## $\frac{Sustainability\ courses\ offered\ specifically\ on\ Climate\ Change\ and/or\ Environmental}{Sustainability}$

| Department of Energy & Environment                 |             |                           |         |  |
|--|-------------|---------------------------|---------|--|
| Course Title                                       | Course code | Level of Teaching (UG/PG) | Credits |  |
| Energy and Environment                             | UEN002      | UG I                      | 2       |  |
| Technologies for Sustainable<br>Development        | UEN004      | UG II/III/IV              | 2       |  |
| Elements of Environmental Sciences                 | PES116      | PG I                      | 4.5     |  |
| Air Quality Modelling and Climate<br>Change        | PES111      | PG I                      | 4.5     |  |
| Wastewater Treatment Technologies                  | PES117      | PG I                      | 4.5     |  |
| Solid and Hazardous Waste<br>Management            | PES208      | PG I                      | 4.5     |  |
| Water Quality Modelling and Treatment              | PES206      | PG I                      | 4.5     |  |
| Air Pollution Control Engineering                  | PES205      | PG I                      | 4.5     |  |
| Environmental Legislation and Impact<br>Assessment | PES225      | PG I                      | 3.5     |  |
| Environmental Safety and Management                | PES213      | PG I                      | 3.5     |  |
| Industrial Pollution Abatement                     | PESXXX      | PG I                      | 3       |  |
| Sustainability and Cleaner Technologies            | PES216      | PG I                      | 3       |  |
| Watershed Management                               | PES223      | PG I                      | 3       |  |
| Energy and Environment                             | PESXXX      | PG I                      | 3       |  |
| Sanitation and Public Health                       | PESXXX      | PG I                      | 3       |  |
| Sustainable Materials and Green<br>Buildings       | PES219      | PG I                      | 3       |  |

| Environmental Biotechnology | PESXXX | PG I | 3 |
|-----------------------------|--------|------|---|
| Contaminant Transport       | PESXXX | PG I | 3 |

| L M Thapar School of Management (LMTSM)      |                |                           |         |  |
|--|----------------|---------------------------|---------|--|
| Title  | Course<br>Code | Level of Teaching (UG/PG) | Credits |  |
| Sustainability in Practice - I               | SM6306         | PG                        | 3       |  |
| Sustainability in Practice - II              | SM6307         | PG                        | 3       |  |
| Social and Commercial Entrepreneurship – I   | ET5101         | PG                        | 1       |  |
| Social and Commercial Entrepreneurship – II  | ET5102         | PG                        | 1       |  |
| Social and Commercial Entrepreneurship – III | ET5103         | PG                        | 1       |  |

| LMTSM offered to Thapar School of Liberal Arts and Science (TSLAS) |        |    |   |
|--|--------|----|---|
| AVANI 01: Frame a Problem  | PC1301 | UG | 3 |
| AVANI 02: Design a Solution  | PC1302 | UG | 3 |
| AVANI 03: Enterprise the Solution 2.0                              |        | UG | 2 |
| AVANI 04: Responsible Citizenship Experience 4.0                   |        | UG | 4 |
| Sustainability and Business Ethics                                 | TM3403 | UG | 4 |

| TSLAS  |        |      |   |  |
|--|--------|------|---|--|
| Title Course Code Level of Teaching Cred (UG/PG) |        |      |   |  |
| Ecology and Environment                          | NP1202 | UG-I | 2 |  |
| Society and Sustainability                       | NP1209 | UG-I | 2 |  |

