

Class of 2011 - Systems Engineering Major - ESE					
3/c Fall	3/c Spring	2/c Fall	2/c Spring	1/c Fall	1/c Spring
NN200 1-2-2 Navigation and Piloting	NE203 3-0-3 Ethics and Moral Reasoning	NS300 0-2-1 Naval Warfare	NL310 3-0-3 Leadership: Theory and Applications		NS42X 0-2-1 Junior Officer Practicum
SP211 3-2-4 General Physics I	SP212 3-2-4 General Physics II		ES300 3-0-3 Naval Weapons Systems		NL400 2-0-2 Law for the Junior Officer
SM221 4-0-4 Calculus III with Vector Fields	SM212 4-0-4 Differential Equations	EE331 3-2-4 Electrical Engineering I	EE332 3-2-4 Electrical Engineering II		
HH215 3-0-3 Western Civilization I	HH216 3-0-3 Western Civilization II	HUM/SS Elective 3-0-3		HUM/SS Elective ----- > 3-0-3	
EM211 3-0-3 Statics	EM232 3-0-3 Dynamics	SM316 3-0-3 Engineering Math with Probs and Stats	EM319a 3-0-3 Engineering Thermodynamics	EM318 3-0-3 Applied Fluid Mechanics	
SI283 1-2-2 Programming for Engineers				ES403 1-2-2 Engineering Design Methods	ES402 2-4-4 Systems Design
	ES202 2-2-3 Intro to Systems Engineering	ES301 2-2-3 System Modeling and Simulation	ES308 1-2-2 Control System Design Laboratory	ES405 2-2-3 Applied Control Systems and Instrumentation	3-0-3 < ----Major Elective III
		ES303 3-0-3 Linear Control Systems	ES304 3-0-3 Advanced Control Systems	3-0-3 Major Elective I	3-0-3 Major Elective IV
				3-0-3 Major Elective II	3-0-3 Major Elective V
18	20	17	18	17	16

Major Credits: 55

Total Credits: 140

ESE

DeM 1/08

Class Of 2011 - Systems Engineering Major (Honors) - ESEH					
3/c Fall	3/c Spring	2/c Fall	2/c Spring	1/c Fall	1/c Spring
NN200 1-2-2 Navigation and Piloting	NE203 3-0-3 Ethics and Moral Reasoning	NS300 0-2-1 Naval Warfare	NL310 3-0-3 Leadership: Theory and Applications		NS42X 0-2-1 Junior Officer Practicum
SP211 3-2-4 General Physics I	SP212 3-2-4 General Physics II		ES300 3-0-3 Naval Weapons Systems		NL400 2-0-2 Law for the Junior Officer
SM221 4-0-4 Calculus III with Vector Fields	SM212 4-0-4 Differential Equations	EE331 3-2-4 Electrical Engineering I	EE332 3-2-4 Electrical Engineering II		
HH215 3-0-3 Western Civilization I	HH216 3-0-3 Western Civilization II	HUM/SS Elective 3-0-3		HUM/SS Elective 3-0-3	
EM211 3-0-3 Statics	EM232 3-0-3 Dynamics	SM316 3-0-3 Engineering Math with Probs and Stats	EM319a 3-0-3 Engineering Thermodynamics	EM318 3-0-3 Applied Fluid Mechanics	
SI283 1-2-2 Programming for Engineers				ES RES 0-6-3 Systems Engineering Research	ES402 2-4-4 Systems Design
	ES202 2-2-3 Intro to Systems Engineering	ES301 2-2-3 System Modeling and Simulation	ES308 1-2-2 Control System Design Laboratory	ES405 2-2-3 Applied Control Systems and Instrumentation	Major Elective III 3-0-3
		ES303H 3-0-3 Honors Linear Control Systems	ES304H 3-0-3 Honors Advanced Control Systems	Major Elective I 3-0-3	Major Elective IV 3-0-3
			ES502 1-2-2 Honors Research and Design	Major Elective II 3-0-3	ES503 3-0-3 Advanced Technologies
18	20	17	20	18	16

Major Credits: 58

Total Credits: 143

ESEH

DeM 1/08

ES303 + ES304 + ES481 = ES303H + ES304H

ES403 + ES482 = ES502

SYSTEMS ENGINEERING MAJOR ELECTIVES

May 2008

MAJOR ELECTIVES I-IV: Choose two tracks.
At least one track must be chosen from A through D.

