

**Philadelphia University**

**Faculty of Engineering**

**Renewable Energy Engineering Department**

**Curriculum (2017/2018)**

**Total Credit Hours: 160 Hours**



**First: University Requirements (27) Cr. H.**

**A- First Field: University Compulsory Requirements: (12) Cr. H.**

Course No.	Course Title	Cr. H.	Prerequisite
114101	Arabic Language Skills (1)	3	114099
111100	Military Science	3	---
111101	National Education	3	---
130101	English Language Skills (1)	3	130099

**B- University Elective Courses:**

From the 2<sup>nd</sup>, 3<sup>rd</sup>, and 4<sup>th</sup> fields student should study one course as a minimum, two courses as a maximum that constitutes totally (15) Cr. H.

**Second Field: Human Sciences (3-6) Cr. H.**

Course No.	Course Title	Cr. H.	Prerequisite
114102	Arabic Language Skills (2)	3	114101
130103	English Language skills (3)	3	130102
140101	Foreign Language (French 1)	3	---
140104	Foreign Language (Italian 1)	3	---
140105	Foreign Language (Italian 2)	3	140104
140106	Foreign Language (Hebrew 1)	3	---
140109	Chinese Language Skills (1)	3	---
140110	Chinese Language Skills (2)	3	140109

**Third Field: Social and Economic Sciences: (3-6) Cr. H.**

Course No.	Course Title	Cr. H.	Prerequisite
115255	Development culture	3	---
111111	Introduction to Sociology	3	---
111112	Introduction to Psychology	3	---
111133	Human Thought and Civilization(1)	3	---
111142	Mass Communication & Society	3	---
420140	Human Rights	3	---
420143	Legal Culture	3	---

**Fourth Field: Technology, Agricultural and Health Sciences: (3-6) Cr. H.**

Course No.	Course Title	Cr. H.	Prerequisite
371111	Project Management Skills	3	---
731101	Skills of Using Social Media Sites	3	---
761111	Computer Skills	3	761099
910101	Health of Human and community	3	---
910105	Principle of Nursing and first Aids	3	---

All students must take exam in Arabic, English and computer skills. Students who fail to pass in any exam (less than 50%) must successfully pass the fundamental course.

**Codes used in Curriculum:**

(610) Electrical Eng. (611) Renewable Energy Eng. (620) Mechanical Eng.

(630) Computer Eng. (640) Mechatronics Eng. (650) Comm. & Electronics Eng.

**Second: Faculty Requirements (29) Cr. H.**

**2-1 Faculty compulsory Requirements (26) Cr. H**

Course No.	Course Title	Cr. H.	Prerequisite
130102	English Language Skills (2)	3	130101
250101	Calculus (1)	3	---
250102	Calculus (2)	3	250101
211104	Applied Physics	3	---
620131	Engineering Drawing	3	---
620171	Engineering Workshop (1)	1	---
620172	Engineering Workshop (2)	1	620171
640253	Engineering Skills	3	130102
630263	Programming Language	3	---
610550	Entrepreneurship	3	640253+120Cr.H.

**2-2 - Faculty Elective Requirement (3) Cr. H.**

Course No.	Course Title	Cr. H.	Prerequisite
211101	General Chemistry	3	---
610111	Fundamentals of Engineering	3	---

**Third: Department of Electrical Engineering Requirements (104) Cr.H.**

**3-1 Compulsory Requirements (89) Cr.H.**

Course No.	Course Title	Cr. H.	Prerequisite
610211	Electric Circuits(1)	3	211104
610216	Electric Circuits lab.	1	610211
650242	Electronics (1)	3	610211
620211	Statics	3	250101
620212	Dynamics	3	620211
620213	Solid Mechanics	3	620211
630211	Logic Circuits	3	630263
610314	Electrical Machines (1)	3	610211
610316	Electrical Machines Lab.	1	610314
610332	Instrumentation and Measurement	3	610342
610336	Instrumentation and Measurement Lab.	1	610332
620320	Fluid Mechanics (1)	3	630262
620429	Fluid Mechanics Lab.	1	620320
620323	Thermodynamics (1)	3	250102
6203240	Thermodynamics (2)	3	620323
620420	Heat transfer (1)	3	620323
620427	Thermal Lab.	1	620420
620414	Mechanical Vibration	3	620212

Course No.	Course Title	Cr. H.	Prerequisite
611359	Engineering Project (1)	1	620172
610414	Automatic Control	3	610332
630414	Embedded Systems	3	630211
611311	Energy Conversion and efficiency	3	610314
611312	Energy Economics and Management	3	611311
611341	Introduction to Renewable Energy	3	6100311
611411	Energy Legislations	3	6100312
611421	Solar Thermal Energy	3	611411
611422	Photovoltaic Energy System	3	650242
611458	Engineering Training **	0	90 Cr. H.
611459	Engineering Project (2)	1	120 Cr. H.
611511	Environmental Impact of energy	3	620323
611521	Solar Thermal Energy Technology	3	611531
611531	Wind Energy Systems	3	620414
611532	Design of Wind Energy Systems	3	6100531
611526	Solar Energy Lab.	1	611421
611536	Wind Energy Lab.	1	6100531
610530	Power Electronics	3	650242
611559	Engineering Project (3)	2	611459

**3.2 Backup Compulsory requirement (9) Cr. H.**

Course No.	Course Title	Cr. H.	Prerequisite
611301	Engineering Statistics	3	250102
630262	Engineering Analysis (2)	3	250102
630522	Modeling and Simulation	3	630262

**3.3 Compulsory requirement: the student must choose 6 Cr. H. from the table below**

Course No.	Course Title	Cr. H.	Prerequisite
611541	Bioenergy Systems	3	611341
611542	Geothermal Energy	3	620420
611543	Hydraulic and Waves Energy	3	620320
611544	Special Topics in Renewable Energy	3	---

(\*\*) Eight continuous weeks after completing 90 Cr. H.

(660) Civil Eng.

(670) Architecture Eng.