

## 2017-2018 SYSTEMS ENGINEERING BS: 4 YR. SEQUENCE

### FALL CLASSES

#### **FALL: First Semester (17 hours)**

- SYEN 1210 Intro to Systems Engineering (First Year Experience)
- SYEN 1207 Intro to Mechanical Eng.
- SYEN 1301 Intro to Computer Systems
- MATH 1451 Calculus
- Core: Communications - Written
- Core: U. S. Traditions

### SPRING CLASSES

#### **SPRING: Second Semester (15-16 hours)**

- PHYS 2321/2121 Physics for Scientists and Engineers I and Lab
- CHEM 1406 Engineering Chem or CHEM 1402 General Chem I
- MATH 1452 Calculus II
- Core: Communications – Written

OPTION REQUIREMENT
Mechanical
<input type="checkbox"/> SYEN 2117 Manufacturing Processes Lab

#### **FALL: Third Semester (17 hours)**

- SYEN 1302 C/C++ Programming for Engineers and Scientists
- PHYS 2322/2122 Physics for Scientists and Engineers II
- MATH 2453 Calculus III
- Core: Social Science
- Core: Fine Arts

#### **SPRING: Fourth Semester (17-18 hours)**

- SYEN 2315 Circuits and Systems
- SYEN 2115 Circuits and Systems Laboratory
- SYEN 2110 Computational Engineering Laboratory
- SYEN 3314 Probability Theory and Random Variables
- MATH 3322 Introduction to Differential Equations
- Core: Humanities: [PHIL 2321](#)

3-4 HOUR OPTION REQUIREMENT		
Computer	Electrical	Mechanical
<input type="checkbox"/> SYEN 3362 Algorithm Design	<input type="checkbox"/> SYEN 3352 <input type="checkbox"/> SYEN 3152 Analog and Digital /Lab	<input type="checkbox"/> SYEN 2370 Engineering Statics

#### **FALL: Fifth Semester (16-17 hours)**

- SYEN 3316 Discrete Events Systems Modeling and Simulation
- MATH 3312 Linear Algebra

#### **SPRING: Sixth Semester (16-17 hours)**

- SYEN 3320 Systems Engineering Design and Analysis
- SYEN 3312 Optimization Methods in Systems Engineering

10-11 HOUR OPTION REQUIREMENT		
Computer	Electrical	Mechanical
<input type="checkbox"/> SYEN 3330 <input type="checkbox"/> SYEN 3130 Digital Systems/ Lab	<input type="checkbox"/> SYEN 3330 <input type="checkbox"/> SYEN 3130 Digital Systems/ Lab	<input type="checkbox"/> SYEN 3371 Engineering Dynamics
<input type="checkbox"/> SYEN 4334 Software Systems Eng.	<input type="checkbox"/> SYEN 3351 Network Analysis	<input type="checkbox"/> SYEN 3378 Engineering Thermodynamics
<input type="checkbox"/> SYEN 3332 Comm. Networks	<input type="checkbox"/> SYEN 3356 Electromag. Fields and Waves	<input type="checkbox"/> SYEN 3372 Engineering Materials
		<input type="checkbox"/> SYEN 2233 Solid Modeling and Design

10-11 HOUR OPTION REQUIREMENT		
Computer	Electrical	Mechanical
<input type="checkbox"/> SYEN 3336 Computer Architecture	<input type="checkbox"/> SYEN 3364 Intro to Control Systems	<input type="checkbox"/> SYEN 4374 <input type="checkbox"/> SYEN 4174 Fluid Mechanics/Lab
<input type="checkbox"/> SYEN 3334 <input type="checkbox"/> SYEN 3134 Adv. Micropro. Sys/Lab	<input type="checkbox"/> SYEN 3334 <input type="checkbox"/> SYEN 3134 Adv. Micropro. Sys/Lab	<input type="checkbox"/> SYEN 3379 Mechanical Design
<input type="checkbox"/> SYEN 4332 Applied Operating Systems	<input type="checkbox"/> SYEN 3350 <input type="checkbox"/> SYEN 3150 Signals and Systems/Lab	<input type="checkbox"/> SYEN 3373 <input type="checkbox"/> SYEN 4176 Mechanics of Materials/Lab

#### **FALL: Seventh Semester (16-17 hours)**

- SYEN 4185 Systems Engineering Capstone Design I
- SYEN 3318 Decision and Risk Analysis
- SYEN X3XX Major Elective
- SYEN X3XX Major Elective
- Core: History of Civilization

#### **SPRING: Eighth Semester (12-15 hours)**

- SYEN 4386 Systems Engineering Capstone Design II
- SYEN 3301 Engineering Economy
- SYEN X3XX Major Elective
- SYEN X3XX Major Elective

3-4 HOUR OPTION REQUIREMENT		
Computer	Electrical	Mechanical
<input type="checkbox"/> SYEN 4366 Adv. Digital Systems	<input type="checkbox"/> SYEN 3358 <input type="checkbox"/> SYEN3158 Fundamentals of Power Sys/Lab	<input type="checkbox"/> SYEN 4379 Heat Transfer

Computer
<input type="checkbox"/> SYEN 4331 Adv. Computer Architecture