

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 EXP DSN |
| either ENGR4190 SCOPE OR ENGR4290 ADE Capstone | ENGR3250 IPD |
| | ENGR3260 DM |
| | ENGR3270 REAL PROD REAL MKT |
| | ENGR3710 SYSTEMS |
| | ENGR3290 ADE |

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 | | | 2 CR INDEP STUDY ON PORTFOLIO CREATION (OPTIONAL) | ENGR3390 FUN ROBO OR ENGR3590 COMP ROBO | |
| ADDITIONAL | ADDITIONAL | | 4 ADDL RELATED CREDITS | | | |
| ME Elective (4credits) (see catalog) | ECE Elective (4credits) (see catalog) | | | | | |

| | | | |
|---|-----------------------|---|-----------------------|
| MTH3120 or MTH3150 or MTH3170 (PDEs or Num Meth & Sci Comp) or Nonlinear Dynamics & Chaos | MTH2110 Discrete Math | MTH3120 or MTH3170 | MTH2110 Discrete Math |
| | | 4 CR ADV BIO (see catalog) | |
| | | 4 CR E: Bio Elective (see catalog) | |
| | | MTH2110 or MTH3120 or MTH3170 (Discrete Math or PDEs or Nonlinear Dynamics & Chaos) | |

TOTAL ENGR CREDITS ≥ 46

***XXXX** indicates a course covered in QEA I&II.

MATH/SCIENCE

REQUIRED FOR ALL STUDENTS

| | |
|-------------------------|----------------------------|
| MTH1111 MODSIM | SCI1111 MODSIM |
| *MTH 2210 LIN I | BIOLOGY |
| *MTH 2220 LIN II | CHEM/ MATSCI |
| PROBSTAT | *PHYSICS FOUNDATION |

SEE NEXT PAGE FOR LIST OF COURSES THAT CAN SATISFY THE PROBSTAT & 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 |
|----------------|-----------------------|

AHS CONCENTRATION

12 credits of AHS coursework
-OR-
8 credits of AHS + AHSE3190 Preystone + 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

INTEGRATED SCIENCES

(4 CREDITS AHSE PLUS 4 CREDITS SCI)
SIX MICROBES
CHEMISTRY IN CONTEXT
PARADIGMS, PREDICTIONS & JOULES
THE STUFF OF HISTORY

THE INTERSECTION OF ART, BIOLOGY AND TECHNOLOGY

(4 AHSE CREDITS PLUS 4 BIO CREDITS)

SUSTAINABILITY

SUST2201 INTRO TO SUST. (4 CR)
SUST3301 SUST. SYNTHESIS (4 CR)

ENGR3110 ELECANISMS

(4 ENGR CREDITS)

The OLIN SELF STUDY (OSS) 4 credits

TOTAL CREDITS NEEDED FOR GRADUATION:
120

| SATISFIES PROBSTAT REQUIREMENT | SATISFIES BIO REQUIREMENT | SATISFIES CHEM/MATSCI REQUIREMENT | SATISFIES PHYSICS REQUIREMENT |
|---|--|---|--|
| MTH2130 PROBSTAT | SCI1210 PRINCIPLES OF MODERN BIO W/ LAB | SCI1310 INTRO TO CHEMISTRY W/LAB | SCI1121 ELECTRICITY AND MAGNETISM |
| MTH2131/ENGR3531 DATA SCIENCE | SCI 1220 HUMAN GENETICS AND GENOMICS W/LAB | SCI1399 SPECIAL TOPICS IN CHEMISTRY | SCI1130 MECHANICS |
| 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 |
| MTH2133 COMPUTATIONAL BAYESIAN STATISTICS | SCI1240 DESIGNING BETTER DRUGS W/LAB | | SCI2130 QUANTUM PHYSICS (WITH INSTRUCTOR PERMISSION) |
| MTH2134/ENGR2134 REGIONAL ANALYSIS IN DEVELOPMENT | SCI1250 SIX MICROBES THAT CHANGED THE WORLD W/LAB | | SCI2220 BIOMECHANICS |
| DESIGNATED ALTERNATIVE | AN ADVANCED BIOLOGY COURSE IF STUDENT RECEIVED A SCORE OF 5 ON AP BIO EXAM | FUTURE "ENVIRONMENTAL ANALYSIS/ENGINEERING" | SCI3120 SOLID STATE PHYSICS (WITH INSTRUCTOR PERMISSION) |
| | | | SCI3130 ADVANCED CLASSICAL MECHANICS (WITH INSTRUCTOR PERMISSION) |

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