



Adamas University

SCHOOL OF BASIC AND APPLIED SCIENCES

Department of Chemistry

PROGRAMME COURSE STRUCTURE & PROPOSED SYLLABUS  
FOR M.Sc. IN ENVIRONMENTAL SCIENCE

Programme Code: CHM4202

Duration: 2 Years Full Time

Academic Year: 2024-2025

**Semester Curriculum for Postgraduate (M.Sc.) Program in Environmental Science**  
**Course Distribution**

**A. GENERAL THEORY**

<b>Discipline/ Name (Theory)</b>	<b>Paper No</b>	<b>Total Credits</b>	<b>L-T-P</b>
1. Energy and Environment	1	3	3-0-0
2. Environmental Chemistry	1	4	4-0-0
3. Atmospheric Science	1	3	3-0-0
4. Ecology and Biodiversity	1	3	3-0-0
5. Mathematics foundation	1	2	2-0-0
6. Natural Resources	1	2	2-0-0
7. Air Pollution and Control Technology	1	4	4-0-0
8. Water Pollution and Control Technology	1	4	4-0-0
9. Environmental Geosciences	1	3	3-0-0
10. Environmental Instrumentation	1	2	2-0-0
11. Statistical applications in Environmental Systems	1	4	4-0-0
12. Solid and Hazardous Waste Management	1	4	4-0-0
13. Environmental Microbiology and Biotechnology	1	4	4-0-0
14. Environmental Impact Assessment and Regulatory Framework	1	3	3-0-0
15. Environmental Health, Biochemistry and Toxicology	1	2	2-0-0
<b>Total</b>	<b>15</b>	<b>47</b>	

### B. GENERAL LAB

Discipline/ Name (Practical)	Paper No	Total Credits	L-T-P
1. Environmental Chemistry	1	4	0-0-8
2. Ecology	1	2	0-0-4
3. Environmental Monitoring Lab	1	4	0-0-8
4. Environmental Instrumentation	1	2	0-0-4
5. Environmental Geosciences	1	4	0-0-8
6. Computational Lab	1	2	0-0-4
7. Environmental Microbiology & Biotechnology	1	2	0-0-4
8. Environmental Health, Biochemistry & Toxicology	1	2	0-0-4
<b>Total</b>	<b>8</b>	<b>22</b>	

### C. ADVANCED ELECTIVE PAPERS

Discipline/ Name	Paper No	Total Credits	L-T-P
1. Advanced Elective I	1	4	4-0-0
2. Advanced Elective I (Lab)	1	2	0-0-4
3. Advanced Elective II	1	2	2-0-0
4. Advanced Elective III	1	2	2-0-0
<b>Total</b>	<b>4</b>	<b>10</b>	

### D. FIELD/PROJECT/DISSERTATION/INDUSTRY INTERACTION/VIVA

Discipline/ Name	Paper No	Total Credits
1. Field visit	1	2
2. Industry Internship	1	2
3. Excursion	1	3
4. Dissertation	1	10
5. Seminar on Contemporary Research	1	2
6. Comprehensive Viva	1	2
<b>Total</b>	<b>6</b>	<b>21</b>

**Distribution of Papers Semester-wise:**

Environmental Science PG-I

<b>Semester - I</b>				
<b>Paper Name</b>	<b>Paper Code</b>	<b>No of Papers</b>	<b>Credit</b>	<b>L-T-P</b>
1. Energy and Environment	EVS21001	1	3	3-0-0
2. Environmental Chemistry	EVS21002	1	4	4-0-0
3. Atmospheric Science	EVS21003	1	3	3-0-0
4. Ecology and Biodiversity	EVS21004	1	3	3-0-0
5. Mathematics Foundation	MTH21513	1	2	2-0-0
6. Natural Resources and Environment	EVS21005	1	2	2-0-0
7. Environmental Chemistry Lab	EVS22006	1	4	0-0-8
8. Ecology Lab	EVS22007	1	2	0-0-4
9. Field visit	EVS24008	1	2	
Total			<b>25</b>	

