**Study Plan**

**Plan Study (Multiple Tables)**

**First Year, Energy& Renewable Energies Engineering (2019 – 2020)**

**First Semester**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Code** | **Subject** | **Weeks Hours** | | | |
| **First term** | | | **Units** |
| **Theo.** | **Prac.** | **Tut.** |
| **1** | **WOSH101** | **Workshops I** | **-** | **6** | **-** | **4** |
| **2** | **EME102** | **English Language I** | **2** | **-** | **-** | **2** |
| **3** | **EME104** | **Sport** | **2** | **-** | **-** | **2** |
| **4** | **EME105** | **Mathematics I** | **4** | **-** | **-** | **4** |
| **5** | **EME107** | **Physics I** | **4** | **-** | **-** | **4** |
| **6** | **EMEE110** | **Engineering Mechanics I** | **2** | **2** | **-** | **3** |
| **7** | **EMEE112** | **Fundamentals of AutoCAD tools Drawing** | **-** | **3** | **-** | **1** |
| **8** | **EME114** | **Technical Report** | **2** | **-** | **-** | **2** |
|  | **Summation** | | **16** | **11** | **-** | **22** |

**Second Semester**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Code** | **Subject** | **Weeks Hours** | | | |
| **Second term** | | | **Units** |
| **Theo.** | **Prac.** | **Tut.** |
| **1** | **EME103** | **Computer Science I** | **1** | **2** | **1** | **2** |
| **2** | **WOSH105** | **Workshops II** | **-** | **6** | **-** | **4** |
| **3** | **EME106** | **Mathematics II** | **4** | **-** | **-** | **4** |
| **4** | **EME108** | **Physics II** | **4** | **-** | **-** | **4** |
| **5** | **EMEE109** | **Fundamentals of Electrical Engineering (AC + DC)** | **1** | **2** | **1** | **2** |
| **6** | **EMEE111** | **Engineering Mechanics II** | **2** | **2** | **-** | **3** |
| **7** | **EMEE113** | **Fundamentals of Engineering Drawing using AutoCAD** | **-** | **3** | **-** | **1** |
|  | **Summation** | | **12** | **15** | **2** | **20** |

**Second Year, Energy& Renewable Energies Engineering (2020 – 2021)**

**First Semester**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Code** | **Subject** | **Weeks Hours** | | | |
| **First term** | | | **Units** |
| **Theo.** | **Prac.** | **Tut.** |
| **1** | **EME202** | **Human Rights** | **2** | **-** | **-** | **2** |
| **2** | **EME203** | **Advanced Mathematics I** | **4** | **-** | **-** | **4** |
| **3** | **EME205** | **Computer Science II** | **1** | **2** | **1** | **2** |
| **4** | **EMEE207** | **Electrical Machines ( DC)** | **1** | **2** | **1** | **2** |
| **5** | **EMEE208** | **Thermodynamics** | **1** | **2** | **1** | **2** |
| **6** | **EMEE210** | **Electronic Circuits I** | **1** | **2** | **1** | **2** |
| **7** | **EMEE213** | **Measurement & Instrument** | **1** | **2** | **1** | **2** |
|  | **Summation** | | **11** | **10** | **5** | **16** |

**Second Semester**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Code** | **Subject** | **Weeks Hours** | | | |
| **Second term** | | | **Units** |
| **Theo.** | **Prac.** | **Tut.** |
| **1** | **EME201** | **English Language II** | **2** | **-** | **-** | **2** |
| **2** | **EME204** | **Advanced Mathematics II** | **4** | **-** | **-** | **4** |
| **3** | **EMEE206** | **Electrical Machines (AC)** | **1** | **2** | **1** | **2** |
| **4** | **EMEE209** | **Fluid Mechanics** | **1** | **2** | **1** | **2** |
| **5** | **EMEE211** | **Electrical Circuits II** | **1** | **2** | **1** | **2** |
| **6** | **EMEE212** | **Strength of Materials** | **1** | **2** | **1** | **2** |
| **7** | **EME214** | **Probability and Statistics** | **2** | **-** | **-** | **2** |
|  | **Summation** | | **12** | **8** | **4** | **16** |

