

Aeronautical Engineering Program Curriculum

YEAR-1 Semester 1 and 2

Code	Course Name	Credit/ECTS	Pre requisite
AER101	Introduction to Aeronautical Engineering	2(2-0)/3	
MEC101	Technical Drawing I	3(2-2)/5	
CHE105	General Chemistry	4(3-2)/6	
PHY101	Physics I	4(3-2)/6	
MTH101	Calculus I	4(4-0)/5	
ENG101	Foreign Language I	3(3-0)/4	
TUR151*	Turkish I: Written Expression	0(2-0)/2	
YIT151**	Turkish for International Students I	0(2-0)/2	
		20/31	
MTH112	Linear Algebra	3(3-0)/4	MTH101
AER102	Creativity and Innovation in Engineering Design	2(2-0)/3	
PHY102	Physics II	4(3-2)/6	PHY101
MTH102	Calculus II	4(4-0)/6	MTH101
ENG102	Foreign Language II	3(3-0)/4	ENG101
CMP101	Programming Application for Engineers	3(2-2)/5	
TUR152*	Turkish II: Oral Expression	0(2-0)/2	TUR151
YIT152**	Turkish for International Students II	0(2-0)/2	YIT151
		19/30	

YEAR-1 Summer School

Code	Course Name	Credit/ECTS	Pre requisite
AER120	Summer Internship I	0	

YEAR-2 Semester 3 and 4

Code	Course Name	Credit/ECTS	Pre requisite
MEC203	Statics	3(3-0)/5	PHY101
MTH201	Differential Equations	4(4-0)/6	MTH102
MEC209	CAD and 3-D Printing	3(3-0)/5	MEC101
MEC205	Material Science	3(3-0)/4	CHE105
MEC207	Thermodynamics I	3(3-0)/5	PHY101
GE	General Elective	3(3-0)/4	
AER200	Undergraduate Seminar I	0(1-0)/1	
		19/29	
MEC204	Dynamics	3(3-0)/5	MEC203
AER214	Mechanics of Materials	4(3-2)/6	MEC203
AER208	Processes in Manufacturing	3(3-0)/4	MEC205
AER204	Electrics and Electronics	4(3-2)/6	PHY102
MEC208	Thermodynamics II	3(3-0)/4	MEC207
TE1	Technical Elective	3(3-0)/4	
		20/29	

YEAR-2 Summer School

Code	Course Name	Credit/ECTS	Pre requisite
AER220	Summer Internship II	0	AER120

YEAR-3 Semester 5 and 6

Code	Course Name	Credit/ECTS	Pre requisite
AER306	Fluid Mechanics I	3(3-0)/4	MEC204, MTH201
AER333	Aerospace Structures	3(3-0)/4	AER214
AER315	Mechanical Vibrations	3(3-0)/4	MEC204
EEE341	Signal and System Analysis	4(3-2)/6	AER204
MTH301	Numerical Analysis for Engineers	3(3-0)/5	MTH102
TE1	Technical Elective	3(3-0)/4	
AIT151*	Principles of Ataturk and the History of Turkish Revolution I	0(2-0)/2	
AIT153**	History for International Students I	0(2-0)/2	
AER300	Undergraduate Seminar II	0(1-0)/1	
		19/30	
AER334	Aerodynamics	4(3-2)/6	AER306
AER324	Flight Mechanics	3(3-0)/4	AER306
AER302	Control Systems	3(3-0)/4	
AER206	Dynamics of Systems	3(3-0)/4	MEC204
AER304	Heat and Mass Transfer	3(3-0)/4	AER306, MTH201
MTH312	Probability and Statistics	3(3-0)/5	MTH102
AIT152*	Principles of Ataturk and the History of Turkish Revolution II	0(2-0)/2	AIT151
AIT154**	History for International Students II	0(2-0)/2	AIT153
		19/29	

YEAR-3 Summer School

Code	Course Name	Credit/ECTS	Pre requisite
AER320	Summer Internship III	0	AER220

YEAR-4 Semester 7 and 8

Code	Course Name	Credit/ECTS	Pre requisite
AER422	Flight Dynamics & Control	4(4-0)/6	AER324
AER311	Gas Dynamics	3(3-0)/4	AER334, MEC208
TE1	Technical Elective	3(3-0)/5	
TE1	Technical Elective	3(3-0)/5	
TE1	Technical Elective	3(3-0)/5	
GE	General Elective	3(3-0)/5	
		19/30	
AER452	Aircraft Design	4(3-2)/7	AER422
AER432	Gas Turbines & Jet Propulsion	3(3-0)/5	AER334, MEC208
TE2	Technical Elective	3(3-0)/5	
TE2	Technical Elective	3(3-0)/5	
TE2	Technical Elective	3(3-0)/5	
AER400	Graduation Design Project	2(0-4)/5	
		18/32	

TOTAL

153/240

*Only Turkish or TRNC Students will take these courses.

