

**Environmental Process Engineering****Semestre 1**

| Teaching unit                                                          | Subjects                                                                                | Credits   | Coefficient | Weekly teaching hours |             |             | Semester Hourly Volume<br>(15 weeks) | Supplementary Work<br>during Consultation<br>(15 weeks) | Evaluation method     |             |
|------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|-----------|-------------|-----------------------|-------------|-------------|--------------------------------------|---------------------------------------------------------|-----------------------|-------------|
|                                                                        | Title                                                                                   |           |             | Course                | DW          | PW          |                                      |                                                         | Continuous Assessment | Examination |
| TU Fondamentale<br>Code : UEF 1.1<br>Credits : 8Coef 4                 | Water Chemistry                                                                         | 4         | 2           | 1h30                  | 1h30        |             | 45h00                                | 55h00                                                   | 40%                   | 60%         |
|                                                                        | Air Pollution                                                                           | 4         | 2           | 1h30                  | 1h30        |             | 45h00                                | 55h00                                                   | 40%                   | 60%         |
| TU Fondamentale<br>Code : UEF 1.2<br>Credits : 10<br>Coefficients : 5  | Fluid-Fluid Unit Operations<br>(extraction, distillation,<br>absorption, and stripping) | 6         | 3           | 3h00                  | 1h30        |             | 67h30                                | 82h30                                                   | 40%                   | 60%         |
|                                                                        | Heat Transfer and Heat<br>Exchangers                                                    | 4         | 2           | 1h30                  | 1h30        |             | 45h00                                | 55h00                                                   | 40%                   | 60%         |
| TU Methodological<br>Code : UEM 1.1<br>Credits : 9<br>Coefficients : 5 | Water Chemistry Lab                                                                     | 2         | 1           |                       |             | 1h30        | 22h30                                | 27h30                                                   | 100%                  |             |
|                                                                        | Lab on Unit Operations (Fluid-<br>Fluid)                                                | 2         | 1           |                       |             | 1h30        | 22h30                                | 27h30                                                   | 100%                  |             |
|                                                                        | Heat Transfer and Heat<br>Exchangers Lab                                                | 2         | 1           |                       |             | 1h30        | 22h30                                | 27h30                                                   | 100%                  |             |
|                                                                        | Process Engineering Simulators                                                          | 3         | 2           | 1h30                  |             | 1h00        | 37h30                                | 37h30                                                   | 40%                   | 60%         |
| TU Discovery<br>Code : UED 1.1<br>Credits : 1coef : 1                  | Optional Course                                                                         | 1         | 1           | 1h30                  |             |             | 22h30                                | 2h30                                                    |                       | 100%        |
|                                                                        | Optional Course                                                                         | 1         | 1           | 1h30                  |             |             | 22h30                                | 2h30                                                    |                       | 100%        |
| TU<br>Cross-disciplinary<br>Code : UET 1.1<br>Credits : 1, Coef. 1     | Technical English and<br>Terminology                                                    | 1         | 1           | 1h30                  |             |             | 22h30                                | 2h30                                                    |                       | 100%        |
| <b>Total semestre1</b>                                                 |                                                                                         | <b>30</b> | <b>17</b>   | <b>13h30</b>          | <b>6h00</b> | <b>5h30</b> | <b>375h00</b>                        | <b>375h00</b>                                           |                       |             |

