



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

<b>REMEDIAL COURSE</b>				
<b>Dept.</b>	<b>Code</b>	<b>Course Name</b>	<b>CR.</b>	<b>ECTS</b>
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	
<b>PROGRAM COURSES</b>				
<b>Dept.</b>	<b>Code</b>	<b>Course Name</b>	<b>CR.</b>	<b>ECTS</b>
ESYE	501	Research Methodology	3	10
ESYE	505	Systems Engineering Methodology	3	10
ESYE	522	Operations Research	3	10
		Area Elective I	3	10
		Area Elective II	3	10
		Area Elective III	3	10
		Area Elective IV	3	10
		Area Elective V	3	10
		Area Elective VI	3	10
		Area Elective VII	3	10
		Area Elective VII	3	10
		Area Elective IX	3	10
		Area Elective X	3	10
		Free Elective I	3	10
ESYE	590	Research Seminar	NC	2
ESYE	690	PhD Seminar	NC	2
ESYE	691	Independent Study for Qualifying Exam	NC	30
ESYE	700	PhD Dissertation	NC	150
		TOTAL	42	324
<b>EXTRA/NON-DEGREE COURSES</b>				
<b>Dept.</b>	<b>Code</b>	<b>Course Name</b>	<b>CR.</b>	<b>ECTS</b>
		Extra/Non-degree	NC	

<b>Course Group</b>	<b>Description</b>
Area Elective I-X	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.