

**DEPARTMENT OF INDUSTRIAL ENGINEERING**  
**DOUBLE MAJOR PROGRAM IN INDUSTRIAL ENGINEERING FOR STUDENTS FROM MATHEMATICS UNDERGRADUATE CURRICULUM**

**1. SEMESTER**

INDUSTRIAL ENGINEERING PROGRAM				EQUIVALENT COURSE IN MATHEMATICS PROGRAM			
Course code	Course name	Credit	ECTS	Course code	Course name	Credit	ECTS
HIST111	Principles of Atatürk and History of Turkish Revolution I (in English)	2-0	2	HIST111	Principles of Atatürk and History of Turkish Revolution I (in English)	(2-0)	2.0
PHYS101	General Physics I	3-2	6	PHYS101	General Physics I	(3-2)	6.0
HIST221	History of Civilization	3-0	3	HIST221	History of Civilization	(3-0)	3.0
ENG101	English For Academic Purposes I	4-0	3.5	ENG101	English For Academic Purposes I	(4-0)	3.5
<b>IE103</b>	<b>Introduction to Industrial Engineering</b>	<b>2-0</b>	<b>3.5</b>				
MATH151	Calculus I	4-2	7	MATH135(*)	Mathematical Analysis I	(4-2)	8.5
<b>CHE105</b>	<b>General Chemistry</b>	<b>3-2</b>	<b>5</b>				
KRY111	Career Planning	1-0	1	KRY111	Career Planning	1-0	1
Total Credit			31				

**2. SEMESTER**

INDUSTRIAL ENGINEERING PROGRAM				EQUIVALENT COURSE IN MATHEMATICS PROGRAM			
Course code	Course name	Credit	ECTS	Course code	Course name	Credit	ECTS
HIST112	Principles of Atatürk and History of Turkish Revolution II (in English)	2-0	2	HIST112	Principles of Atatürk and History of Turkish Revolution II (in English)	(2-2)	2.0
CMPE102	Computer Programming	2-2	4	CMPE102	Computer Programming	(2-2)	4.0
PHYS102	General Physics II	3-2	6	PHYS102	General Physics II	(3-2)	6.0
ENG102	English for Academic Purposes II	4-0	3.5	ENG102	English for Academic Purposes II	(4-0)	3.5

MATH152	Calculus II	4-2	7	MATH136 (*)	Mathematical Analysis II	(4-2)	8.5
<b>IE122</b>	<b>Quantitative Analysis and Introduction to Modeling</b>	<b>2-0</b>	<b>3</b>				
<b>CE110</b>	<b>Engineering Graphics and Design</b>	<b>1-3</b>	<b>4.5</b>				
Total Credit			30				

### 3. SEMESTER

INDUSTRIAL ENGINEERING PROGRAM				EQUIVALENT COURSE IN MATHEMATICS PROGRAM			
Course code	Course name	Credit	ECTS	Course code	Course name	Credit	ECTS
MATH275	Linear Algebra	4-0	6	MATH231 (*)	Linear Algebra I	(4-0)	7.0
IE201(*)	Probability and Statistics I	3-0	7	MATH392	Probability Theory and Statistics	(4-0)	7.0
<b>MATE207</b>	<b>Introduction to Materials Engineering</b>	<b>3-0</b>	<b>5</b>				
ENG201	English for Academic Purposes III	3-0	3	ENG201	English for Academic Purposes III	(3-0)	3.0
<b>ECON211</b>	<b>Fundamentals of Economics</b>	<b>4-0</b>	<b>4</b>				
<b>ME205</b>	<b>Introduction to Manufacturing Processes</b>	<b>2-2</b>	<b>5</b>				
Total Credit			30				

