

SEM	CR	EVEN B.S. Degree: Block Diagram 2019-20					
Spr	16	Enviro Eng Opt list B 3- *	MCEN 4131 -3- Air Pollution Control P: fluid mechanics & Thermo #	CVEN 4333 -3- Engineering Hydrology P: Fluids C: Prob & Stat	EVEN 4434 -4- Environmental Engineering Design P: CVEN 3414 #	Technical Elective III -3- or Senior thesis *	
Fall	17	Enviro Eng Opt list B -3-	Air or Earth Science Lab or Field course -3-	Free Elective -2-	EVEN 4464 -3- Env Engrg Processes P: CVEN3414 & fluids #	Technical Elective II -3- or Senior thesis *	H&SS Elective V -3- upper division
Spr	15	Enviro Eng Opt list A -3-	EVEN 4424 -3- Env Organic Chemistry P:CHEN1211 #	Probability & Statistics -3- <u>CHEN</u> :P :CHEN 1310 & APPM 2360	EVEN 4484 -3- Intro to Environ Microbiology P:CHEN1211 #	Heat Transfer -3- <u>MCEN</u> :P: Thermo/fluids/DiffiQ <u>CHEN</u> : P: fluids	
Fall	16	Engineering Economics -3-	EVEN 4404 -3- Water Chemistry EVEN 4414 -1- Water Chem Lab P: CHEN1211 & CVEN3414 #	EVEN 3550 -3- Sustainability Principles for Engineers C: CVEN 3414 #		Thermodynamics -3- EVEN: P: PHYS 1110, APPM 1360 & CHEN 1211 AREN: P:PHYS 1110 C: Calc 2 MCEN: P:Calc 3	Writing Course -3- (Jr. standing)
Spr	16	APPM 2360 -4- Introduction to Differential Equations & Linear Algebra P: APPM 1360 or MATH 2300		Fluid Mechanics -3- CVEN P: solids MCEN P: solids, calc 3 C: APPM 2360	CVEN3414 - 3 Fundamentals of Env Eng P: CHEN 1211, CHEM 1221 & calc 2	Free Elec -3-	H&SS Elective IV -3- upper division
Fall	15	APPM 2350 -4- Calculus III for Engineers P: APPM 1360 or MATH 2300	PHYS 1120 -4- PHYS 1140 -1- Gen.Phys/Lab P: PHYS 1110 & C: MATH 2300 or APPM 1360	Statics / Mechanics -3- <u>CVEN</u> :P: PHYS 1110 & C: Calc III; <u>MCEN</u> : P: calc II & PHYS 1110			H&SS Elective III -3- lower division
Spr	17	APPM 1360 -4- Calculus II for Engineers P: APPM 1350 or MATH 1300	PHYS 1110 -4- Gen. Physics I P/C: APPM 1350 or MATH 1300		CHEN 1310 -3- Introduction to Computing P/C: APPM 1350 or MATH 1300	Technical Elective I -3- *	H&SS Elective II -3- lower division
Fall	16	APPM 1350 -4- Calculus I for Engineers	CHEN 1211 -4- Gen Chem for Engineers C: CHEN 1221 \$	CHEM 1221 -1- General Chem Lab C: CHEN 1211 \$	GEEN 1400 -3- Engineering Projects	EVEN 1000 -1- Introduction to Environmental Engineering #	H&SS Elective I -3- lower division

- Courses marked thus are offered only in SEMESTER shown.

\$ - CHEN 1211 & CHEM 1221 must be taken concurrently.

P/C - Prerequisite or Co-requisite *required* before taking course listed.

Statics/ Mechanics: CVEN 2121 Analytic Mechanics I (F,S; Phys1110, co-req APPM 2350); GEEN 2851 Statics for Engr (PHYS 1110, APPM 2350), MCEN 2023 Statics & Structures (F; APPM 1360 & PHYS 1110)

Fluid Mechanics: CVEN 3313 Theoretical Fluid Mechanics (S; Solid Mechanics); MCEN 3021 Fluid Mechanics (F,S; Pre APPM 2350, Solid Mech coreq APPM 2360), CHEN 3200 Chem Engr Fluid Mechanics (S; APPM2350/2360, CHEN2120/MCEN2023), GEEN 3853 Fluid Mech for Engrs (sum,APPM 2350/2360, GEEN 1300)

Thermodynamics: AREN 2110 Thermo (F,S APPM1360, PHYS1110), GEEN 3852 Thermo for Engrs (sum, APPM2350), MCEN 3012 Thermodynamics (F,S reqd air quality option; APPM 2350) CHEN 3320 Chem Eng Thermo (F; reqd chem proc option; CHEN2120, CHEM4521); EVEN 3012 Environmental Engineering Thermodynamics (PHYS 1110, APPM 1360, CHEN 1211)

Heat Transfer: MCEN 3022 Heat Transfer (F,S; Thermo, Fluids, APPM 2360) CHEN3210 Chem Eng Heat Transfer (F; Fluids-CHEN or MCEN), EVEN 4830-001 Sustainable Energy

***Tech electives:** 3 cr can be lower division, others **must** be 3000 or 4000 level; one tech elective (3cr) **must** relate to earth science noted on list by * next to it.

Air/Earth Lab Field course: ATOC 1070/1050 Weather & Atmos LAB/LEC, GEOL 1010/1030 Intro to Geol LEC/LAB, CVEN 3708 Geotech Eng, EVEN 4100 Env Sampling, GEOL 3010 Intro to Mineralogy. If course is less than 3 credits, remaining credits must be upper division tech electives.

Engineering Economics: CVEN 4147 Civil Engineering Systems (F), EMEN 4100 Business Methods and Economics for Engineers, CVEN 3246 Introduction to Construction (F,S,Sum)

Probability and Statistics: CVEN 3227 Probability, Statistics, & Decision (S) APPM 4570 Statistical Methods (F,S; APPM 1360), CHEN 3010 Appl Data Analysis (F, CHEN1310, APPM 2360),

Writing Course: HUEN 3100 Humanities for Engrs, WRTG 3030 Writing Sci & Society, WRTG 3035 Tech Comm & Design; PHYS 3050 Wrtg for Phys. **HUEN 1010- Freshmen year only.**

Key: P: Prereq C: Co-req All MCEN courses require grade of C for any pre/co req Fall 2015