

First Year (47 credits)			Second Year (51 credits)			Third Year (47 credits)			Fourth Year (48 credits)		
Fall	Winter	Spring	Fall	Winter	Spring	Pro School Fall	Winter	Spring	Fall	Winter	Spring
*Differential Calculus MTH 251 (4FWS)	*Integral Calculus MTH 252 (4FWS)	*Vector Calculus MTH 254 (4FWS)	Perspective (3FWS)	*Applied Diff Equations MTH 256 (4FWS)	*Matrix & Power series methods MTH 306 (4FWS)	General Biochemistry BB 450 (4FW)	General Biochemistry BB 451 (3WS)	Biomedical Engr Principles BIOE 340 (3S)	Biochemistry lab BB 493 (3F)	Biochemistry lab BB 494 (3W)	Engineering Selection ² (3)
*General chemistry CH 231 (4FW)	General chemistry CH 232 (4WS)	General chemistry CH 233 (4S)	Organic Chemistry CH 331 (4FW)	Organic Chemistry CH 332 (4WS)	*Statics ENGR 211 (3FWS)	Transport I CHE 331 (4F)	Transport II CHE 332 (3W)	Transport III CHE 333 (3S)	Bioreactors BIOE 457 (3F)	Bioengineering Laboratory BIOE 415 (3)	BIOE selection ³ (3)
CH Lab 261 (1F)	CH Lab 262 (1W)	CH Lab 263 (1S)									
BIOE Orientation CBEE 101 (3F)	*ENGR Problem Solving CBEE 102 (3W)	*General Physics PH 211 (4FWS)	*General Physics PH 212 (4FWS)	*General Physics PH 213 (4WS)	*Electrical ENGR Fundamentals ENGR 201 (3FWS)	Thermodynamics CHE 311 (3F)	Social Justice, Ethics in ENGR BIOE 420 (3W)	Biomaterials & Biointerfaces BIOE 351 (3)	Bioengineering Process Design BIOE 490 (4)	Bioengineering Product Design BIOE 491 (4)	Bioengineering product design II BIOE 492 (4)
Lifetime fitness HHS 231 (2) and HHS 24X or PAC(1) (3FWS)	*English Composition WR 121 (3FWS)	*Speech Communication COMM 111/114 (3FWS)	*Material Balances CBEE 211 (3F)	*Energy Balances CBEE 212 (3W)	Process Analysis CBEE 213 (4S)	Professionalism & ENGR Ethics CBEE 320 (3F)	Engineering Selection ² (3)	Perspectives (3)	Process Engr Laboratory CBEE 414 [^] (3F)	BIOE Selection ³ (3W)	Synthesis (3)
			Anatomy & Physiology BI 231 (3F)	Biology selection ¹ (2 or 4)	Anatomy & Physiology BI 233 (3S)	Perspectives (3)	Tech. Writing WR 327 (3FWS)	DPD ⁴ (3)	Engineering selection ² (3F)	Perspectives (3)	Synthesis (3)
15	15	16	17	17	17	17	15	15	16	16	16

BIOENGINEERING

Numbers in parenthesis are credit hours per class. Blue-highlighted courses are pre-engineering core

* Required for admission into the Bioengineering Professional Program. We'll accept the combination of MTH 253 and MTH 341 as equivalent to MTH 306. CBEE 211 and CBEE 212 are enforced prerequisites for CHE 311 and CHE 331.

[^] Satisfies the WIC requirement

BIOE-DPD must be taken with A/F grading. Only Perspective, Synthesis, HHS 231/24*, PAC and FREE can be taken with S/U grading.