**Only international Students will take these courses.

Aeronautical Engineering Elective Courses

Technical Elective

Code	Course Name	Credit/ECTS	Prerequisite
Technical Elective (1)			
AER213	Engineering Experimentation	3(2-2)/5	
AER326	Introduction to 3D Surface Geometry	3(3-0)/4	
AER453	Product & Process Design	3(3-0)/4	
AER475	Theory and Design of Control Systems	3(3-0)/4	
MEC303	Machine Component Design I	3(3-0)/4	AER214
MEC447	Experimental Stress Analysis	3(2-2)/5	
MEC315	Turbomachinery	3(3-0)/4	AER334
MEC438	Power Plants	3(3-0)/4	AER212
AER423	Rotorcraft Aerodynamics	3(3-0)/4	AER334
MEC427	Applied Optimal Control and Estimation	3(3-0)/4	AER302
AER435	Introduction to Energy Conversion	3(3-0)/4	
AER437	Fundamentals of Combustion	3(3-0)/4	AER212
MEC447	Experimental Stress Analysis	3(3-0)/4	AER214
AER455	Mechanics of Composite Materials	3(3-0)/4	AER214
AER461	Industrial Pneumatics	3(3-0)/4	
Technical Elective (2)			
AER465	Mechanical Behavior of Materials	3(3-0)/4	AER214
AER472	Design of Jet Propulsion Power Plants	3(3-0)/4	AER212
AER425	Aerospace Propulsion	3(3-0)/4	AER212
AER317	Optimum Design	3(3-0)/4	AER302
AER421	Intro. to Computational Fluid Dynamics	3(3-0)/4	AER334
AER439	Experimental Aerodynamics	3(2-2)/5	AER334
AER456	Aeroelasticity	3(3-0)/4	AER422
AER466	Guidance and Control of Aerospace Vehicles	3(3-0)/4	AER422
AER468	Optimization in Aerospace Engineering	3(3-0)/4	AER302
AER436	Propulsion Design, Build, Test	3(2-2)/5	AER212
AER458	Matrix Methods of Aerospace Structures	3(3-0)/4	AER333
AER454	Fatigue of Structures and Materials	3(3-0)/4	AER214
AER444	Wind Turbines & Wind Energy	3(3-0)/4	
AER412	Aircraft Maintenance	3(3-0)/4	
AER457	Quality Control	3(3-0)/4	
AER462	Kinematic Synthesis of Linkages	3(3-0)/4	

General Elective:

Code	Course Name	Credit/ECTS	Prerequisite
AVN203	Introduction to Flight	3(2-2)/5	
AST218	Introduction to Astronomy	3(3-0)/4	
AFC302	Quantitative Analysis for Management	3(3-0)/4	
AFC311	Risk Management in Aviation	3(3-0)/4	
EAS101	Introduction to Economics: Micro Economics	3(3-0)/4	
EAS102	Introduction to Economics: Macro Economics	3(3-0)/4	
EAS103	Introduction to Business	3(3-0)/4	
EAS431	Economics for Engineers	3(3-0)/4	
AFC206	Supply Chain Management	3(3-0)/4	
AFC302	Quantitative Analysis for Management	3(3-0)/4	
ENG201	Academic Reading and Writing Skills	3(3-0)/4	
ENG211	English Communication Skills	3(3-0)/4	
FRE101	French I	3(3-0)/4	
AVM201	Air Transportation	3(3-0)/4	
AVM303	Aviation Safety	3(3-0)/4	
CMP333	Internet of Things	3(3-0)/4	
CMP103	Introduction to Algorithm and Design	0(2-0)/2	
SCD302	Scuba Diving	3(3-0)/4	