A. INFORMATION SYSTEMS TRACK			
	ES421 Digital Info. Systems	(F)	2-2-3
	ES422 Analog Info. Systems	(S)	2-2-3
	(ES421 is prereq.)		
B. CONTROL SYSTEMS TRACK			
	ES418 Modern Control Systems	(F)	3-0-3
AND	{ES413 Digital Control Systems	(S)	2-2-3
OR	ES456* Autonomous Vehicles	(S)	2-2-3
	(ES418 or ES450 are prereq.)}		
C. COMPUTER ENGINEERING TRACK (Open to 2/C)			
	ES430 Intro to Computer Engineering	(F)	2-2-3
	ES432 Microcomp. in Control Applications	(S)	2-2-3
	(ES430 is prereq.)		
D. ROBOTICS ENGINEERING TRACK (Open to 2/C)			
	ES450 Intro to Robotic Systems	(F)	2-2-3
AND	{ES451 Mobile Robot Design	(F)	1-4-3
	(ES450 is coreq.)		
OR	ES452 Adv. Topics in Robotics	(S)	2-2-3
	(ES450 is prereq.)		
OR	ES456* Autonomous Vehicles	(S)	2-2-3
	(ES418 or ES450 are prereq.)}		
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E. ENVIRONMENTAL ENGINEERING TRACK			
	EN411 Ocean Environ Engineering I	(F,S)	2-2-3
	EN412 Ocean Environ Engineering II	(S)	3-0-3
F. ELECTRICAL ENGINEERING TRACK (any two courses)			
	EE341 Electronics I	(F)	3-2-4
	EE488 Electric Machines & Drives	(F)	3-2-4
	EE344 Power Electronics	(S)	3-2-4
	(EE332 is prereq.)		
G. MECHANICAL MATERIALS TRACK			
	EM217 Strength of Materials	(F,S)	3-2-4
	EM313 Materials Science	(S)	3-2-4
	(EM217 is prereq.)		
H. NUCLEAR ENGINEERING TRACK			
	EM362 Reactor Physics I	(F,S)	3-0-3
AND	{EM463 Reactor Physics II	(S)	2-2-3
OR	EM468 Nuclear Energy Conversion}	(S)	3-0-3
I. AEROSPACE ENGINEERING TRACK (3 courses)			
	EA301 Aerodynamics I (vice EM318)	(F)	3-0-3
AND	EA304 Aerodynamics II	(S)	3-0-3
AND	EA413 Stability and Control	(F)	3-0-3
	For all three, start early. EA301 prerequisite for EA413.		
J. ASTRONAUTICS ENGINEERING TRACK			
	EA362 Astroynamics I	(S)	3-0-3
AND	{EA364 Spacecraft Attitude Dyn. & Cont.	(F)	3-0-3
OR	EA463 Space Operations}	(S)	3-0-3

* Limited enrollment

MAJOR ELECTIVE V

Choose any course listed above, or from the following:

ES453	Intro to Computer Vision	(F,S)	(2-2-3)
ES461*	Quantitative Methods for Management	(F)	(3-0-3)
ES462*	Emerging Technologies	(S)	(3-0-3)
ES495	Systems Engineering Research	(F)	(0-6-3)
ES496	Systems Engineering Research	(S)	(0-6-3)
ES497	Systems Engineering Research	(F)	(0-12-6)
ES498	Systems Engineering Research (3.0 QPR required)	(S)	(0-12-6)
EM485C	Motor Sports Engineering	(F)	(2-2-3)
EN430	Underwater Work Systems	(F)	(3-0-3)
EN450	Engineering Economic Analysis	(F,S)	(3-0-3)
EN470	Life Support Systems	(S)	(3-0-3)
SM261	Matrix Theory	(F,S)	(3-0-3)
SP411	Underwater Acoustics	(F,S)	(3-0-3)
SP418	Science of Music and Sound	(F)	(1-0-1)

* Limited enrollment

Other courses only with approval of Chairman,
Weapons and Systems Engineering.

COURSE SEQUENCING: Most of the tracks consist of a pair of courses available in a Fall-Spring sequence. However, advisers should pay close attention to the semesters in which courses are offered, which may vary from year to year.

TRACK MODIFICATIONS: Modifications to track course selection may be approved by the Chairman in extraordinary circumstances.