

BS in Engineering Curriculum

Mechanical Concentration

TIER I – Math ACT of 21 or below/Math RSAT of 530 or below

Freshman Fall Semester			Freshman Spring Semester		
MATH 110	Fundamentals of Math	3	MATH 111	College Algebra	3
ENGR 100	Freshman Seminar*	1	ENGR 110	Introductory Engineering Applications*	3
BIOL 111	Basic Biology	4	ENGL 102	Academic Writing & Literature	3
ENGL 101	Academic Writing	3	ECON 201	Microeconomics	3
HIST 111/2	Western Civilization 1 or 2	3	HUM/FINE ARTS	Elective	3
			CUC 100	Connections	0.5
Semester Total:		14.0	Semester Total:		15.5

Summer Semester after Freshman Year					
MATH 115	Precalculus	3	MATH 122	Calculus I	4
Semester Total:					7.0

Sophomore Fall Semester			Sophomore Spring Semester		
MATH 223	Calculus II	4	MATH 224	Calculus III	4
ENGR 120	Foundations of Engineering Design I*	3	ENGR 121	Foundations of Engineering Design II*	3
ENGL 2xx	Literature	3	PHYS 252	Fundamentals of Physics II	4
PHYS 251	Fundamentals of Physics I	4	ENGR 220	Statics & Strength of Materials	3
CHEM 100	Preparatory Chemistry	3	CHEM 111	General Chemistry I	4
CUC 200	Connections	0.5			
Semester Total:		17.5	Semester Total:		18.0

Summer Semester after Sophomore Year					
CHEM 113	General Chemistry II	4	CHRS 125	Introduction to Christianity	3
Semester Total:					7.0

Junior Fall Semester			Junior Spring Semester		
MATH 310	Differential Equations and Linear Algebra	4	ENGR 330	Fluids*	3
ART/MUSIC /THEA 131	Fine Arts	3	ENGR 330	Dynamics	3
ENGR 240	Engineering Materials and Processes*	4	MECH 345	Advanced Thermodynamic Systems	3
ENGR 310	Thermodynamics*	3	ENGR 260	Electrical Circuits*	4
ENGR 320	Mechanics of Materials*	4	MECH 375	Machine Design	3
Semester Total:		18.0	Semester Total:		16.0

Senior Fall Semester			Senior Spring Semester		
ENGR 440	System Dynamics*	3	ENGR 492	Senior Design II	2
ENGR 300	Engineering Economics	3	ENGR 480	Lean Manufacturing & Quality Engineering*	3
ENGR 491	Senior Design I	4	ENGR 498	Special Topics in Engineering	3
ENGR 460	Statistical Methods for Engineers	3	MECH 365	Heat Transfer	3
MECH 435	Manufacturing Engineering*	3	HUM/FA or SOC/BEH SCI	Elective	3
PE185	Lifetime Wellness	2	ENGL 305	Technical Writing & Presentations	3

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Semester Total:	18.0	Semester Total:	17.0
Degree Total			136

Total Math and Science Hours: 39 (includes statistics for engineers but not pre-calc)

Total Engineering Hours: 60 (includes engineering economics)

ABET Requirements

Math and Basic Science: minimum of 30 semester credit hours

Engineering topics: minimum of 45 semester credit hours

Red Font - this course does not count toward the BS ENGR degree; this course is required for students who enter the program without the required pre-requisite knowledge

Bold-Faced Font – designates a course taught by the School of Engineering

Blue Box – indicates a course taken by all ENGR students in the same Tier

* - indicates class-lab