## *B.S. IN ENGINEERING - Mechanical Concentration (Sample Schedule)*

| *FIRST YEAR - Fall Semester* | Units | *Prerequisit(s)* | *FIRST YEAR - Spring Semester* | Units | *Prerequisit(s)* |
|---|---|---|---|---|---|
| *Engineering & the Liberal Arts* | 3 | NA | *Statics & Engineering Software* | 3 | Calc I, Physics I |
| General Physics I (Common Inquiries #2) | 4 | NA | General Physics II | 4 | Calc I |
| General Physics I Lab (W.I.) | 1 | coreq Phy I | General Physics II Lab | 1 | coreq Phy II |
| Calculus I (Common Inquiries # 4; also QAR) | 4 | MA 08 or precalc | Calculus II | 4 | MA 09 (Calc I) |
| G.E. (Intro to New Testament) | 4 | NA | G.E. (Intro to Old Testament) | 4 | NA |
| P.E. (Fit for Life) | 1 | NA | P.E. | 1 | NA |
| **Units this semester** | **17** | | **Units this semester** | **17** | |

| *SOPHOMORE YEAR - Fall Semester* | Units | | *SOPHOMORE YEAR - Spring Semester* | | |
|---|---|---|---|---|---|
| General Chemistry + Lab | 4 | NA | *Dynamics* | 4 | Statics |
| Multivariable Calculus | 4 | Calc II | Circuits & Electronics | 4 | Phy II & Calc II |
| G.E. (Christian Doctrine) | 4 | NA | Electronics Lab | 0 | coreq Circuits |
| G.E. (Writing for the Liberal Arts) | 4 | NA | Linear Algebra & Differential Equ. | 4 | Calc II |
| *Mechanics of Materials* | 3 | Statics | G.E. (World History) | 4 | NA |
| **Units this semester** | **19** | | **Units this semester** | **16** | |

| *ENGINEERING MAYTERM* | Units | |
|---|---|---|
| *Materials Engineering* | 3 | Mechanics of Materials |
| *Manufacturing Processes* | 3 | Statics |
| **Units this semester** | **6** | |

| *JUNIOR YEAR - Fall Semester* | Units | | *JUNIOR YEAR - Spring Semester* | Units | |
|---|---|---|---|---|---|
| *Thermodynamics* | 4 | Dynamics | *Fluid Mechanics* | 3 | Thermo |
| *Control Systems* | 3 | Dynamics | *Junior Design: interdisciplinary (Service-Learning)* | 3 | Junior status |
| G.E. (Foreign Language) | 4 | NA | G.E. (Common Inquiries #1 & #5) | 4 | NA |
| G.E. (Philosophical Reflections) | 4 | NA | G.E. (Common Inquiries #8) | 4 | NA |
| *Optional: Engineering internship* | 0 to 3 | Junior status | P.E | 1 | NA |
| | | | *Optional: Engineering internship* | 0 to 3 | Junior status |
| **Units this semester** | **15** | | **Units this semester** | **15** | |

| | | |
|---|---|---|
| Summer - internship 1 to 3 units | 0 to 3 | Junior status |

| *SENIOR YEAR - Fall Semester* | Units | | *SENIOR YEAR - Spring Semester* | Units | |
|---|---|---|---|---|---|
| *Instrumentation & Measurement* | 3 | Thermo | *Senior Design Capstone II* | 3 | Sr Design I |
| *Mechanical Design* | 3 | Mechanics of Materials | *Engineering Elective #2* | 3 | Senior status |
| *Engineering Elective #1* | 3 | Senior status | G.E. (Common Inquiries #6 & #7) | 4 | NA |
| G.E. (Common Inquiries #3) | 4 | | P.E. | 1 | Senior status |
| *Senior Design Capstone I* | 3 | Senior status | *Engineering Seminar: Faith, Technology, and Christian Responsibility - Writing Intensive* | 1 | Senior status |
| | | | Preperation for FE exam | 0 | NA |
| **Units this semester** | **16** | | **Units this semester** | **12** | |

**Notes**

Orange --> Core Science / Math courses

Black --> G.E. & P.E. courses

Red --> Engineering courses

G.E. and P.E. classes may be taken in a different order

An internship may be able to count for Engineering Elective credit

Upper level Science or Math courses (beyond the core science/math requirements) may be able to count as Engineering Electives

### CURRICULUM BY CATEGORY

| Courses | Units |
|---|---|
| **G.E. & P.E. classes** | 4 |
| G.E. (Intro to New Testament) | 4 |
| G.E. (Intro to Old Testament) | 4 |
| G.E. (Christian Doctrine) | 4 |
| G.E. (Writing for the Liberal Arts) | 4 |
| G.E. (World History) | 4 |
| G.E. (Foreign Language) | 4 |
| G.E. (Philosophical Reflections) | 4 |
| G.E. (Common Inquiries #1 & #5) | 4 |
| G.E. (Common Inquiries #8) | 4 |
| G.E. (Common Inquiries #3) | 4 |
| G.E. (Common Inquiries #6 & #7) | 4 |
| 4 PE 1-unit classes | 4 |
| **SUM G.E.** | **52** |
| **Core Science / Math** | |
| General Physics I (Common Inquiries #2) | 4 |
| General Physics I Lab (W.I.) | 1 |
| Calculus I (Common Inquiries # 4; also QAR) | 4 |
| General Physics II | 4 |
| General Physics II Lab | 1 |
| Calculus II | 4 |
| General Chemistry + Lab | 4 |
| Multivariable Calculus | 4 |
| Circuits & Electronics | 4 |
| Electronics Lab | 0 |
| Linear Algebra & Differential Equ. | 4 |
| **SUM Core Science** | **34** |
| **Engineering Courses** | |
| *Engineering & the Liberal Arts* | 3 |
| *Statics & Engineering Software* | 3 |
| *Mechanics of Materials* | 3 |
| *Dynamics* | 4 |
| *Thermodynamics* | 4 |
| *Control Systems* | 3 |
| *Fluid Mechanics* | 3 |
| *Materials Engineering* | 3 |
| *Manufacturing Processes* | 3 |
| *Junior Design: interdisciplinary (Service-Learning)* | 3 |
| *Instrumentation & Measurement* | 3 |
| *Mechanical Design* | 3 |
| *Engineering Elective #1* | 3 |
| *Senior Design Capstone I* | 3 |
| *Senior Design Capstone II* | 3 |
| *Engineering Elective #2* | 3 |
| *Responsibility - Writing Intensive* | 1 |
| **SUM Engineering Technical Content** | **51** |