**Semestre 2**

| Teaching unit                                                           | Subjects                                                             | Credits   | Coefficient | Weekly teaching hours |             |             | Semester Hourly Volume<br>(15 weeks) | Supplementary Work during Consultation<br>(15 weeks) | Evaluation method     |             |
|-------------------------------------------------------------------------|----------------------------------------------------------------------|-----------|-------------|-----------------------|-------------|-------------|--------------------------------------|------------------------------------------------------|-----------------------|-------------|
|                                                                         | Title                                                                |           |             | Course                | DW          | PW          |                                      |                                                      | Continuous Assessment | Examination |
| TU Fondamentale<br>Code : UEF 2.1.1<br>Credits : 10<br>Coefficients : 5 | Drinking Water Production                                            | 6         | 3           | 3h00                  | 1h30        |             | 67h30                                | 82h30                                                | 40%                   | 60%         |
|                                                                         | Solid Waste Management and Treatment                                 | 4         | 2           | 1h30                  | 1h30        |             | 45h00                                | 55h00                                                | 40%                   | 60%         |
| TU Fondamentale<br>Code : UEF 2.1.2<br>Credits : 8<br>Coefficients : 4  | Adsorption Processes and Membrane Separation                         | 4         | 2           | 1h30                  | 1h30        |             | 45h00                                | 55h00                                                | 40%                   | 60%         |
|                                                                         | Multiphase Reactors                                                  | 4         | 2           | 1h30                  | 1h30        |             | 45h00                                | 55h00                                                | 40%                   | 60%         |
| TU Methodological<br>Code : UEM 2.1<br>Credits : 9<br>Coefficients : 5  | Porous and Dispersed Media                                           | 4         | 2           | 1h30                  | 1h30        |             | 37h30                                | 37h30                                                | 40%                   | 60%         |
|                                                                         | Water Treatment and Adsorption Processes and Membrane Separation Lab | 1         | 1           |                       |             | 1h00        | 22h30                                | 27h30                                                | 100%                  |             |
|                                                                         | Treatment and Conditioning of Process Water                          | 4         | 1           | 1h30                  | 1h30        |             | 45h00                                | 55h00                                                | 40%                   | 60%         |
| TU Cross-disciplinary<br>Code : UED 2.1<br>Credits : 2coef. 1           | Optional Course                                                      | 1         | 1           | 1h30                  |             |             | 22h30                                | 2h30                                                 |                       | 100%        |
|                                                                         | Optional Course                                                      | 1         | 1           | 1h30                  |             |             | 22h30                                | 2h30                                                 |                       | 100%        |
| TU Cross-disciplinary<br>Code : UET 2.1<br>Credits : 1 coef 1           | Ethics, Deontology, and Intellectual Property                        | 1         | 1           | 1h30                  |             |             | 22h30                                | 2h30                                                 |                       | 100%        |
| <b>Total semestre 2</b>                                                 |                                                                      | <b>30</b> | <b>17</b>   | <b>15h00</b>          | <b>8h30</b> | <b>1h30</b> | <b>375h00</b>                        | <b>375h00</b>                                        |                       |             |

**Semestre 3**

| Teaching unit                                                          | Subjects                                                 | Credits   | Coefficient | Weekly teaching hours |             |             | Semester Hourly Volume<br>(15 weeks) | Supplementary Work during Consultation<br>(15 weeks) | Evaluation method     |             |
|------------------------------------------------------------------------|----------------------------------------------------------|-----------|-------------|-----------------------|-------------|-------------|--------------------------------------|------------------------------------------------------|-----------------------|-------------|
|                                                                        | Title                                                    |           |             | Course                | Dw          | PW          |                                      |                                                      | Continuous Assessment | Examination |
| TU Fondamentale<br>Code : UEF 3.1<br>Credits : 10<br>Coefficients : 5  | Physico-Chemical and Biological Treatment of Wastewater  | 6         | 3           | 3h00                  | 1h30        |             | 67h30                                | 82h30                                                | 40%                   | 60%         |
|                                                                        | Gaseous Effluent Treatment                               | 4         | 2           | 1h30                  | 1h30        |             | 45h00                                | 55h00                                                | 40%                   | 60%         |
| TU Fondamentale<br>Code : UEF 3.2<br>Credits : 8<br>Coefficients : 4   | Engineering Thermodynamics                               | 4         | 2           | 1h30                  | 1h30        |             | 45h00                                | 55h00                                                | 40%                   | 60%         |
|                                                                        | Bioreactors                                              | 4         | 2           | 1h30                  | 1h30        |             | 45h00                                | 55h00                                                | 40%                   | 60%         |
| TU Methodological<br>Code : UEM 3.1<br>Credits : 9<br>Coefficients : 5 | Physico-Chemical and Biological Wastewater Treatment Lab | 2         | 1           |                       |             | 1h30        | 22h30                                | 27h30                                                | 100%                  |             |
|                                                                        | Process Intensification                                  | 2         | 1           | 1h30                  |             |             | 22h30                                | 27h30                                                |                       | 100%        |
|                                                                        | Contaminated Soil Treatment                              | 2         | 1           | 1h30                  |             |             | 22h30                                | 27h30                                                |                       | 100%        |
|                                                                        | Experimental Design                                      | 3         | 2           | 1h30                  |             | 1h00        | 37h30                                | 37h30                                                | 40%                   | 60%         |
| TU Discovery<br>Code : UED 3.1<br>Credits : 2<br>Coefficients : 2      | Optional Course                                          | 1         | 1           | 1h30                  |             |             | 22h30                                | 2h30                                                 |                       | 100%        |
|                                                                        | Optional Course                                          | 1         | 1           | 1h30                  |             |             | 22h30                                | 2h30                                                 |                       | 100%        |
| TU Cross-disciplinary<br>Code : UET 3.1<br>Credits : 1, coef. 1        | Documentary Research and Thesis Planning                 | 1         | 1           | 1h30                  |             |             | 22h30                                | 2h30                                                 |                       | 100%        |
| <b>Total semestre 3</b>                                                |                                                          | <b>30</b> | <b>17</b>   | <b>16h30</b>          | <b>6h00</b> | <b>2h30</b> | <b>375h00</b>                        | <b>375h00</b>                                        |                       |             |