SUGGESTED COURSE SEQUENCING

AUTUMN       WINTER       SPRING
Freshman Year

CHEM 142 General Chemistry I (5 cr)
MATH 124 Calculus I (5 cr)
GEN ST 199 or Elective (1-2 cr)
BSE 150 Intro to Bioresources (1 cr)

CHEM 152 General Chemistry II (5 cr)
MATH 125 Calculus II (5 cr)
BSE 201 Pulp, Paper and Bioproducts (3 cr)
BSE 202 Pulp & Paper Field (1 cr)

CHEM 162 General Chem. III (5 cr)
MATH 126 Calculus III (5 cr)
ENGL 131 Composition (5 cr)

Sophomore Year

CHEM 237 Organic Chemistry I (4 cr)
PHYS 121 Mechanics (5 cr)
MATH 307 Differential Equations (3 cr)
Or AMATH 351 Diff Equations (3 cr)
BSE 248 Paper Structure/Prop (4 cr)

CHEM 238 Organic Chemistry II (4 cr)
PHYS 122 Electromag-Oscill (5 cr)
MATH 308 Linear Algebra (3 cr)
Or AMATH 352 Linear Algebra (3 cr)
HCDE 231 Tech Writing (1 cr)

Q SCI 381 Statistics I (5 cr)
PHYS 123 Waves (5 cr)
A A 260 Thermodyn (4 cr)

Junior Year

BSE 391 Eng Princip. Biorefineries (5 cr)
BSE 406 Natural Products Chem (5 cr)
Engineering Topics (6 cr)

BSE 392 Bioresource Transport (5 cr)
BSE 420 Bioresource Sci/Eng (4 cr)
Engineering Topics (3 cr)
ECON 200 Microeconomics (5 cr)

BSE 426 Bioresource Lab (4 cr)
BSE 421 Biore. Sci/Eng II (4 cr)
Engineering Topics (6 cr)

Senior Year

BSE 422 Biore. Sci/Eng 3 (4 cr)
BSE 430 Paper. Process+ (5 cr)
BSE 497 Internship (1 cr)
Any I&S credit (5 cr)

BSE 436 Papermaking Lab II (4 cr)
BSE 480 Bioresource Design (4 cr)
Any I&S credit (5 cr)
Any VLPA (5 cr)

BSE 481 Biore. Design II (5 cr)
Any VLPA (5 cr)
General Elective or NW (3-4 cr)

~ 180 credits required for degree ~

ENGINEERING TOPICS & BUSINESS OPTION ELECTIVES
(15 credits minimum):

Engineering Topics (min 15 crs): CSE 142*, 143; CHEM E 326*, 341, 355,
375, 436*, 455, 480, 481; MSE 170, 310, 362, 463, 471, 475;
CEE 220, 480, 482, 485, 486, 487, 488, 490, 493, 494;
A A 210; E E 215; IND E 337; M E 230
* Recommended for CHEM E double degree applicants

Business Option (must be declared, will appear on transcript,
additional credits required (12 crs): ESRM 320 (5) (required), ESRM 321
(5) (required); Choose one: I BUS 300 (5), MKTG 301 (4), MKTG 335 (4),
MKTG 450 (4), ESRM 400 (3), MGMT 300 (4), MGMT 401 (4), MGMT 403 (4),

Contact Chemical Engineering advising if you plan to apply
for admission for a double degree:
advising@cheme.washington.edu

Recommended courses to meet Engineering Topics and General Electives:
CHEM E 455—Aut CHEM E 326—Win CHEM E 436—Spr

ADDITIONAL COLLEGE OF THE ENVIRONMENT REQUIREMENTS:
1. 10 cr I&S outside of BSE and major
2. 10 cr NW outside of BSE and major

General Electives may be used to fulfill these requirements. Remaining
requirements are met within the major.

Academic Progress Policy

All BSE students are expected to maintain satisfactory progress with the department and the University.
http://www.cfr.washington.edu/academicPrograms/undergrad/bse/BSEAcademicProgressPolicy.pdf

Notes: *Requires 2.0 minimum grade. †STAT 390* or IND E 315†
The BSE program focuses on the production of fuel, chemicals, and fiber products from biomass. Students learn the fundamental science and engineering of biomass and conversion processes. The BSE program also has a strong research focus.

BSE graduates find jobs in areas such as engineering, production, research, management, and marketing. Positions include process engineer, product development engineer, sales engineer, research scientist, computer and environmental scientist or engineer, production supervisor, and many specialists.

**Additional Areas of Study:** Students with an interest in chemical engineering may apply for admission to CHEM E during their BSE junior year. Contact the CHEM E department for advising in advance of application and notify the BSE advisers of the intent to pursue a double degree.

**Admission**

BSE is a competitive admission major. Applications for incoming freshmen are due December 1st. Current UW and transfer students apply through the College of Engineering online application (open early to mid-June for autumn application and mid-January for spring application).

**Prospective UW students**

www.admit.washington.edu

**Program/study options**

Research, internships, honors, scholarships, and graduate study for qualified applicants.

**Career/job information**

www.cfr.washington.edu/academicPrograms/advising/careerResources.shtml
Washington Pulp and Paper Foundation:
depts.washington.edu/ppf/
College of Engineering Career Fair and Co-ops

**Sample Areas of Research**

- High-speed chemical analysis of biomass
- Use of natural non-wood products to make paper and other bio-products
- Bioconversion of lignocellulosic biomass to ethanol
- Biofuel and bioenergy options from wood
- Surface and colloid science in bioprocessing
- Fiber composites
- Sensor development for biorefineries
- Fiber production from agriculture residues
- Bioconversion of biomass to fuels and chemicals
- Life cycle assessment of biofuel systems
- Thermal conversion of biomass to fuels and chemicals
- Supercritical processes in biorefineries

**Office of Student and Academic Services**

Anderson Hall Rooms 116/130
BLOG: uwsfr.wordpress.com  PH: 206-543-3077
WEB: sefs.washington.edu