**Third Year, Energy& Renewable Energies Engineering (2021 – 2022)**

**First Semester**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Code** | **Subject** | **Weeks Hours** | | | |
| **First term** | | | **Units** |
| **Theo.** | **Prac.** | **Tut.** |
| **1** | **EME 301** | **Numerical Analysis** | **4** | **-** | **-** | **4** |
| **2** | **EMEE 304** | **Application of Advance Computer** | **2** | **2** | **-** | **3** |
| **3** | **EMEE 309** | **Internal Combustion Engines and Pollution** | **2** | **2** | **-** | **3** |
| **4** | **EMEE 308** | **Heat Transfer** | **2** | **2** | **-** | **3** |
| **5** | **EMEE 310** | **Digital Electronics** | **2** | **2** | **-** | **3** |
| **6** | **EMEE 312** | **Renewable Energy Resources I** | **2** | **2** | **-** | **3** |
| **7** | **EMEE315** | **Vibration and Noise** | **1** | **2** | **1** | **2** |
|  | **Summation** | | **15** | **12** | **1** | **21** |

**Second Semester**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Code** | **Subject** | **Weeks Hours** | | | |
| **Second term** | | | **Units** |
| **Theo.** | **Prac.** | **Tut.** |
| **1** | **EME 302** | **Engineering Analysis** | **4** | **-** | **-** | **4** |
| **2** | **EMEE 311** | **Computer systems** | **2** | **2** | **-** | **3** |
| **3** | **EMEE 305** | **Industrial & Management Engineering** | **2** | **-** | **-** | **2** |
| **4** | **EMEE 306** | **Control Theory** | **2** | **2** | **-** | **3** |
| **5** | **EMEE 307** | **Power Systems** | **2** | **2** | **-** | **3** |
| **6** | **EMEE 313** | **Renewable Energy Resources II** | **2** | **2** | **-** | **3** |
| **7** | **EMEE 314** | **Fluid Machinery** | **2** | **2** | **-** | **3** |
|  | **Summation** | | **16** | **10** | **-** | **21** |

**Fourth Year, Energy& Renewable Energies Engineering (2022 – 2023)**

**First Semester**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Code** | **Subject** | **Weeks Hours** | | | |
| **First term** | | | **Units** |
| **Theo.** | **Prac.** | **Tut.** |
| **1** | **EME401** | **Ethics** | **2** | **-** | **-** | **2** |
| **2** | **EMEE408** | **Communications** | **3** | **-** | **-** | **3** |
| **3** | **EMEE411** | **Steam Power Plants** | **2** | **-** | **-** | **2** |
| **4** | **EMEE410** | **Design of Renewable systems I** | **2** | **2** | **-** | **3** |
| **5** | **EMEE404** | **Power Electronics** | **2** | **2** | **-** | **3** |
| **6** | **EMEE403** | **Power System Analysis** | **2** | **2** | **-** | **3** |
| **7** | **EMEE402** | **Project** | **-** | **4** | **-** | **4** |
|  | **Summation** | | **13** | **10** | **-** | **20** |

**Second Semester**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Code** | **Subject** | **Weeks Hours** | | | |
| **Second term** | | | **Units** |
| **Theo.** | **Prac.** | **Tut.** |
| **1** | **EMEE407** | **Nuclear Power Plants** | **2** | **-** | **1** | **2** |
| **2** | **EMEE412** | **Gas Power Plants** | **2** | **-** | **-** | **2** |
| **3** | **EMEE406** | **Energy Efficiency** | **2** | **-** | **-** | **2** |
| **4** | **EMEE413** | **Design of Renewable systems I** | **2** | **2** | **-** | **3** |
| **5** | **EMEE405** | **Electrical Motor Drives** | **2** | **2** | **-** | **3** |
| **6** | **EMEE414** | **Underground Grid** | **2** | **-** | **-** | **2** |
| **7** | **EMEE409** | **Project** | **-** | **4** | **-** | **4** |
|  | **Summation** | | **12** | **8** | **1** | **18** |

