

**INDUSTRIAL AND SYSTEMS ENGINEERING PhD Program (on MSc)**

REMEDIAL COURSES				
Dept.	Code	Course Name	CR.	ECTS
ISE	222	Operations Research I	NC	
ISE	302	Systems Engineering Methods	NC	
ISE	352	Linear Systems and Control	NC	
ISE	361	Production Systems Design	NC	
MATH	281	Probability	NC	
PROGRAM COURSES				
Dept.	Code	Course Name	CR.	ECTS
ESYE	501	Research Methodology	3	10
ESYE	505	Systems Engineering Methodology	3	10
ESYE	603	Quantitative Methods For Sys. Eng. I	3	10
		Area Elective I	3	10
		Area Elective II	3	10
		Area Elective III	3	10
		Free Elective I	3	10
ESYE	690	PhD Seminar	NC	2
ESYE	691	Independent Study for Qualifying Exam	NC	30
ESYE	700	PhD Dissertation	NC	150
		TOTAL	21	252
EXTRA/NON-DEGREE COURSES				
Dept.	Code	Course Name	CR.	ECTS
		Extra/Non-degree	NC	

Course Group	Description
Area Elective I-III	All GSNAS courses in the elective pool offered by all departments.
Free Elective I	Unrestricted, by approval of advisor and ESYE department.
Extra/Non-degree	Optional non-credit (NC) courses that are not part of the program.
Remedial Courses	Undergraduate level courses offered by department.