

Department of Environmental Science
Evaluation Scheme of Undergraduate & Postgraduate Program as per NEP-2020 Guidelines
w.e.f. Session 2024-25

Year	Semester	Subject I	CHOICES	Subject II	Vocational***	Co-curricular	Research Project	*Audit Courses	Min. Credits (Year)	Cumulative minimum credits Required for the Award of Certificate; Diploma; Degree
		Major		Multi-Disciplinary	Minor	Minor	Major	Compulsory		
		4/5/6Credits		4/5/6 Credits	3 Credits	2 Credits	3/6 Credits	Non-credit		
		Own Faculty		Other Faculty	Vocational/ Skill development course	Co-curricular (Qualifying)	Inter/Intra Faculty related to the main subject	Audit Course (Q & NC)		
1st	I	<ul style="list-style-type: none"> • B150101T/ES125: Basics of Environmental Science (4T) • B150102P/ES126: Practical on Environment (2P) • B150103T/ ES127: Environmental Chemicals and toxicants (4T) • B150104P/ ES128: Toxicant Analysis Lab (2P) 	Compulsory Courses	NIL	(Anyone-03 Cr) • I150107T/ES131: Introduction to Natural Hazards and Disaster Management • I150108T/ES132: Water Monitoring and Conservation Techniques • MOOC/SWAYAM	Z010101T/BE105: Food, Nutrition and Hygiene (2-Credit)		A050101T/ HM101 Rashtra Gaurav	(17+23) 40 (First Year)	40 (Certificate in Environmental Science)
	II	<ul style="list-style-type: none"> • B150201T/ES133: Environmental Biology (4T) • B150202P/ES134: Practical on Environment (2P) • B150203T/ES135: Eco-restoration and Invaded Ecosystems (4T) • B150204P/ES136: Ecosystem Dynamic Lab (2P) 	Compulsory Courses	(Anyone) • B190103T/CH135: Water Treatment and Analysis (Th- 4) • B190104P/CH136: Water Quality Analysis (Prt-2) • B150205T/ES137: Natural Resources and its Management (4T) B150206P/ES138: Natural Resources Lab (2P) • A070201T/SS108: Society in India: Structure organization and Change (6C)	(Anyone-03 Cr) • I150208T/ES140: Ecotourism and Wildlife Management (3T) • MOOC/SWAYAM (3T)	Z020201T/NS110: First Aid and Health (2- Credit)		B150207T/ ES139 AI for Earth and Environmental Sciences		
	III	<ul style="list-style-type: none"> • B150301T/ES218: Biodiversity and its Conservation (4T) • B150302P/ES219: Practical on Biodiversity (2P) • B150303T /ES220: Human-Wildlife conflict and Management (4T) • B150304P /ES221: Wildlife Management Lab (2P) 	Compulsory Courses	NIL	(Anyone-03 Cr) • I150307T/ ES224: Environment and Economics (3T) • I150308T/ ES226: Environment and Sustainability (3T) • MOOC/SWAYAM	**Regional Language (2-Credit)			(17+23) 40 (Second Year)	(40+40) 80 (Diploma in Environmental Science)

2nd	IV	<ul style="list-style-type: none"> • B150401T/ES227: Environmental Pollution & Management (4T) • B150402P/ES228: Practical on Environmental Pollution (P2) • B150402P/ES228: Basics of Environmental Methods and Analytical Techniques (4T) • B150404P/ ES230: Analytical Techniques Lab (2P) 	Compulsory Courses	<p>(Anyone)</p> <ul style="list-style-type: none"> • B190403T/CH242: Industrial Waste Treatment & Management (Th-4) • B190404P/CH243: Industrial Waste Analysis (Pract-2) • A070401T/SS211: Social Problems & Issues of Development in India (4T) • A070402R/SS212: Projects on Sustainable Society(2P) • B150405T/ES231: Soil Conservation and its Management(4T) • B150406P/ES232: Soil Analysis Lab (2P) 	NIL	Z040401T/PH201 Physical Education and Yoga (2-Credit)	B150407R/ES237 Apprenticeship Internship- I (3-Credit)			
3-Year Single Subject with Honours UG Degree										
3rd	V	<ul style="list-style-type: none"> • B150501T/ ES314: Environmental Microbiology and Biotechnology (4T) • B150502P/ ES315: Environmental Microbiology Lab (1P) • B150503T/ ES316: Introduction to Physical Environment (5T) • B150504T/ ES317: Pollution and Human Health (5T) • B150505T/ ES318: Energy and its management (4T) • B150506P/ ES319: Energy Lab (1P) • B150507T/ ES320: Earth & Environmental Processes(4T) • B150508P/ ES321: Earth and Environment lab (2P) 	Select Any four -05 Credits each	NIL	NIL		B150509R/ES322 Apprenticeship Internship II (5-Credit)		(25+25) 50 (Third Year)	(80+50) 130 B.Sc. (H.) With Environmental Science)
	VI	<ul style="list-style-type: none"> • B150601T/ ES323: Environmental Legislation and EIA (4T) • B150602P/ ES324: Practical on EIA(1P) • B150603T/ ES325: Environmental Priorities and Research Tools (5T) • B150604T/ ES326: Environmental Management Strategies (5T) • B150605T/ ES327: Environmental Monitoring and modeling (4T) • B150606P/ ES328: Environmental monitoring Lab (1P) • B150607T/ ES329: Fundamentals of Remote sensing, Geographical Information System (4T) • B150608P/ ES330: Geographical Information System Lab (2P) 	Select Any four -05 Credits each	NIL	NIL		B150609R/ES331 Apprenticeship /Internship III (5-Credit)			