Environmental Science PG-II

<b>Semester II</b>				
<b>Paper Name</b>	<b>Paper Code</b>	<b>No of Papers</b>	<b>Credit</b>	<b>L-T-P</b>
1. Air Pollution and control Technology	EVS21009	1	4	4-0-0
2. Water Pollution and Control Technology	EVS21010	1	4	4-0-0
3. Environmental Geosciences	EVS21011	1	3	3-0-0
4. Environmental Instrumentation (Th)	EVS21012	1	3	3-0-0
5. Environmental monitoring laboratory	EVS22013	1	4	0-0-8
6. Environmental Instrumentation (Lab)	EVS22014	1	2	0-0-4
7. Environmental Geosciences Lab	EVS22015	1	3	0-0-6
8. Industry Internship	EVS24016	1	2	
Total			<b>25</b>	

Environmental Science PG-III

<b>Semester III</b>				
<b>Paper Name</b>	<b>Paper Code</b>	<b>No of Papers</b>	<b>Credit</b>	<b>L-T-P</b>
1. Statistical application in Environmental Systems	EVS21017	1	4	4-0-0
2. Solid and Hazardous Waste Management	EVS21018	1	4	4-0-0
3. Environmental Microbiology and Biotechnology	EVS21019	1	4	4-0-0
4. Elective I - RS and GIS for Environmental Planning and Management	EVS21020	1	4	4-0-0
<b>OR</b>				
Soil Science	EVS21021	1	4	4-0-0
5. Computational lab	EVS22022	1	2	0-0-4
6. Elective I (Lab) - RS and GIS for Environmental Planning and Management	EVS22023	1	2	0-0-4
<b>OR</b>				
Soil Science Lab	EVS22024	1	2	0-0-4
7. Excursion	EVS24025	1	3	
8. Environmental Microbiology and Biotechnology (Lab)	EVS22026	1	2	0-0-4
Total			<b>25</b>	

<b>Options for Advanced Elective I Papers (Theory + Practical)</b>	
<b>Sl. No</b>	<b>Name of the Paper</b>
1.	GIS for Environmental Planning and Management
2.	Soil Science

Environmental Science PG-IV

Semester IV				
Paper Name	Paper Code	No of Papers	Credit	L-T-P
1. Environmental Impact Assessment and Regulatory Framework	EVS21027	1	3	3-0-0
2. Elective II- Industrial Pollution Prevention and Clean Technologies	EVS21028	1	2	2-0-0
<b>OR</b>				
Design for water and wastewater systems	EVS21029	1	2	2-0-0
3. Elective III - Environmental Economics, Ethics and Policies	EVS21030	1	2	2-0-0
<b>OR</b>				
Occupational Health Safety and Environmental Management	EVS21031	1	2	2-0-0
4. Environmental Health, Biochemistry and Toxicology	EVS21032	1	2	2-0-0
5. Environmental Health, Biochemistry and Toxicology Lab	EVS22033	1	2	0-0-4
6. Comprehensive viva	EVS25034	1	2	
7. Seminar on contemporary research	EVS25035	1	2	
8. Dissertation	EVS25036	1	10	
Total			<b>25</b>	

**TOTAL CREDIT: 100**

**Options for Advanced Elective II Papers (Theory)**

Sl. No	Name of the Paper
1.	Industrial Pollution prevention and Clean Technologies
2.	Design for Water and Wastewater Systems

**Options for Advanced Elective III Papers (Theory)**

Sl. No	Name of the Paper
1.	Environmental Economics, Law and Policies
2.	Occupational Health Safety and Environmental Management

**\*\*\*\* Total credit of the programme M.Sc. Environmental Science : 25(1<sup>st</sup> Sem) + 25 (2<sup>nd</sup> Sem) + 25 (3<sup>rd</sup> Sem) + 25 (4<sup>th</sup> Sem) = 100**

<sup>1</sup> N.B.: Students are highly encouraged to enrol their names for the suitable courses offered having minimum credit point<sup>2</sup> by **UGC-MOOCs**. A Vertical of **SWAYAM** courses as one of the skill enhancement courses. The number/grade obtained by the students following the completion of this type of courses will carry equivalent weightage/ credit for the fulfilment of their courses. The name of the courses opted by the students will be reflected in the mark sheet as reported by Head of the Department or Programme In-Charge (empowered by the Dean, SOS) to the examination section of the university.