### 4. SEMESTER

INDUSTRIAL ENGINEERING PROGRAM				EQUIVALENT COURSE IN MATHEMATICS PROGRAM			
Course code	Course name	Credit	ECTS	Course code	Course name	Credit	ECTS
MATH276	Differential Equations	4-0	6	MATH262 (*)	Ordinary Differential Equations	(4-0)	6.0
ENG202	English for Academic Purposes IV	3-0	3	ENG202	English for Academic Purposes IV	(3-0)	3.0

<b>IE206</b>	<b>Engineering Cost Analysis</b>	<b>3-0</b>	<b>3</b>				
<b>IE222</b>	<b>Operations Research I</b>	<b>3-2</b>	<b>7.5</b>				
<b>IE202</b>	<b>Probability and Statistics II</b>	<b>3-1</b>	<b>6.5</b>				
	General Elective	3-0	4		General Elective	3-0	4
Total Credit			30				

5. SEMESTER

INDUSTRIAL ENGINEERING PROGRAM				EQUIVALENT COURSE IN MATHEMATICS PROGRAM			
Course code	Course name	Credit	ECTS	Course code	Course name	Credit	ECTS
<b>CMPE301</b>	<b>Introduction to Database Management Systems</b>	<b>2-2</b>	<b>5</b>				
<b>IE307</b>	<b>Production Planning and Control</b>	<b>3-0</b>	<b>5</b>				
<b>IE305</b>	<b>Engineering Economy</b>	<b>2-0</b>	<b>5</b>				
<b>IE323</b>	<b>Operations Research II</b>	<b>3-2</b>	<b>8</b>				
<b>IE399</b>	<b>Summer Practice I</b>	<b>0-0</b>	<b>6</b>				
ENG301	English for Occupational Purposes I	3-0	3	ENG301	English for Occupational Purposes I	(3-0)	3.0
	General Elective	3-0	4		General Elective	3-0	4
Total Credit			30				

6. SEMESTER

INDUSTRIAL ENGINEERING PROGRAM				EQUIVALENT COURSE IN MATHEMATICS PROGRAM			
Course code	Course name	Credit	ECTS	Course code	Course name	Credit	ECTS
IE316	Ergonomics	2-1	4				
IE324	Stochastic Models	3-0	6				
IE326	Quality Control and Assurance	3-0	6				
IE304	Information Management	3-0	6				
ENG302	English for Occupational Purposes II	3-0	3	ENG302	English for Occupational Purposes II	(3-0)	3.0
	Area Elective (1)	3-0	5				
Total Credit			30				

7. SEMESTER

INDUSTRIAL ENGINEERING PROGRAM				EQUIVALENT COURSE IN MATHEMATICS PROGRAM			
Course code	Course name	Credit	ECTS	Course code	Course name	Credit	ECTS
TURK401	Turkish Language I	2-0	2	TURK401	Turkish Language I	(2-0)	2.0
IE403	Simulation	2-2	5				
IE407	Facilities Planning	3-1	7				
IE499	Summer Practice II	0-0	10				
IE405	Industrial Engineering Design I	3-1	6				
	Area Elective (2)	3-0	5				
	Area Elective (3)	3-0	5				
Total Credit			30				

8. SEMESTER

INDUSTRIAL ENGINEERING PROGRAM				EQUIVALENT COURSE IN MATHEMATICS PROGRAM			
Course code	Course name	Credit	ECTS	Course code	Course name	Credit	ECTS
TURK402	Turkish Language II	2-0	2	TURK402	Turkish Language II	(2-0)	2.0
IE406	Industrial Engineering Design II	3-1	9				
	Area Elective (4)	3-0	5				
	Area Elective (5)	3-0	5				
	Area Elective (Multidisciplinary Courses) (6)	3-0	5				
	General Elective	0-0	4		General Elective	0-0	4
Total Credit			30				

**NOTE:**

1. **Area Elective Courses:** For students who are coming from the Mathematics department to the IE department, it is necessary to take ***at least FOUR Area Elective courses*** from the IE department.
2. **General Elective Courses:** General Elective Courses are the same for both departments.
3. **The courses marked with (\*) are the ones that should be taken.**