

ENGINEERING CONTENT

REQUIRED FOR ALL STUDENTS

ENGR	DESIGN
ENGR1125 ISIM	ENGR1200 DESNAT
ENGR 2110 POE	ENGR2250 UOCD
2 semesters CAPSTONE	DESIGN DEPTH One of : ENGR3210 SUST DES
	ENGR3220 USER EXPER DES
either ENGR4190 SCOPE OR ENGR4290 ADE Capstone	ENGR3225 SYSTEMS
	ENGR3232 BIOMED DES
	ENGR3240 TELL THE STORY... (see next page for more options)

TOTAL ENGR CREDITS ≥ 46

REQUIRED ENGR COURSES FOR EACH CONCENTRATION

ME	ECE	ENGINEERING (E)				
		E: BIO	E: C	E: D	E: ROBO	E: SELF
ENGR2320 MECH SOLIDS	*ENGR2410 SIGSYS	12 CREDITS OF COURSEWORK APPROPRIATE TO BIO-ENGINEERING	ENGR2510 SOFTDES	8 CREDITS APPROVED ADVANCED DESIGN COURSES; 4 CREDITS MAY BE DESIGN RS	4 CR COURSE-WORK IN SOFTWARE	5-6 COURSES THAT COMPRISE A COHERENT CONCENTRATION
*ENGR2340 DYNAMICS	ENGR2420 CIRCUITS		ENGR3520 FOCs			
ENGR2350 THERMO	ENGR2510 SOFTDES		ENGR3525 SOFTSYS OR APPROV. SUB	12 CREDITS APPROVED COURSEWORK	4 CR COURSE-WORK IN MECH ENGR	
ENGR3310 TRANSPORT PHENO-MENA	ENGR3410 COMPARCH		8 ADDTL CREDITS IN COMPUTING			
ENGR3230 MECH DESIGN	ENGR3415 DSP OR ENGR3420 ANA&DIG		2 CR INDEP STUDY ON PORTFOLIO CREATION (OPTIONAL)	ENGR3392 INTEG ROBO SYS	ENGR3390 FUN ROBO OR ENGR3590 COMP ROBO	
ADDITIONAL ME Elective (4credits) (see catalog)	ADDITIONAL ECE Elective (4credits) (see catalog)					
MTH3120 or MTH3150 or MTH3170 (PDEs or Num Meth & Sci Comp) or Nonlinear Dynamics & Chaos	MTH2110 Discrete Math	4 CR ADV MTH 4 CR ADV BIO (see catalog) 4 CR E: Bio Elective (see catalog)	MTH2110 Discrete Math	MTH2110 or MTH3120 or MTH3170 (Discrete Math or PDEs or Nonlinear Dynamics & Chaos)		

MATH/SCIENCE

REQUIRED FOR ALL STUDENTS

MTH1111 MODSIM	SCI1111 MODSIM
*VECTOR AND/OR MULTIVARIABLE CALCULUS; DIFFEQ; LIN ALG	BIOLOGY
PROBSTAT	*PHYSICS FOUNDATION

SEE NEXT PAGE FOR LIST OF COURSES THAT CAN SATISFY THE MATH & SCIENCE REQUIREMENTS

REQ'D MATH &/OR SCIENCE FOR EACH CONCENTRATION



TOTAL MTH/SCI CREDITS ≥ 30
AT LEAST 10 MUST BE MTH

AHS/E!

REQUIRED FOR ALL STUDENTS

AHS FOUNDATION	AHSE 1515 PRODS& MKTS
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AHS CONCENTRATION

12 credits of AHS coursework
-OR-
8 credits of AHS + AHSE3190 Prepstone + AHSE4190 Capstone
-- OR --

Entrepreneurship Concentration

12 credit sequence of E! courses—at least 4 must come from either or combination of Iterate &/or Launch (see catalog for detailed options)

TOTAL AHS CREDITS ≥ 12
TOTAL OF AHS +E! ≥ 28

INTEGRATED COURSES

QEA I & QEA II (16 TOTAL CREDITS)

(8 MTH, 4 SCI, 4 ENGR distributed totals)

Content Covered:

MTH2210 LIN I

MTH2220 LIN II

PHYSICS FOUNDATION

ENGR2410 SIG SYS

ENGR2340 DYNAMICS

Courses and requirements covered in QEA I&II are marked on the chart with an asterisk *.

