

ENERGY SYSTEMS ENGINEERING EDUCATION PLAN 2026-2027

FIRST SEMESTER					
Code		Name	Credits	ECTS	Prerequisite/ Corequisite
PHYS	101	General Physics I	(4-0)4	5	
PHYS	111	General Physics Laboratory I	(0-2)1	2	
MATH	141	Basic Calculus I	(3-2)4	5	
CHEM	121	General Chemistry I	(3-0)3	5	
CHEM	141	General Chemistry Laboratory I	(0-2)1	2	
ENG	101	Development of Reading and Writing Skills I	(3-0)3	3	
ESE	101	Introduction to Energy Systems Engineering	(2-0)2	5	
ME	113	Computer Aided Technical Drawing I	(2-2)3	3	
OHS	101	Occupational Health and Safety I	(1-0)1	1	
			22	31	

SECOND SEMESTER					
Code		Name	Credits	ECTS	Prerequisite/ Corequisite
PHYS	102	General Physics II	(4-0)4	5	
PHYS	112	General Physics Laboratory II	(0-2)1	2	
MATH	142	Basic Calculus II	(3-2)4	6	
CHEM	122	General Chemistry II	(3-0)3	5	
CHEM	142	General Chemistry Laboratory II	(0-2)1	2	
ENG	102	Development of Reading and Writing Skills II	(3-0)3	3	
ESE	104	Introduction to Computer Programming	(2-2)3	4	
MATH	265	Basic Linear Algebra	(3-0)3	4	
GCC	101	Career Planing and Development	(2-0)NC	2	
OHS	102	Occupational Health and Safety II	(1-0)1	1	
			23	34	

THIRD SEMESTER					
Code		Name	Credits	ECTS	Prerequisite/ Corequisite
ESE	201	Thermodynamics I	(2-2)3	6	
MATH	255	Differential Equations	(4-0)4	6	
ME	221	Statics	(3-0)3	5	
MSE	211	Materials Science and Engineering	(3-0)3	5	
HIST	201	Principles Of Ataturk I	(2-0)NC	2	
TURK	201	Turkish Language I	(2-0)NC	2	
		Non-technical Elective	(3-0)3	3	
			16	29	

FOURTH SEMESTER					
Code		Name	Credits	ECTS	Prerequisite/ Corequisite
ESE	202	Thermodynamics II	(2-2)3	6	ESE 201
ESE	204	Measurement Techniques	(2-2)3	5	
ESE	212	Numerical Methods in Energy Systems Engineering	(3-2)4	6	ESE104 and MAHT141
ESE	230	Fundamentals of Electrical and Electronic Circuits	(3-0)3	4	
ESE	232	Probability and Statistics	(3-0)3	5	
HIST	202	Principles Of Ataturk II	(2-0)NC	2	
TURK	202	Turkish Language II	(2-0)NC	2	

			16	30	
FIFTH SEMESTER					
Code		Name	Credits	ECTS	Prerequisite/ Corequisite
ESE	301	Heat Transfer	(4-0)4	6	
ESE	311	Fluid Mechanics I	(3-0)3	6	
ESE	321	Mass and Energy Balances	(3-0)3	5	
ESE	331	Electromechanical Energy Conversion	(4-0)4	6	
		Restricted Elective	NC	7	
			14	30	
SIXTH SEMESTER					
Code		Name	Credits	ECTS	Prerequisite/ Corequisite
ESE	312	Fluid Mechanics II	(3-0)3	6	ESE 311
ESE	322	Mass Transfer	(3-0)3	6	
ESE	342	Energy Systems Engineering Economics	(3-0)3	5	
ME	352	System Analysis and Control	(4-0)4	5	
		Technical Elective	(3-0)3	5	
ENG	302	Technical Writing and Communication	(3-0)3	3	
			19	30	
SEVENTH SEMESTER					
Code		Name	Credits	ECTS	Prerequisite/ Corequisite
ESE	401	Energy Systems Engineering Design I	(3-2)4	8	
		Technical Elective	(3-0)3	5	
		Technical Elective	(3-0)3	5	
		Technical Elective	(3-0)3	5	
		Restricted Elective	NC	7	
			13	30	
EIGHT SEMESTER					
Code		Name	Credits	ECTS	Prerequisite/ Corequisite
		Restricted Elective	(2-4)4	11	ESE 401
MAN	211	Communicational and Management Skills for Engineer	(3-0)NC	3	
		Non-technical Elective	(3-0)3	3	
		Non-technical Elective	(3-0)3	3	
		Technical Elective	(3-0)3	5	
		Technical Elective	(3-0)3	5	
			16	30	
TOTAL CREDITS			139	244	