

# BS in Engineering Curriculum – MECH Concentration

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

Freshman Fall Semester			Freshman Spring Semester		
<b>MATH 110</b>	<b>Fundamentals of Math</b>	<b>3</b>	<b>MATH 111</b>	<b>College Algebra</b>	<b>3</b>
<b>ENGR 100</b>	<b>Freshman Seminar*</b>	<b>1</b>	<b>ENGR 110</b>	<b>Introductory Engineering Applications*</b>	<b>3</b>
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
<b>Semester Total:</b>		<b>14.0</b>	<b>Semester Total:</b>		<b>15.5</b>

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

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

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

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

Senior Fall Semester			Senior Spring Semester		
<b>ENGR 440</b>	<b>System Dynamics*</b>	<b>3</b>	<b>ENGR 492</b>	<b>Senior Design II</b>	<b>2</b>
<b>ENGR 300</b>	<b>Engineering Economics</b>	<b>3</b>	<b>ENGR 480</b>	<b>Lean Manufacturing &amp; Quality Engineering*</b>	<b>3</b>
<b>ENGR 491</b>	<b>Senior Design I</b>	<b>4</b>	<b>ENGR 498</b>	<b>Special Topics in Engineering</b>	<b>3</b>
<b>ENGR 460</b>	<b>Statistical Methods for Engineers</b>	<b>3</b>	<b>MECH 365</b>	<b>Heat Transfer</b>	<b>3</b>
<b>MECH 435</b>	<b>Manufacturing Engineering*</b>	<b>3</b>	HUM/FA or SOC/BEH SCI	Elective	3
PE185	Lifetime Wellness	2	ENGL 305	Technical Writing & Presentations	3
<b>Semester Total:</b>		<b>18.0</b>	<b>Semester Total:</b>		<b>17.0</b>
<b>Degree Total</b>					<b>136</b>

# **BS in Engineering Curriculum – MECH Concentration**

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

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**