**Plan Study (Multiple Tables, Bologna Process)**

**First Year, Energy& Renewable Energies Engineering**

**First Semester**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Module code** | **Subject** | **SSWL (hr/w)** | | | | | | **Exam hr/sem** | **SSWL** | **USSWL** | **SWL** | **ECTS** | **Module Type** |
| **CL**  **hr/w** | **Lect hr/w** | **Lab hr/w** | **Pr hr/w** | **Hr/sem** | **Semn hr/w** | **Hr/sem** | **Hr/sem** | **Hr/sem** |
| **1** | **WSHE106** | **Workshops** |  |  |  | **6** |  |  | **3** | **93** | **7** | **100** | **4** | **B** |
| **2** | **FATD125** | **Fundamentals of AutoCAD tools Drawing** |  |  |  | **4** |  |  | **3** | **63** | **37** | **100** | **4** | **S** |
| **3** | **MATH113** | **Mathematics I** | **4** |  |  |  |  |  | **3** | **63** | **87** | **150** | **6** | **B** |
| **4** | **PHYS114** | **Physics I** | **4** |  |  |  |  |  | **3** | **63** | **87** | **150** | **6** | **B** |
| **5** | **ENME115** | **Engineering Mechanics I** | **1** |  |  | **1** | **1** |  | **3** | **48** | **77** | **125** | **5** | **C** |
| **6** | **TERE116** | **Technical Report** | **2** |  |  |  |  |  | **3** | **33** | **42** | **75** | **3** | **S** |
| **7** | **DEHR105** | **Democracy and Human Rights** | **2** |  |  |  |  |  | **3** | **33** | **17** | **50** | **2** | **B** |
|  |  |  | **13** | **0** | **0** | **11** | **1** | **0** | **21** | **396** | **354** | **750** | **30** | **B** |

**Second Semester**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Module code** | **Subject** | **SSWL (hr/w)** | | | | | | **Exam hr/sem** | **SSWL** | **USSWL** | **SWL** | **ECTS** | **Module Type** |
| **CL**  **hr/w** | **Lect hr/w** | **Lab hr/w** | **Pr hr/w** | **Hr/sem** | **Semn hr/w** | **Hr/sem** | **Hr/sem** | **Hr/sem** |
| **1** | **COMP108** | **Computer** | **1** |  |  | **2** |  |  | **3** | **63** | **12** | **75** | **3** | **S** |
| **2** | **WSHE106** | **Workshops** |  |  |  | **6** |  |  | **3** | **93** | **7** | **100** | **4** | **B** |
| **3** | **MATH122** | **Mathematics II** | **4** |  |  |  |  |  | **3** | **63** | **87** | **150** | **6** | **B** |
| **4** | **PHYS123** | **Physics II** | **4** |  |  |  |  |  | **3** | **63** | **87** | **150** | **6** | **B** |
| **5** | **FUEE124** | **Fundamentals of Electrical Engineering (AC + DC)** | **3** |  |  | **2** |  |  | **3** | **78** | **47** | **125** | **5** | **C** |
| **6** | **ENLA107** | **English Language I** | **2** |  |  |  |  |  | **3** | **33** | **17** | **50** | **2** | **S** |
| **7** | **ENME126** | **Engineering Mechanics II** | **1** |  |  | **1** | **1** |  | **3** | **48** | **52** | **100** | **4** | **C** |
|  |  |  | **15** | **0** | **0** | **11** | **1** | **0** | **21** | **441** | **309** | **750** | **30** |  |

**Second Year, Energy& Renewable Energies**

**First Semester**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Module code** | **Subject** | **SSWL (hr/w)** | | | | | | **Exam hr/sem** | **SSWL** | **USSWL** | **SWL** | **ECTS** | **Module Type** |
| **CL**  **hr/w** | **Lect hr/w** | **Lab hr/w** | **Pr hr/w** | **Hr/sem** | **Semn hr/w** | **Hr/sem** | **Hr/sem** | **Hr/sem** |
| **1** | **CBRI201** | **Crimes of the Baath Regime in iraq** | **2** |  |  |  |  |  | **3** | **33** | **17** | **50** | **2** | **B** |
| **2** | **ADMA213** | **Advanced Mathematics I** | **4** |  |  |  |  |  | **3** | **63** | **87** | **150** | **6** | **B** |
| **3** | **COMP208** | **Computer** | **1** |  |  | **2** |  |  | **3** | **63** | **12** | **75** | **3** | **B** |
| **4** | **ELMA214** | **Electrical Machines (DC)** | **2** |  |  | **2** |  |  | **3** | **63** | **62** | **125** | **5** | **C** |
| **5** | **THER215** | **Thermodynamics** | **2** |  |  | **2** |  |  | **3** | **63** | **62** | **125** | **5** | **C** |
| **6** | **MEIN216** | **Measurement & Instrument** | **2** |  |  | **2** |  |  | **3** | **63** | **62** | **125** | **5** | **C** |
| **7** | **ELCI217** | **Electronics Circuits** | **2** |  |  | **2** |  |  | **3** | **63** | **37** | **100** | **4** | **C** |
|  |  |  | **15** | **0** | **0** | **10** | **0** | **0** | **21** | **411** | **339** | **750** | **30** |  |