4-Year UG Degree with Honours (<75% Marks)										
4th	VII	<ul style="list-style-type: none">• B150701T/ ES413: Atmospheric Sciences and Global Climate Change (4T)• B150702T/ ES414: Waste Management (4T)• B150703T/ ES415: Advanced studies in Environment and Ecology (4T)• B150704T/ ES416: Watershed management (4T)• B150705T/ ES417: Urban ecology and ecosystems(4T)	Compulsory Courses	NIL	NIL	NIL	NIL		(20+20) 40 (Fourth Year)	(130+40) 170 B.Sc. (H.) With Environmental Science)
	VIII	<ul style="list-style-type: none">• B150801T/ ES419: Marine and Coastal Science (4T)• B150802T/ ES420: Environmental toxicological Studies (4T)• B150803T/ ES421: Industrial hygiene and occupational health (4T)• B150804T/ ES422: Applied Bioremediation (4T)• B150805T/ ES423: Climate Change and resilience studies (4T)	Compulsory Courses	NIL	NIL	NIL	NIL			
4-Year UG Degree with Honours & Research (≥75% Marks)										
4th	VII	<ul style="list-style-type: none">• B150701T/ ES413: Atmospheric Sciences and Global Climate Change (4T)• B150702T/ ES414: Waste Management (4T)• B150703T/ ES415: Advanced studies in Environment and Ecology (4T)• B150704T/ ES416: Watershed management (4T)• B150705T/ ES417: Urban ecology and ecosystems(4T)	Select Any four – 04 Credits each	NIL	NIL	-	B150706R/ ES418 Apprenticeship/ Internship VI (4-Credit)		(20+20) 40 (Fourth Year)	(130+40) 170 (B.Sc. Honors with Research in Environmental Science)
	VIII	<ul style="list-style-type: none">• B150801T/ ES419: Marine and Coastal Science (4T)• B150802T/ ES420: Environmental toxicological Studies (4T)• B150803T/ ES421: Industrial hygiene and occupational health (4T)• B150804T/ ES422: Applied Bioremediation (4T)• B150805T/ ES423: Climate Change and Resilience Studies (4T)	Select Any four – 04 Credits each	NIL	NIL		B150808R/ ES426 Apprenticeship / Internship V (4Credit)			

M.Sc. 1 Year										
5th	IX	<ul style="list-style-type: none"> • B150901T/ ES501: Monitoring and Modelling (4T) • B150902T/ ES502: Energy Management and Disruptive Technologies (4T) • B150903T/ ES503: Clean Development Mechanism & CSR (4T) • B150904T/ ES504: Policy Responses to Global Climate Change (4T) 	Compulsory Courses	NIL	NIL	NIL	B150905R/ ES505 Apprenticeship/ Internship VI (4Credit)		(20+20) 40 (Fifth Year)	(170+40) 210 (M.Sc. in Environmental Science)
	X	<ul style="list-style-type: none"> • B1501001T/ ES506: Environmental Ethics and IPR (4T) • B1501002T/ ES507: Green Technology & Entrepreneurship (4T) • B1501003T/ ES508: Health Risk Assessment (4T) • B1501004T/ ES509: Industrial Pollution Control & Environmental Audit (4T) 	Compulsory Courses	NIL	NIL	NIL	B1501005T/ ES510 Apprenticeship/ Internship VII (4Credit)			

|| 4T = Theory with 4 credits; 1P, 2P = Practical with respective credits; Q: Qualifying; NC = Non-Credit. || Co-curricular courses offered by UP higher education.

|| Vocational courses offered by respective Department/University

|| *Audit Courses: The respective Department/University offers Rashtra Gaurav and X+AI (AI for Earth and Environmental Sciences) as compulsory Non-Credit courses. All students will have to pass these courses to obtain a Certificate, Diploma, Undergraduate Degree, or Undergraduate Honors Degree with Research only once.

|| **Regional Language is a co-curricular course offered by the respective Department or University in the third semester, such as Hindi, Urdu, Awadhi, Sanskrit, etc.

|| For entry into the 4-Year UG Degree with Honours and Research program, students must secure $\geq 75\%$ marks in the 3-Year UG Degree program.

|| Students with a 3-Year Single Subject with Honours UG Degree below 75% marks in the 3-Year UG Degree program go for a two-year PG program.

|| MOOC: Massive open Online Course