

**DEPARTMENT OF INDUSTRIAL ENGINEERING – DEPARTMENT OF MATHEMATICS  
DOUBLE MAJOR PROGRAM**

<b>1st GROUP COURSES (FULL COURSE EQUIVALENCY BETWEEN DEPARTMENTS)</b>				
<b>CATEGORY</b>	<b>CREDIT</b>	<b>ECTS</b>	<b>ALL PROGRAMS</b>	<b>Notes</b>
CC.R	3	5	CMPE 101	
CC.R	3	5	ENG 101	
CC.R	3	5	ENG 102	
CC.R	4	6	PHYS 105	
F.R	3	6	CMPE 112	
U.C	2	2	HIST 101	
U.C	2	2	HIST 102	
U.C	2	2	TUR 101	
U.C	2	2	TUR 102	
U.C	0	1	TEDU 400	
S.F	3	5	ED 1	
S.F	3	5	ED 2	
S.F	3	5	ED 3	
S.F	3	5	ED 4	
S.F	3	5	ED 5	
F.E	3	5	SS 1	
F.E	3	5	SS 2	
CC.E	3	5	CC(A)	
CC.E	3	5	CC(H)	
CC.E	3	5	CC(L)	
CC.E	3	5	CC(NS)	
CC.E	3	5	CC(SS)	

2nd GROUP COURSES Program Required (R) and Elective (E) Courses							
CATEGORY	CREDIT	ECTS	IE	CREDIT	ECTS	MATH	Notes
CC.R/R	4	7	MATH 101	4	7	MATH 113	1, 2
CC.R/R	4	7	MATH 102	4	7	MATH 114	
R	3	5	MATH 203	3	5	MATH 105	
R	3	5	ECON 110	3	5	MATH 108	
R	3	6	ME 221	3	6	MATH 207	
R	3	6	MATH 230	4	7	MATH 211	
R	3	6	MATH 232	3	6	MATH 221	
R	3	6	IE 212	4	7	MATH 212	
R	3	6	IE 222	3	6	MATH 222	
R	3	6	IE 232	3	6	MATH 242	
R	3	5	CMPE 232	4	7	MATH 313	
R	3	6	IE 311	3	7	MATH 321	
R	3	6	IE 331	3	6	MATH 331	
R	3	7	IE 341	4	7	MATH 314	
R	1	2	IE 399	3	7	MATH 322	
R	3	6	IE 312	3	6	MATH 352	
R	3	7	IE 316	3	6	MATH 409	
R	3	6	IE 332	3	6	MATH 491	
R	1	2	IE 499				
R	3	6	IE 491				
R	3	6	IE 492				
E	3	5	IE 4XX	3	6	MATH 3XX/4XX	
E	3	5	IE 4XX	3	6	MATH 3XX/4XX	
E	3	5	IE 4XX	3	6	MATH 3XX/4XX	
E				3	6	MATH 3XX/4XX	
E				3	6	MATH 3XX/4XX	
F.E	3	5	SS 3				
F.E.	3	5	SS 4				

EQUIVALENCY BETWEEN 2nd GROUP COURSES FOR IE and ECON DEPARTMENTS*					
CATEGORY	CREDIT	ECTS	IE	MATH	NOTES
CC.R/R	4	7	MATH 101	MATH 113	
CC.R/R	4	7	MATH 102	MATH 114	
R	3	5/6	MATH 203	MATH 242	3, 5
R	3/4	5/6	MATH 203	MATH 221	3
R/E	3	6	MATH 230	MATH 3XX/4XX	4
<b>Number of courses required for graduation:</b>			48	45	
<b>Minimum credits required for graduation (Cr):</b>			136	135	
<b>Minimum total ECTS required for graduation</b>			240	240	

\* Course equivalencies given in this table are only valid for double major students. The equivalency applications for the courses that do not exist in the table are evaluated by Faculty Executive Boards and endorsed if seen appropriate by both.

**Notes:**

- 1) ECON 110 is a required course for IE Department, and is a required CC.E(SS) course for Math. Department. IE-Math. Double Major students who have taken this course from IE Department, will be exempt from CC.E(SS) requirement in Math. Department, and if the student has taken CC.E(SS) from IE Department, it will be credited under Free Elective category.
- 2) For both departments, a course under “R” or “E” category other than summer practice courses, can be counted under “Free Elective” category in the other department.
- 3) IE-MATH Double Major students, whose major field is IE can take MATH 203 to have it credited for MATH 242 and those students whose major field is Math. can take MATH 221 to have it credited for MATH 203. MATH 203 cannot be credited for MATH 221 course. MATH 242 course cannot be credited for MATH 203.
- 4) IE-MATH Double Major students can have MATH 230 course credited for MATH 3XX/4XX departmental elective course.
- 5) MATH 203 has 5 ECTS credits, and MATH 242 has 6 ECTS credits. Double major students must compensate for missing credits by taking extra course(s) due to the credits differences of equivalent courses.