TOTAL CREDITS NEEDED FOR GRADUATION:

120

FOUNDATION MATH CONTENT REQUIREMENTS	SATISFIES PROBSTAT REQUIREMENT	SATISFIES BIO REQUIREMENT	SATISFIES CHEM/MATSCI REQUIREMENT	SATISFIES PHYSICS REQUIREMENT	SATISFIES DESIGN DEPTH REQUIREMENT
2 CR VECTOR CALCULUS AND/OR MULTIVARIABLE CALCULUS: MTH2220 LIN II OR DES ALT	MTH2130 PROBSTAT	SCI1210 PRINCIPLES OF MODERN BIO W/ LAB	SCI1310 INTRO TO CHEMISTRY W/LAB	SCI1121 ELECTRICITY AND MAGNETISM	ENGR3240 QUANTITATIVE ENGINEERING DESIGN
2 CR DIFFERENTIAL EQUATIONS: MTH2210 LIN I OR DES ALT	MTH2131/ENGR3531 DATA SCIENCE	SCI 1220 HUMAN GENETICS AND GENOMICS W/LAB	SCI1399 SPECIAL TOPICS IN CHEMISTRY	SCI1130 MECHANICS	ENGR3250 INTEGRATED PRODUCT DESIGN
2 CR LINEAR ALGEBRA: MTH2210 LIN I OR MTH2220 LIN II OR DES ALT	MTH2132/SCI2032 BAYESIAN INFERENCE AND REASONING	SCI1230 THINK LIKE A BIOLOGIST W/LAB	SCI1410 OR SCI1410A MATERIALS SCIENCE & SOLID STATE CHEMISTRY W/LAB	SCI1199 FOUNDATION TOPIC IN PHYSICS	ENGR3252 TECHNOLOGY, ACCESSIBILITY, AND DESIGN
	MTH2133/ENGR3533 COMPUTATIONAL BAYESIAN STATISTICS	SCI1240 DESIGNING BETTER DRUGS W/LAB	SCI2310 ENVIRONMENTAL ANALYSIS AND SCIENCE	SCI3130 ADVANCED CLASSICAL MECHANICS (WITH INSTRUCTOR PERMISSION)	ENGR3260 DESIGN FOR MANUFACTURING
	MTH2134/ENGR2134 REGIONAL ANALYSIS IN DEVELOPMENT	SCI1250 SIX MICROBES THAT CHANGED THE WORLD W/LAB			ENGR3270 REAL PRODUCTS, REAL MARKETS
	MTH2135/ENGR3635 NEUROTECHNOLOGY, BRAINS AND MACHINES	SCI1260 THE INTERSECTION OF BIOLOGY, ARTS, AND TECHNOLOGY			ENGR3290 AFFORDABLE DESIGN AND EN- TREPRENEURSHIP
	DESIGNATED ALTERNATIVE	AN INTERMED OR ADV BIOLOGY COURSE IF STUDENT RECEIVED A SCORE OF 4 OR 5 ON AP BIO EXAM			APPROVED ENGR3299 SPECIAL TOPICS IN DESIGN ENGINEERING COURSE
		AN INTERMED OR ADV BIOLOGY COURSE IF STUDENT RECEIVED A SCORE OF 3 ON AP BIO EXAM AND PASSES ORAL ASSESSMENT			

Special Topics courses (numbered XX99) that meet specific degree and/or program requirements are so noted in the [Semester Course Offerings List](#). Questions about a particular course should be directed to the instructor on record or the Registrar's Office.