¹ **Biology courses from which students may select (one course only)**

Anatomy and Physiology Laboratory (BI 241, Fall) 2 credits or Introductory Microbiology (MB 230, FWS) 4 credits

² **Engineering courses from which students may select (at least 9 credits).**

Solar Technologies (CHE 451) 3 credits

Chemical thermodynamics (CHE 312) 3 credits

Polymer engineering and science (CHE 445) 4 credits

Chemical Process Dynamics and Simulation (CHE 361) 3 credits

Process control (CHE 461) 3 credits

Conventional & Alternative Energy Systems (CHE 450) 3 credits

Dynamics (ENGR 212) 3 credits

Strengths of materials (ENGR 213) 3 credits

Engineering graphics and 3-D modeling (ENGR 248) 3 credits

Bioenergy Systems (BEE 499 or 475) 3 credits

Surface Analysis (BIOE 445) 3 credits (number can vary)

Biological Networks (CS 446) 3 credits

³ **Upper division BIOE courses from which students may select (at least 6 credits). Note that courses used to satisfy this requirement CANNOT be used to satisfy the engineering science selection above.**

Cell Engineering (BIOE 459) 3 credits

Bioseparations (BIOE 462) 3 credits

⁴See next page/reverse for BIOE-DPD approved courses (must be taken with A/F grading)

Cell Engineering (BIOE 459) 3 credits

Chemical Engineering Lab II (CBEE 416) 3 credits

Fundamentals of environmental engineering (ENVE 322) 4 credits

Water and wastewater characterization (ENVE 421) 4 credits

Environmental engineering design (ENVE 422) 4 credits

Air pollution control (ENVE 425) 3 credits

Fate/transport of organic chemicals in environmental systems (ENVE 431) 3 credits

Biosystems Analysis & Modeling (BEE 320) 4 credits

Bioremediation (BEE 468) 3 credits

Bioconjugation (BIOE 4XX) 3 credits (number can vary)

Bioproduct Engineering (BEE 480) 3 credits

Transport Phenomena Laboratory (CHE 334) 2 credits

Bioconjugation or Surface Analysis (BIOE 499) (number can vary)

Biological Networks (CS 446) 3 credits

	Technical Electives
	Univ & College Core (bac-core)

4 Difference, power and discrimination courses from which students may select (at least 3 credits). Must obtain ‘C’ or better in one of the following classes (cannot be taken for S/U grading):

Ecosystem science of Pacific NW Indians (AG 301) 3 credits
Language in the USA (ANTH 251) 3 credits
Biological and cultural constructions of race (ANTH 345) 3 credits
Biological and cultural constructions of race (ANTH 345H) 3 credits
Sociolinguistics (ANTH 451) 3 credits
The economics of discrimination (ECON 383) 4 credits
Purpose, Structure & Function of Education in a Democracy (ED 216)
Studies in difference, power, and discrimination (ENG 420) 3 credits
Survey of Chicano/a-Latino/a studies III (ES 212) 3 credits
Contemporary Latino/a culture and issues (ES 213) 3 credits
Las presencia Mexicana en los Estados Unidos (ES 216) 3 credits
Survey of African American studies I (ES 221) 3 credits
Survey of African American studies III (ES 223) 3 credits
Asian American Studies II: Activism & Empowerment (ES 233) 3 credits
Native American experience in the 20th century U.S. (ES 243) 3 credits
Ethnic minorities in Oregon (ES 351) 3 credits
Ethnicity in film (ES 452) 3 credits
Multicultural perspectives in natural resources (FW 340) 3 credits
Public health and women: social and policy issues (H 465) 3 credits
Religion in the United States (HST 210) 4 credits
Lesbian and gay movements in modern America (HST 368) 3 credits
Languages of Oregon (LING 251) 3 credits
Disease and society (MB 330) 3 credits
Ethics of diversity (PHL 280) 4 credits
The body, medicine and culture (PHL 380) 3 credits
Gender and race in American political thought (PS 363) 4 credits
The civil rights movement and policies (PS 375) 4 credits
Sociology of the family (SOC 312 & SOC 312H) 3 credits
Social inequality (SOC 426) 3 credits
Multicultural American theatre (TA 360) 3 credits
Twentieth century realities: the U.S. (TCS 200) 3 credits
Systems of oppression in women's lives (WGSS 414) 3 credits
Hate, resistance, and reconciliation (WGSS 420) 3 credits
Disney: Gender, Race, Empire (WGSS 325) 3 credits
Introduction to Queer Studies (WGSS 262) 3 credits