

# Campbell University Curriculum

## Common Freshman Year For All Concentrations

<b>Freshman Fall Semester</b>		
MATH 115	Precalculus	3
ENGR 100	Freshman Seminar	1
<u>ENGR 120*</u>	<u>Foundations of Engineering Design I*</u>	3
ENGL 101	Academic Writing	3
CHEM 111	General Chemistry I & Lab	4
CUW 100	Connections	0.5
<b>Semester Total:</b>		14.5
<b>Freshman Spring Semester</b>		
MATH 12	Calculus I	4
BIOL 111	Basic Biology & Lab	4
ENGR 121	Foundations of Engineering Design II	3
ENGL 102	Academic Writing & Literature	3
CHEM 113	General Chemistry II & Lab	4
CUW 100	Connections	0.5
<b>Semester Total:</b>		18.5

### Choose your concentration:

Mechanical Engineering Chemical Engineering

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# Mechanical Engineering Concentration

## Sophomore Year

<b>Sophomore Fall Semester</b>		
Math 223	Calculus II	4
PHYS 251	Physics I & Lab	4
ENGR 240	Engineering Materials & Processes	3
ENGR 220	Statics/Strength of Materials	4
ENGL 2xx	English Literature	3
<b>Semester Total:</b>		18.0
<b>Sophomore Spring Semester</b>		
MATH 224	Calculus III	4
ENGR 260	Electrical Circuits & Lab	4
ENGR 330	Dynamics	3
PHYS 252	PHYS II & Lab	4
CUW 200	Connections	0.5
HIST 111 or 112	Western Civilization 1 or 2	3
<b>Semester Total:</b>		18.5

## Junior Year

<b>Junior Fall Semester</b>		
MATH 337	Differential Equations	3
ENGR 300	Engineering Economics	3

ENGR 380	Thermodynamics	3
COMM XXX	Technical Writing and Presentations	3
MECH 325	Advanced Strength & Mechanics of Materials & Lab	4
<b>Semester Total:</b>		16.0
<b>Junior Spring Semester</b>		
ENGR 320	Fluids	3
CHRS 125	Introduction to Christianity	3
MECH 345	Advanced Thermodynamic Systems	3
MECH 365	Heat Transfer	3
MECH 415	Machine Design	3
CUW 200	Connections	0.5
<b>Semester Total:</b>		15.5

## Senior Year

<b>Senior Fall Semester</b>		
ENGR 340	Sensors & Controls & Lab	3
HIST/FINE ARTS Elective	Elective	3
ENGR 490	Senior Design I	3
ENGR 380	Lean Manufacturing	3
MECH 435	Manufacturing Engineering	3
HIST/FINE ARTS or SOC/BEH SCI ELECTIVE	Elective	3

<b>Semester Total:</b>		<b>18.0</b>
<b>Senior Spring Semester</b>		
ENGR 491	Senior Design II	3
ENGR 360	Statistical Methods for Engineers	3
PE 185	Lifetime Wellness	2
ART 131, MUSIC 131 or THEA 131	Fine Arts	3
ECON 201	Microeconomics	3
MECH 445	Modern Manufacturing Processes	3
<b>Semester Total:</b>		<b>17.0</b>
<b>Degree Total:</b>		<b>136.0</b>

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## Chemical Engineering Concentration

### Sophomore Year

<b>Sophomore Fall Semester</b>		
Math 223	Calculus II	4
PHYS 251	Physics I & Lab	4
ENGR 240	Engineering Materials & Processes	3
CHPH 215	Mass and Energy Balances	3
CHEM 227	Organic Chemistry I	4
<b>Semester Total:</b>		<b>18.0</b>
<b>Sophomore Spring Semester</b>		

MATH 224	Calculus III	4
ENGR 260	Electrical Circuits & Lab	4
CHEM 228	Organic Chemistry II	4
BIO XXX	Biochemistry and Microbiology	4
CUW 200	Connections	0.5
<b>Semester Total:</b>		16.5

## Junior Year

<b>Junior Fall Semester</b>		
MATH 337		3
ENGR 300	Engineering Economics	3
ENGR 380	Thermodynamics	3
COMM XXX	Technical Writing and Presentations	3
ENGR 220	Statics/Strength of Materials	4
PE 185	Lifetime Wellness	2
<b>Semester Total:</b>		18.0
<b>Junior Spring Semester</b>		
ENGR 320	Fluids	3
CHRS 125	Introduction to Christianity	3
	Thermodynamics II	3
CHPH 345	Chemical Engineering Principles, Unit Operations & Validation	4

CHPH 425	Transport Processes	3
CUW 200	Connections	0.5
<b>Semester Total:</b>		<b>16.5</b>

## Senior Year

<b>Senior Fall Semester</b>		
ENGR 340	Sensors & Controls & Lab	3
HIST 111 or 112	Western Civilization 1 or 2	3
ENGR 490	Senior Design I	3
CHPH 445	Microbiological, Fermentation & Separation Processes	4
ENGL 2xx	English Literature	3
<b>Semester Total:</b>		<b>16.0</b>
<b>Senior Spring Semester</b>		
ENGR 491	Senior Design II	3
ENGR 360	Statistical Methods for Engineers	3
HIST/FINE ARTS or SOC/BEH SCI Elective	Elective	3
ART 131, MUSIC 131 or THEA 131	Fine Arts	3
ECON 201	Microeconomics	3
HIST/FINE ARTS Elective	Elective	3
<b>Semester Total:</b>		<b>18.0</b>
<b>Degree Total:</b>		<b>136.0</b>

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\*ENGR 120, Foundations of Engineering Design I, has the following prerequisites:

- Math ACT of 25 or higher/Math SAT of 570 or higher  
OR
- Math ACT of 22-24/Math SAT of 520-570 AND a grade of “C” or higher in MATH 111, College Algebra, AND a grade of “C” or higher in ENGR 110, Introductory Engineering Applications  
OR
- Math ACT of 21 or below/Math SAT of less than 520 AND a grade of “C” or higher in MATH 110, Fundamentals of Math, AND a grade of “C” or higher in MATH 111, College Algebra, AND a grade of “C” or higher in ENGR 110, Introductory Engineering Applications

Students not meeting the prerequisites for ENGR 120 may declare engineering as major but must satisfactorily complete the appropriate prerequisites, listed above, before taking ENGR 120 and Math 115.

AP or Advanced Placement credit for math, science, English, history, etc., courses in the curriculum are accepted per the requirements of each corresponding department. Please contact the appropriate department for additional information on AP credit.