



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

<b>REMEDIAL COURSES</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 Methodologies in Sys. Eng.	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
		Area Elective IV	3	10
ESYE	690	PhD Seminar	NC	2
ESYE	691	Independent Study for Qualifying Exam	NC	30
ESYE	700	PhD Dissertation	NC	150
		<b>TOTAL</b>	<b>21</b>	<b>252</b>
<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-IV	All GSNAS courses in the elective pool offered by all departments.
Extra/Non-degree	Optional non-credit (NC) courses that are not part of the program.
Remedial Courses	Undergraduate level courses offered by department.