

**2018-2019 MECHANICAL SYSTEMS ENGINEERING BS: 4 YR. SEQUENCE**

**FALL CLASSES**

**SPRING CLASSES**

***FALL: First Semester (15 hours)***

***SPRING: Second Semester (15 hours)***

- SYEN 1210 Intro to Systems Engineering (First Year Experience)
- SYEN 1207 Intro to Mechanical Engineering
- CHEM 1406 Engineering Chemistry OR CHEM 1402 General Chemistry I
- MATH 1451 Calculus
- Core: Communications – Written (RHET 1311)

- SYEN 2117 Fabrication Lab I OR ETME 2117 Manufacturing Processes Lab
- PHYS 2321/2121 Physics for Scientists and Engineers I and Lab
- MATH 1452 Calculus II
- Core: Communications – Written (RHET 1312)
- Core: U. S. Traditions (HIST 2311/2312 or POLS 1310)

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

***SPRING: Fourth Semester (18 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: History of Civilization (HIST 1311/1312)

- SYEN 2370 Engineering Statics OR CNMG 2370 Engineering Statics
- SYEN 3314 Probability Theory and Random Variables or MATH 3350. Intro to Probability
- SYEN 3372. Engineering Materials
- MATH 3322 Introduction to Differential Equations
- Core: Fine Arts
- Core: Humanities (PHIL 2321)

***FALL: Fifth Semester (17 hours)***

***SPRING: Sixth Semester (15 hours)***

- SYEN 2233 Solid Modeling and Design
- SYEN 3316 Discrete Events Systems Modeling and Simulation
- SYEN 3371 Engineering Dynamics
- SYEN 3373 Introduction to the Mechanics of Materials
- SYEN 3378 Engineering Thermodynamics OR CNMG 3378 Engineering Thermodynamics
- MATH 3312 Linear Algebra

- SYEN 3312 Optimization Methods in Systems Engineering
- SYEN 3320 Systems Engineering Design and Analysis
- SYEN 3370 Vibrations I
- SYEN 3379 Elements of Mechanical Design
- SYEN 4374 Fluid Mechanics

***FALL: Seventh Semester (17 hours)***

***SPRING: Eighth Semester (16 hours)***

- SYEN 4185 Systems Engineering Capstone Design I
- SYEN 3318 Decision and Risk Analysis
- SYEN 4174 Mechanical Engineering Laboratory I
- SYEN 4379 Heat Transfer
- SYEN 4326 Measurement Techniques OR PHYS 3350 Electronics
- SYEN X3XX Major Elective<sup>1</sup>
- SYEN X3XX Major Elective<sup>1</sup>

- SYEN 4386 Systems Engineering Capstone Design II
- SYEN 3301 Engineering Economy OR CNMG 3302 Engineering Economy
- SYEN 3364 Intro to Control Systems Engineering
- SYEN 4176. Mechanical Engineering Laboratory II
- SYEN X3XX Major Elective<sup>1</sup>
- SYEN X3XX Major Elective<sup>1</sup>

<sup>1</sup> SYEN 4182/4282 MEMS and Microsystems, SYEN 4315 Advanced Dynamics, SYEN 4320 Linear State-Space Control Systems, SYEN 4325 Fuzzy Logic in Control and Systems Engineering, SYEN 4327 Acoustics I, SYEN 4329 Robust and Optimal Control, SYEN 4335 Mechatronics I, SYEN 4350 Digital Signal Processing, SYEN 4371 Continuum Mechanics, SYEN 4372 Mechatronics II, SYEN 4375 Mechanical Vibrations, SYEN 4376 Mechanics of Materials, SYEN 4380 HV ACR Engineering Fundamentals, SYEN 4381 Thermal Powerplant Engineering, SYEN 4383 Finite Element Analysis, SYEN 4384 Computational Methods in Fluid and Heat Transfer