

Engineering (Bachelor of Science Engineering) Course Plan

Chemical/Pharmaceutical Concentration

TIER III: Math ACT of 25 or higher/Math RSAT of 590 or higher

Freshman Fall Semester			Freshman Spring Semester		
MATH 115	Precalculus (f,sp)	3	MATH 122	Calculus I (any)	4
ENGR 100	Freshman Seminar* (f)	1			
ENGR 120	Foundations of Engineering Design I* (f,sp)	3	ENGR 121	Foundations of Engineering Design II* (sp,su)	3
ENGL 101	Academic Writing (all)	3	ENGL 102	Academic Writing & Lit. (any)	3
CHEM 111	General Chemistry I (any)	4	CHEM 113	General Chemistry II (any)	4
			CUC 100	Connections (sp)	0.5
Semester Total:		14.0	Semester Total:		14.5

Sophomore Fall Semester			Sophomore Spring Semester		
MATH 223	Calculus II (f,sp)	4	MATH 224	Calculus III (f,sp)	4
PHYS 251	Fundamentals of Physics I (f)	4	ENGR 260	Electrical Circuits* (f,sp)	4
ENGR 220	Statics & Strength of Materials (f,sp)	3	BIOL 111	Basic Biology & Lab (any)	4
CHPH 215	Mass and Energy Bal. (f)	3	ECON 201	Microeconomics (any)	3
CHEM 227	Organic Chemistry I (f)	4	ENGL 2xx	Literature (any)	3
CUC 200	Connections (f)	0.5			
Semester Total:		18.5	Semester Total:		18.0

Junior Fall Semester			Junior Spring Semester		
MATH 310	Differential Equations and Linear Algebra (f,sp)	4	ENGR 320	Fluids* (f,sp)	3
BIOL 280	Essentials of Microbiology and Biochemistry* (f)	4	ENGR 240	Engineering Materials & Processes* (f,sp)	4
ENGR 310	Thermodynamics* (f,sp)	3	CHPH 325	Heat Transport* (sp)	2
ENGL 305	Technical Writing and Presentations (f,sp)	3	CHPH 345	Bioprocess Engineering* (sp)	2
CHPH 315	Mass Transport* (f)	3	CHPH 350	Reaction Engineering* (sp)	3
			ENGR 300	Engineering Economics (f,sp)	3
Semester Total:		17.0	Semester Total:		17.0

Senior Fall Semester			Senior Spring Semester		
ENGR 491	Senior Design I (f)	3	ENGR 492	Senior Design II (sp)	3
CHPH 445	Unit Operations* (f)	4	ENGR 460	Statistical Methods for Engineers (f,sp)	3
HIST 111 or 112	Western Civilization I or II (any)	3	CHPH 440	Process Control (sp)	3
HUM/FINE ARTS or SOC/BEH SCI	Elective (any)	3	ART 131, MUSIC 131 or THEA 131	Fine Arts (any)	3
CHRS 125	Intro. to Christianity (any)	3	PE 185	Lifetime Wellness (any)	2
			HUM/FINE ARTS	Elective (any)	3
Semester Total:		16.0	Semester Total:		17.0
					Degree Total
					132

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Total Math and Science Hours: 43 (includes Statistics for Engineers but not Pre-calculus)

Total Engineering Hours: 53 (includes Engineering Economics)

ABET Requirements

Math and Basic Science: minimum of 30 semester credit hours

Engineering topics: minimum of 45 semester credit hours

BOLD-FACED FONT – designates a course taught by the School of Engineering

BLUE BOX – indicates a course taken by all engineering students

* - indicates class-lab