**Second Semester**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Module code** | **Subject** | **SSWL (hr/w)** | | | | | | **Exam hr/sem** | **SSWL** | **USSWL** | **SWL** | **ECTS** | **Module Type** |
| **CL**  **hr/w** | **Lect hr/w** | **Lab hr/w** | **Pr hr/w** | **Hr/sem** | **Semn hr/w** | **Hr/sem** | **Hr/sem** | **Hr/sem** |
| **1** | **ENLA207** | **English Language** | **2** |  |  |  |  |  | **3** | **33** | **17** | **50** | **2** | **B** |
| **2** | **ADMS223** | **Advanced Mathematics II and Probability and Statistics** | **4** |  |  |  |  |  | **3** | **63** | **87** | **150** | **6** | **B** |
| **3** | **ARLA204** | **Arabic Language** | **2** |  |  |  |  |  | **3** | **33** | **17** | **50** | **2** | **S** |
| **4** | **FLME224** | **Fluid Mechanics** | **2** |  |  | **2** |  |  | **3** | **63** | **62** | **125** | **5** | **C** |
| **5** | **ELCI225** | **Electrical Circuits** | **2** |  |  | **2** |  |  | **3** | **63** | **87** | **125** | **5** | **C** |
| **6** | **STMA226** | **Strength of Materials** | **2** |  |  | **2** |  |  | **3** | **63** | **37** | **100** | **4** | **C** |
| **7** | **ELMA227** | **Electrical Machines (AC)** | **2** |  |  | **2** |  |  | **3** | **63** | **37** | **100** | **4** | **C** |
| **8** | **SPOR222** | **Sport** | **2** |  |  |  |  |  | **3** | **33** | **17** | **50** | **2** | **S** |
|  |  |  | **18** | **0** | **0** | **8** | **0** | **0** | **24** | **414** | **361** | **750** | **30** |  |

**Third Year, Energy& Renewable Energies Engineering**

**First Semester**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Module code** | **Subject** | **SSWL (hr/w)** | | | | | | **Exam hr/sem** | **SSWL** | **USSWL** | **SWL** | **ECTS** | **Module Type** |
| **CL**  **hr/w** | **Lect hr/w** | **Lab hr/w** | **Pr hr/w** | **Hr/sem** | **Semn hr/w** | **Hr/sem** | **Hr/sem** | **Hr/sem** |
| **1** | **NUAN312** | **Numerical Analysis** | **3** |  |  |  |  |  | **3** | **63** | **37** | **100** | **4** | **B** |
| **2** | **AASC311** | **Application of Advance system Computer** | **1** |  |  | **2** | **1** |  | **3** | **63** | **12** | **75** | **3** | **S** |
| **3** | **ICEP313** | **Internal Combustion Engines and Pollution** | **2** |  |  | **2** |  |  | **3** | **63** | **37** | **100** | **4** | **C** |
| **4** | **HEAT314** | **Heat Transfer** | **2** |  |  | **2** |  |  | **3** | **63** | **62** | **125** | **5** | **C** |
| **5** | **DIEL315** | **Digital Electronics** | **2** |  |  | **2** |  |  | **3** | **63** | **37** | **100** | **4** | **C** |
| **6** | **RERE316** | **Renewable Energy Resources I** | **2** |  |  | **2** |  |  | **3** | **63** | **62** | **125** | **5** | **C** |
| **7** | **VINO317** | **Vibration and Noise** | **1** |  |  | **2** | **1** |  | **3** | **63** | **12** | **75** | **3** | **C** |
| **8** | **ARLA304** | **Arabic Language II** | **2** |  |  |  |  |  | **3** | **33** | **17** | **50** | **2** | **S** |
|  |  |  | **15** | **0** | **0** | **12** | **2** | **0** | **24** | **474** | **276** | **750** | **30** |  |

