)		4	EVS 415: Environmental Sustainability (T) OR EVS 416: Solid & Hazardous Waste Management (T)		4						EVS413: On-Job Training (TW)		4	22		
		EVS 410: Environmental Geosciences & Computer Applications (T)		2														
		EVS 411: Herbal Wealth (T)		4														
		EVS 412: Lab Activities on EVS 409, EVS 410 & EVS 411 (P)		4														
Cum. Cr.		76			16			22		12		14		14		22		176
Four Year UG Honours Degree in Major in Environmental Science and Minor in Zoology with 176 credits																		

APPENDIX II:
SYLLABUS OF VXXX: B.Sc. (HONOURS) (MAJOR IN ENVIRONMENTAL SCIENCE)
{2025 PATTERN}

Refer the syllabus file attached with this mail separately.