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|--|--------|--------|------|
| Socio-ecology and Sustainability                   | TS1403 | UG-I   | 4    |
| Extreme Environments and Biomimicry                | NP1403 | UG-I   | 4    |
| Elements of Environmental Sciences                 | NE2401 | UG-II  | 4    |
| Air Quality Analyses (Lab Course)                  | NE2201 | UG-II  | 2    |
| Air Pollution and Climate Change                   | NE2402 | UG-II  | 4    |
| Sustainable Development: Issues and Challenges     | NE2403 | UG-II  | 4    |
| Project-based Learning Course-1                    | NE3303 | UG-III | 3    |
| Water Pollution and Treatment Technologies         | NE2351 | UG-II  | 3.5  |
| Air Pollution Control Technologies                 | NE2352 | UG-II  | 3.5  |
| Solid Waste Management                             | NE4404 | UG-IV  | 4    |
| Soil and Water Quality Analyses (Lab Course)       | NE2202 | UG-II  | 2    |
| Project-based Learning Course-2                    | NE3303 | UG-III | 3    |
| Urban Ecology                                      | NE2301 | UG-II  | 3    |
| Soil Biology and Biochemistry                      | NE2302 | UG-II  | 3    |
| Biomimetics and Sustainable Design                 | NE3401 | UG-III | 4    |
| Environmental Legislation and Impact<br>Assessment | NE2404 | UG-II  | 4    |
| Agriscape Management                               | NE3403 | UG-III | 4    |
| Natural Resources: Conservation and Management     | NE3351 | UG-III | 3    |
| Cleaner Production and Sustainable<br>Technologies | NE3404 | UG-III | 4    |
| Restoration Ecology and Technologies               | NE3405 | UG-III | 4    |
| Smart Cities and Urban Planning                    | NE3406 | UG-III | 4    |
| Biodiversity Conservation                          | NE3407 | UG-III | 4    |
| Environmental Engineering                          | NE3402 | UG-III | 4    |
| Environmental Hazards and Disasters                | NE4401 | UG-IV  | 4    |
| Environmental Monitoring and Management            | NE4403 | UG-IV  | 4    |
|  | •      | •      |      |

| Environmental Chemistry  | NE4404 | UG-IV | 4 |
|--|--------|-------|---|
| Environmental Biotechnology  | NE4405 | UG-IV | 4 |
| Ecological Economics   | NE4406 | UG-IV | 4 |
| Environmental Ethics and Philosophy  | NE4407 | UG-IV | 4 |
| Participatory and Community Project<br>Course/Dissertation (Starts)-[Seminars]         | NE4601 | UG-IV | 6 |
| Participatory and Community Project<br>Course/Dissertation (Ends)-[Final Presentation] | NE4601 | UG-IV | 6 |

| Civil Engineering Department                       |               |    |     |
|--|---------------|----|-----|
| Sustainable And Smart Materials                    | UCE837/UCE854 | UG | 3.5 |
| Design Of Smart And Sustainable Public Utilities   | UCE853        | UG | 3.5 |
| Environmental Legislation And Impact<br>Assessment | UCE612        | UG | 3.5 |
| Structural Materials                               | PCE104        | PG | 4.0 |
| Infrastructure Planning And Management             | PIN102        | PG | 2.0 |
| Environmental Legislation And Impact<br>Assessment | PES225        | PG | 3.5 |
| Smart Materials And Structures                     | PIN114        | PG | 4.0 |

| <b>Mechanical Engineering Department</b> |        |    |     |
|--|--------|----|-----|
| Renewable Energy Systems                 | UME839 | UG | 3.5 |
| Fuel Cell Technology                     | UME727 | UG | 3.5 |
| Electric And Hybrid Vehicles             | UME858 | UG | 3.5 |
| Solar Energy Engineering                 | UME853 | UG | 3.5 |

| Chemical Engineering Department |        |    |     |
|---------------------------------|--------|----|-----|
| Industrial Pollution Abatement  | UCH503 | UG | 4.5 |

| Biotechnology Department    |        |    |     |
|-----------------------------|--------|----|-----|
| Environmental Biotechnology | UBT822 | UG | 4.0 |
| Bioremediation Technology   | PBY213 | PG | 3.0 |
| Food Technology             | UBT842 | UG | 4.0 |

| Electrical and Instrumentation Engineering Department |        |    |     |
|---|--------|----|-----|
| Smart Grid for EVs                                    | PEVXXX | PG | 3.0 |
| Battery Management Systems                            | PEVXXX | PG | 4.0 |

## **Courses lead to Degree:**

- · B.E/B.Tech all degrees
  - M. Tech in Environmental Science and Technology https://see.thapar.edu/programmes
  - M. Tech in Biotechnology https://btd.thapar.edu/programmes
  - M. E in structural engineering https://ced.thapar.edu/programmes
  - M. E in Infrastructure https://ced.thapar.edu/programmes
  - · B.Sc. Major in Environmental Sustainability -

https://tslas.thapar.edu/academicdetails/bsc

· M. A. in Environmental Studies -

https://international.tau.ac.il/ma\_environmental\_studies +

https://lmtsm.thapar.edu/internationalcollaboration/