**Second Semester**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Module code** | **Subject** | **SSWL (hr/w)** | | | | | | **Exam hr/sem** | **SSWL** | **USSWL** | **SWL** | **ECTS** | **Module Type** |
| **CL**  **hr/w** | **Lect hr/w** | **Lab hr/w** | **Pr hr/w** | **Hr/sem** | **Semn hr/w** | **Hr/sem** | **Hr/sem** | **Hr/sem** |
| **1** | **ENAN322** | **Engineering Analysis** | **3** |  |  |  |  |  | **3** | **48** | **77** | **125** | **5** | **B** |
| **2** | **IMEN323** | **Industrial & Management Engineering** | **2** |  |  |  |  |  | **3** | **33** | **42** | **75** | **3** | **S** |
| **3** | **COTH324** | **Control Theory** | **2** |  |  | **2** |  |  | **3** | **63** | **62** | **125** | **5** | **C** |
| **4** | **POSY325** | **Power Systems** | **2** |  |  | **2** |  |  | **3** | **63** | **62** | **125** | **5** | **C** |
| **5** | **RSRE326** | **Renewable Energy Resources II** | **2** |  |  | **2** |  |  | **3** | **63** | **62** | **125** | **5** | **C** |
| **6** | **FLMA327** | **Fluid Machinery** | **2** |  |  | **2** |  |  | **3** | **63** | **37** | **100** | **4** | **C** |
| **7** | **COSY321** | **Computer System** | **1** |  |  | **2** | **1** |  | **3** | **63** | **12** | **75** | **3** | **S** |
|  |  |  | **14** | **0** | **0** | **10** | **1** | **0** | **21** | **396** | **354** | **750** | **30** |  |

**Fourth Year, Energy& Renewable Energies Engineering**

**First Semester**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Module code** | **Subject** | **SSWL (hr/w)** | | | | | | **Exam hr/sem** | **SSWL** | **USSWL** | **SWL** | **ECTS** | **Module Type** |
| **CL**  **hr/w** | **Lect hr/w** | **Lab hr/w** | **Pr hr/w** | **Hr/sem** | **Semn hr/w** | **Hr/sem** | **Hr/sem** | **Hr/sem** |
| **1** | **ETHI411** | **Ethics** | **2** |  |  |  |  |  | **3** | **33** | **67** | **100** | **4** | **S** |
| **2** | **STPP412** | **Steam Power Plants** | **2** |  |  |  |  |  | **3** | **33** | **92** | **125** | **5** | **C** |
| **3** | **DRSY413** | **Design of Renewable systems I** | **2** |  |  | **2** |  |  | **3** | **63** | **62** | **125** | **5** | **C** |
| **4** | **POEL414** | **Power Electronics** | **2** |  |  | **2** |  |  | **3** | **63** | **62** | **125** | **5** | **C** |
| **5** | **PSAN415** | **Power System Analysis** | **2** |  |  | **2** |  |  | **3** | **63** | **62** | **125** | **5** | **C** |
| **6** | **PROJ416** | **Project** |  |  |  | **4** |  |  | **3** | **63** | **12** | **75** | **3** | **C** |
| **7** | **COMM417** | **Communication** | **2** |  |  |  |  |  | **3** | **33** | **42** | **75** | **3** | **C** |
|  |  |  | **12** | **0** | **0** | **10** | **0** | **0** | **21** | **351** | **399** | **750** | **30** |  |

**Second Semester**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Module code** | **Subject** | **SSWL (hr/w)** | | | | | | **Exam hr/sem** | **SSWL** | **USSWL** | **SWL** | **ECTS** | **Module Type** |
| **CL**  **hr/w** | **Lect hr/w** | **Lab hr/w** | **Pr hr/w** | **Hr/sem** | **Semn hr/w** | **Hr/sem** | **Hr/sem** | **Hr/sem** |
| **1** | **NPPL421** | **Nuclear Power Plants** | **2** |  |  |  |  |  | **3** | **33** | **92** | **125** | **5** | **C** |
| **2** | **GPPL422** | **Gas Power Plants** | **2** |  |  |  |  |  | **3** | **33** | **67** | **100** | **4** | **C** |
| **3** | **ENEF423** | **Energy Efficiency** | **2** |  |  |  |  |  | **3** | **33** | **67** | **100** | **4** | **S** |
| **4** | **DRSY424** | **Design of Renewable systems II** | **2** |  |  | **2** |  |  | **3** | **63** | **62** | **125** | **5** | **C** |
| **5** | **UNGI425** | **Underground Grid** | **2** |  |  |  |  |  | **3** | **33** | **67** | **100** | **4** | **C** |
| **6** | **PROJ426** | **Project** |  |  |  | **4** |  |  | **3** | **63** | **12** | **75** | **3** | **C** |
| **7** | **EMDR427** | **Electric Motor Drives** | **2** |  |  | **2** |  |  | **3** | **63** | **62** | **125** | **5** | **C** |
|  |  |  | **12** | **0** | **0** | **8** | **0** | **0** | **21** | **321** | **429** | **750** | **30** |  |