

ENVIRONMENTAL SCIENCE

MASTER OF SCIENCE

(Applicable from the academic session 2019-2020)
Department Of Environmental Science, MAKAUT



**Maulana Abul Kalam Azad University of Technology,
West Bengal**

(Formerly West Bengal University of Technology)

Haringhata-741249, Nadia, West Bengal, INDIA

Maulana Abul Kalam Azad University of Technology, West Bengal

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MASTER OF SCIENCE IN ENVIRONMENTAL SCIENCE PROGRAMME

Curriculum Structure

| Sl. No. | Category | Subject Code | Subject Name | Total Number of Contact Hours | | | Credits |
|---|-----------------------------|--------------------------|---|-------------------------------|----------|----------|-----------|
| | | | | L | T | P | |
| SEMESTER - I | | | | | | | |
| 1 | Core Material I | MENVS 111 | Systems Perspectives and Holism in Environment | 3 | 0 | 0 | 3 |
| 2 | Core Material II | MENVS 112 | Earth-Environment Systems Science | 3 | 0 | 0 | 3 |
| 3 | Core Material III | MENVS 113 | Atmospheric Processes and Climate Cognition | 3 | 0 | 0 | 3 |
| 4 | Core Material IV | MENVS 114 | Geo-engineering and Environment | 3 | 0 | 0 | 3 |
| 5 | Core Material V | MENVS 115 | Environmental Risks, Vulnerabilities and Resilience | 3 | 0 | 0 | 3 |
| 6 | Core Material VI | MENVS 116 | Green Energy and Environmental Sustainability | 3 | 0 | 0 | 3 |
| 7 | Audit Course | AC117 A/B/C/D/E/ F | Audit Course I | 0 | 0 | 0 | 0 |
| Total Theoretical Credit | | | | 18 | 0 | 0 | 18 |
| Practical | | | | | | | |
| 8 | Laboratory I | MENVS 121 | Environmental Geosciences | 0 | 1 | 3 | 4 |
| 9 | Laboratory II | MENVS 122 | Analytical Methods and Instrumentation Techniques | 0 | 1 | 3 | 4 |
| Sessional | | | | | | | |
| 10 | Obligatory Course Programme | MENVS 131 | Industrial Training at Chemical/Metallurgical/Mining-Smelter Industries | 1 | 1 | 2 | 4 |
| Total Practical and Sessional Credit | | | | 1 | 3 | 8 | 12 |
| Total Semester I | | | | 19 | 3 | 8 | 30 |

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| | | | | L | T | P | |
| SEMESTER -II | | | | | | | |
| 1 | Core Material VII | MENVS 211 | Ecosystems and Challenging Ecological Realms | 3 | 0 | 0 | 3 |
| 2 | Core Material VIII | MENVS 212 | Forestry, Wildlife and Conservation Biology | 3 | 0 | 0 | 3 |
| 3 | Core Material IX | MENVS 213 | Advanced Environmental Chemistry | 3 | 0 | 0 | 3 |
| 4 | Core Material X | MENVS 214 | Oceanography and Coastal Management | 3 | 0 | 0 | 3 |
| 5 | Core Material XI | MENVS 215 | Advanced Environmental Engineering and Pollution Control Technology | 2 | 1 | 0 | 3 |
| 6 | Audit Course | AC216 A/B/C/D/ E/F | Audit Course II | 0 | 0 | 0 | 0 |
| Total Theoretical Credit | | | | 14 | 1 | 0 | 15 |
| Practical | | | | | | | |
| 7 | Laboratory I | MENVS 221 | Pollution Assessment | 0 | 1 | 3 | 4 |
| Sessional | | | | | | | |
| 8 | Obligatory Course Programme | MENVS 231 | Industrial Training on Green Marketing / Environmental Data Collection and Documentation / Community Outreach Activities | 1 | 1 | 2 | 4 |
| 9 | Mini Project Work | MENVS 241 | Mini Project with Seminar on Pollution Assessment and Control | 0 | 1 | 1 | 2 |
| Total Practical and Sessional Credit | | | | 1 | 3 | 6 | 10 |
| Total Semester II | | | | 15 | 4 | 6 | 25 |

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| | | | | L | T | P | |
| SEMESTER -III | | | | | | | |
| 1 | Core Material I | MENVS 311 | Advanced Environmental Mathematics and Modelling | 3 | 0 | 0 | 3 |
| 2 | Core Material II | MENVS 312 | Remote Sensing and Geographical Information System | 3 | 0 | 0 | 3 |
| 3 | Elective A | MENVS 313A | Choice Based Credit Course-A | 4 | 0 | 0 | 4 |
| 4 | Elective B | MENVS 314B | Choice Based Credit Course-B | 4 | 0 | 0 | 4 |
| Total Theoretical Credit | | | | 14 | 0 | 0 | 14 |
| Sessional | | | | | | | |
| 5 | Major Project Work | MENVS 341 | RS-GIS and Environmental Systems Modelling | 0 | 0 | 6 | 6 |
| Total Sessional Credit | | | | 0 | 0 | 6 | 6 |
| Total Semester III | | | | 14 | 0 | 6 | 20 |

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|--|--------------------|--------------|--|-------------------------------|----------|----------|-----------|
| | | | | L | T | P | |
| SEMESTER -IV | | | | | | | |
| 1 | Core Material I | MENVS 411 | Environmental Impact Assessment and Management System | 3 | 0 | 0 | 3 |
| 2 | Core Material II | MENVS 412 | Environmental Biotechnology, Eco-Toxicology and Bioremediation | 3 | 0 | 0 | 3 |
| 3 | Core Material III | MENVS 413 | Environmental Economics, Policy Planning and Legislation | 3 | 0 | 0 | 3 |
| 4 | Core Material IV | MENVS 414 | Waste Management | 3 | 0 | 0 | 3 |
| Total Theoretical Credit | | | | 12 | 0 | 0 | 12 |
| Sessional | | | | | | | |
| 5 | Major Project Work | MENVS 441 | Scientific Writing & Dissertation | 0 | 0 | 6 | 6 |
| 6 | Overall Assessment | MENVS 451 | Grand Viva | 0 | 0 | 2 | 2 |
| Total Sessional Credit | | | | 0 | 0 | 8 | 8 |
| Total Semester IV | | | | 12 | 0 | 8 | 20 |
| Total Credits for the Programme | | | | | | | 95 |

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Choice Based Credit Course

A

(Core Environmental Science Prospect)

1. Natural Resource Management & Sustainability (MENVS313A1)
2. Environmental Geology (MENVS313A2)
3. Advanced Meteorology and Aerosol Pollution (MENVS313A3)
4. Geochemistry : Diffusion and Transport of Pollutants (MENVS313A4)
5. Occupational Hazards, Environmental Health and Safety (MENVS313A5)

Choice Based Credit Course

B

(Life Science Prospect)

1. Pharmaceutical Biotechnology (MENVS314B1)
2. Environmental Biochemistry and Microbiology (MENVS314B2)
3. Rehabilitation Ecology and Ecotourism (MENVS314B3)
4. Biostatistics and Experiment Designing (MENVS314B4)
5. Sustainable Agriculture and Food Toxicity (MENVS314B5)

Audit Course I & II

1. English for Research Paper Writing (AC117A / AC216A)
2. Pedagogy Studies (AC117B/ AC216B)
3. Constitution of India (AC117C/ AC216C)
4. Value Education (AC117D/ AC216D)
5. Stress Management by Yoga (AC117E/AC216E)
6. Personality Development through Life Enlightenment Skills (AC117F/ AC216F)