

Kocaeli University
Faculty of Engineering and Natural Sciences
Department of Industrial Engineering
2024-2025 Academic Year
(100% English)

YEAR ONE														
1st Term						2nd Term								
Course Name	T	P	L	C	ECTS	Prerequisite	Code	Course Name	T	P	L	C	ECTS	Prerequisite
Calculus I*	3	2	0	4	6		MATH102	Calculus II*	3	2	0	4	6	
Physics I*	3	0	2	4	6		PHYS102	Physics II*	3	0	2	4	6	
General Chemistry I*	3	0	2	4	6		IE110	Introduction to Industrial Engineering	3	0	0	3	3	
English I	2	0	0	2	2		ENG104	English II	2	0	0	2	2	
Principles of Atatürk and History of Turkish Revolution I	2	0	0	2	2		ATA104	Principles of Atatürk and History of Turkish Revolution II	2	0	0	2	2	
Positive Psychology and Communication Skills	3	0	0	3	5		COME102	Introduction to Algorithms and Programming*	2	0	2	3	4	
University Culture I	0	2	0	1	4		MATH104	Basic Linear Algebra*	2	2	0	3	5	
							RCUL104	University Culture II	0	2	0	1	4	
	16	4	4	20	31			Total Credits	17	6	4	22	32	
YEAR TWO														
3rd Term						4th Term								
Course Name	T	P	L	C	ECTS	Prerequisite	Code	Course Name	T	P	L	C	ECTS	Prerequisite
Probability*	2	2	0	3	4		MATH204	Statistics	3	0	0	3	5	
Differential Equations*	2	2	0	3	5		MATH302	Numerical Analysis	3	0	0	3	6	
Operations Research I*	3	0	2	4	6		RPRE104	Entrepreneurship and Project Culture	2	0	2	3		
Computer Aided Engineering Graphics*	2	0	2	3	4		IE226	Operations Research II*	3	0	2	4	6	
Manufacturing Systems Analysis	3	0	0	3	4		IE250	Work Systems Analysis and Design	3	0	0	3	5	
Turkish Language I	2	0	0	2	2		TURK104	Turkish Language II	2	0	0	2	2	
Engineering Economics	3	0	0	3	4		IE284	Summer Practice I**	0	0	0	0	5	
	17	4	4	21	29			Total Credits	16	0	2	17	32	
YEAR THREE														
5th Term						6th Term								
Course Name	T	P	L	C	ECTS	Prerequisite	Code	Course Name	T	P	L	C	ECTS	Prerequisite
System Simulation*	2	0	2	3	5		IE304	Facility Planning and Layout Design	3	0	0	3	5	
Production and Inventory Systems	3	0	0	3	5		IE346	Management Information Systems	2	0	0	2	3	
Ergonomics	3	0	0	3	5		IEXXX	Departmental Elective II	3	0	0	3	5	
Departmental Elective I	3	0	0	3	5		XXXXXX	Field Elective II	3	0	0	3	5	
Field Elective I	3	0	0	3	5		XXXXXX	Social Elective II	3	0	0	3	5	
Social Elective I	3	0	0	3	5		IE384	Summer Practice II**	0	0	0	0	5	
	17	0	2	18	30			Total Credits	14	0	0	14	28	
YEAR FOUR														
7th Term						8th Term								
Course Name	T	P	L	C	ECTS	Prerequisite	Code	Course Name	T	P	L	C	ECTS	Prerequisite
Graduation Project*	2	0	4	4	5		IE402	Graduation Thesis*	2	0	6	5	8	
Statistical Quality Control	3	0	0	3	5		IE420	Project Management	3	0	0	3	5	
Departmental Elective III	3	0	0	3	5		IE408	Supply Chain Management	3	0	0	3	5	
Departmental Elective IV	3	0	0	3	5		IEXXX	Departmental Elective V	3	0	0	3	5	
Field Elective III	3	0	0	3	5		IEXXX	Departmental Elective VI	3	0	0	3	5	
Social Elective III	3	0	0	3	5		OHS404	Occupational Health and Safety	4	0	0	4	4	
	17	0	4	19	30			Total Credits	18	0	6	21	32	

Total Course Credits for Graduation	152
Total Course ECTS for Graduation	244
Total Elective Courses ECTS	60
Elective Course Ratio	25%

* These courses are under the Applied Course status.
** These courses are under the Internship Course status.

Elective Course Pool														
Departmental Elective Courses						Social Elective Courses (Foreign Languages)								
Course Name	T	P	L	C	ECTS	Prerequisite	Code	Course Name	T	P	L	C	ECTS	Prerequisite
Creativity and Innovation	3	0	0	3	5		ARB123	Arabic I	3	0	0	3	5	
Leadership and Communication Skills	3	0	0	3	5		ARB124	Arabic II	3	0	0	3	5	ARB123
Human Resources Management	3	0	0	3	5		CHN123	Chinese I	3	0	0	3	5	
Decision Making in Health Services	3	0	0	3	5		CHN124	Chinese II	3	0	0	3	5	CHN123
Organizational Behaviour	3	0	0	3	5		ESP123	Spanish I	3	0	0	3	5	
Computer Integrated Manufacturing	3	0	0	3	5		ESP124	Spanish II	3	0	0	3	5	ESP123
Cost Analysis	3	0	0	3	5		FRN123	French I	3	0	0	3	5	
Engineering Management	3	0	0	3	5		FRN124	French II	3	0	0	3	5	FRN123
Data Science and Analytics	3	0	0	3	5		GER123	German I	3	0	0	3	5	
Decision Analysis	3	0	0	3	5		GER124	German II	3	0	0	3	5	GER123
Start-up Projects in Engineering	3	0	0	3	5		RSN123	Russian I	3	0	0	3	5	
Probabilistic Models in Operations Research	3	0	0	3	5		RSN124	Russian II	3	0	0	3	5	RSN123
Portfolio and Risk Analytics	3	0	0	3	5									
System Dynamics	3	0	0	3	5									
Enterprise Resource Planning	3	0	0	3	5									
Decision Support Systems	3	0	0	3	5									
Introduction to Fuzzy Logic	3	0	0	3	5									
Lean and Agile Production Systems	3	0	0	3	5									
Design of Experiments	3	0	0	3	5									
Robotics and Intelligent Systems	3	0	0	3	5									
Operation Scheduling	3	0	0	3	5									
Reliability Engineering and Maintenance Management	3	0	0	3	5									
Optimization	3	0	0	3	5									
Healthcare Quality Management	3	0	0	3	5									
Forecasting and Predictive Analysis	3	0	0	3	5									
Expert Systems and Artificial Intelligence	3	0	0	3	5									
Special Topics in Industrial Engineering	3	0	0	3	5									

For Field Elective courses, any departmental elective course having appropriate credits from other departments of Faculty of Engineering and Natural Sciences can be elected.

For Social Elective courses, either foreign language course or course having appropriate credits from other faculties can be elected.