

2020-2021 MECHANICAL 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 Colloquium)
- 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 3372. Engineering Materials
- MATH 3322. Introduction to Differential Equations
- SYEN 3314. Probability Theory and Random Variables **OR** STAT 3350. Intro to Probability
- 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. Dynamics I
- SYEN 3373. Mechanics of Materials I
- SYEN 3378. Thermodynamics I **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 3374. Fluid Mechanics I

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 Elective¹
- SYEN X3XX Major Elective¹

- SYEN 4386. Systems Engineering Capstone Design II
- SYEN 3301. Engineering Economy **OR** CNMG 3302. Engineering Economy
- SYEN 3364. Intro to Control Systems Engineering **OR** SYEN 4335. Mechatronics I
- SYEN 4176. Mechanical Engineering Laboratory II
- SYEN X3XX Major Elective¹
- SYEN X3XX Major Elective¹

132 credit hours (130 credits hours of required courses + 2 credit hours of FYC)

¹ SYEN 4182/4282. MEMS and Microsystems, SYEN 4315. Dynamics II, 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 4350. Digital Signal Processing, SYEN 4371. Thermodynamics II, SYEN 4372. Mechatronics II, SYEN 4374. Fluid Mechanics II, SYEN 4375. Mechanical Vibrations, SYEN 4376. Mechanics of Materials II, SYEN 4380. HVACR Engineering Fundamentals, SYEN 4381. Thermal Powerplant Engineering, SYEN 4383. Finite Element Analysis, SYEN 4384. Computational Methods in Fluid and Heat Transfer