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 440	**Process Control (f)**	**3**	**ENGR 460**	**Statistical Methods for Engineers (f,sp)**	**3**
HIST 111 or 112	Western Civilization I or II (any)	3	**CHPH 445**	**Unit Operations* (sp)**	**4**
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	HUM/FINE ARTS	Elective (any)	3
PE 185	Lifetime Wellness (any)	2			
	Semester Total:	**17.0**		**Semester Total:**	**16.0**
				Degree Total	**132**

25Feb2026

Engineering (Bachelor of Science Engineering) Course Plan
Chemical/Pharmaceutical Concentration
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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