ENGINEERING AND NATURAL SCIENCES FACULTY
SOFTWARE ENGINEERING DEPARTMENT

ELECTIVE COURSES THAT CAN BE TAKEN FROM OTHER DEPARTMENTS

Information Technology Courses		
Course Code	**Course Name**	**Prerequisite***
CENG 311	Responsive Web Design	SENG201
CENG 314	Content Management Systems	-
CENG 411	Web Services	-
CENG 423	Web Application Development	-
CENG 425	Wireless and Mobile Devices	-
CENG 427	Mobile Application Development	-
CENG 429	Geographic Information Systems	-
CENG 433	Cloud Computing	-
CENG 406	Blockchain Fundamentals and Applications	-
CENG 416	Software Modelling and Analysis	-
CENG 420	Fundamentals of Distance Education	-
CENG 462	Game Development	-
CENG 465	Internet of Things and Its Applications	-
CENG 466	Management Information Systems	-

Multimedia & Imaging Courses		
Course Code	**Course Name**	**Prerequisite***
CENG 310	Human Computer Interaction	-
CENG 315	Computer Graphics	SENG201 & ENGR202
CENG316	Introduction to Virtual Reality	-
CENG407	Remote Sensing	-
CENG 415	Applications of Computer Graphics	CENG 315
CENG 422	Multimedia Systems	-
CENG 441	Digital Image Processing	-

Hardware Courses

Course Code	Course Name	Prerequisite*
CENG 312	Introduction to Robotics	-
CENG 313	Computer Architecture	-
CENG 318	Microprocessor Systems	-
CENG 322	Embedded Systems Design	-
CENG 426	Embedded Computing	-
MCE 484	Aerial Robotics	-

Network and Security Courses

Course Code	Course Name	Prerequisite*
CENG 321	Data Communication	-
CENG 325	Principles of Information Security and Privacy	-
CENG 421	Cryptology and Applications	-
CENG 451	Principles of Cyber Physical Systems	-
CENG 474	Communication and Network Security	-
CENG 417	Malware Analysis	-
CENG 419	Basic Cyber Forensics	-

Scientific & Parallel Computing Courses

Course Code	Course Name	Prerequisite*
CENG409	Numerical Optimization	-
CENG 424	Computer Simulation and Modelling	-
CENG 430	Distributed Systems and Colaborative Computing	-
CENG 342	Parallel Programming I	-
CENG 443	Parallel Programming II	-
CENG 470	Introduction to Cognitive Computing	-

Artificial Intelligence Courses

Course Code	Course Name	Prerequisite*
CENG 317	Principles of Artificial Intelligence	-
CENG329	Mathematics for Machine Learning	-

CENG 408	Machine Learning Engineering	-
CENG 410	Data Mining	SENG301
CENG412	Reinforcement Learning	-
CENG413	Data Engineering	-
CENG414	Recommender Systems	-
CENG 418	Fuzzy Systems	-
CENG 428	Neural Networks	-
CENG 432	Pattern Recognition	-
CENG 440	Information Retrieval	SENG301
CENG 442	Natural Language Processing	-
CENG 463	Machine Learning	-
CENG 472	Big Data Analytics	-

Other Courses		
Course Code	**Course Name**	**Prerequisite***
CENG 319	Compiler Design	-
CENG 403	Special Topics in CENG I	-
CENG 404	Special Topics in CENG II	-
ENGR 450	Engineering Application on Site	-
CENG 460	Bioinformatics	-

Mathematics Courses		
Course Code	**Course Name**	**Prerequisite***
MATH426	Introductıon To Cryptography	-