

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

1st GROUP COURSES (FULL COURSE EQUIVALENCY BETWEEN DEPARTMENTS)				
CATEGORY	CREDIT	ECTS	ALL PROGRAMS	NOTES
CC.R	3	5	ENG 101	
CC.R	3	5	ENG 102	
U.C	2	2	HIST 101	
U.C	2	2	HIST 102	
U.C	2	2	TUR 101/150	
U.C	2	2	TUR 102/160	
U.C	3	5	LIBE 110	
U.C	3	5	LIBE 120	
U.C	3	5	LIBE 130	
U.C	3	5	LIBE 140	
U.C	3	5	LIBE 150	
U.C	0	1	TEDU 101	
U.C	1	1	TEDU 102	
R	3	5	CMPE 113	
F.E	3	5	SS 1	

2nd GROUP COURSES Program Required (R) Courses							
CATEGORY	CREDIT	ECTS	IE	CREDIT	ECTS	MATH	NOTES
CC.R/R	4	7	MATH 101	3	6	MATH 105	1
CC.E/R	4	7	MATH 102	4	8	MATH 113	
R	3	6	MATH 230	4	8	MATH 114	
R	3	6	MATH 232	3	6	MATH 108	
R	3	5	ECON 110	3	6	MATH 207	
R	3	6	CMPE 114	4	8	MATH 211	
R	4	6	PHYS 101	4	6	PHYS 105	
R	3	5	CHEM 100	3	5	TEDU 109	
R	3	5	MATH 203	3	7	MATH 221	
R	3	8	ME 221	4	8	MATH 212	
R	3	5	CMPE 232	3	7	MATH 222	
R	3	6	IE 232	3	6	MATH 242	
R	3	6	IE 212	4	7	MATH 313	
R	3	6	IE 222	3	7	MATH 321	
R	3	6	IE 311	4	7	MATH 314	
R	3	6	IE 331	3	7	MATH 322	
R	3	6	IE 341	3	7	MATH 333	
R	3	5	IE 371	3	7	MATH 334	
R	3	6	IE 312	3	6	MATH 411	
R	3	7	IE 316	3	6	MATH 451	
R	3	6	IE 332	3	6	MATH 471	
R	3	8	IE 491	3	6	MATH 402	
R	3	8	IE 492	3	6	MATH 492	
R	1	3	IE 399				
R	1	5	IE 499				
R	3	5	ENGR 490				
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	5	FREE ELECTIVE	
E	3	5	MATH/Sci Elective	3	5	FREE ELECTIVE	
E	3	5	MATH/Sci Elective	3	5	FREE ELECTIVE	
E	3	5	MATH/Sci Elective	3	5	FREE ELECTIVE	

EQUIVALENCY BETWEEN 2nd GROUP COURSES FOR IE and MATH 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	2, 4
R	3/4	5/8	MATH 203	MATH 221	2, 5
R/E	3	6	MATH 230	MATH 3XX/4XX	3
Number of courses required for graduation:			47	44	
Minimum credits required for graduation (Cr):			131	130	
Minimum total ECTS required for graduation			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) 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.
- 2) 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.
- 3) IE-MATH Double Major students can have MATH 230 course credited for MATH 3XX/4XX departmental elective course.
- 4) 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.