ENGINEERING (ARCHITECTURAL, CIVIL, or MECHANICAL)

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<th>I.D.#</th>
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### General Education Requirements

- **3** THEO 110 Intro to Christianity
- **3** BLIT 210 Christian Scriptures
- **3** CMIN 310 Christian Living
- **3** Approved Stewardship Course*
- **3** ENGL 109 College Writing I
- **3** COMM 105 Fundamentals of Communication
- **3** HIST 200 Western Civilization
- **3** Approved Social Science Course*
- **6** Approved Humanities Courses*
  - Select 3 hours from two different areas:
    - Fine Arts, Literature, Philosophy, Modern Languages
  - 3-8 Elementary Foreign Language I and II OR
  - Approved International Culture course*
- **3-4** BIOL 201 or approved biological science course*

*See [olivet.edu/registrar](http://olivet.edu/registrar) for approved list of courses

### Required Supporting Courses:

- **4** CHEM 103 General Chemistry I
- **4** MATH 147 Calculus I
- **4** MATH 148 Calculus II
- **3-4** MATH 241 Statistics or MATH 351 Linear Algebra
- **4** MATH 261 Calculus III
- **3** MATH 357 Differential Equations
- **4** PHYS 201 General Physics I
- **4** PHYS 202 General Physics II

### Major: 58-64 hours – 2.000 required for major

- **3** ENGR 101 Engineering Design I
- **3** ENGR 102 Engineering Design II
- **3** ENGR 107 Computational Engineering OR COMP 150 Programming: Control Structures
- **3** ENGR 401 Senior Design Project I/Tech Comm
- **2** ENGR 402 Senior Design Project II/Exprmt Dsgn
- **3** ENGR 403 Engineering Economics

### PLUS completion of one of the following concentrations:

#### A. Architectural Concentration

- **3** ENGR 210 Thermo-Fluids Engineering
- **3** ENGR 213 Statics
- **3** ENGR 215 Dynamics
- **3** ENGR 216 Mechanics of Materials
- **3** ENGR 220 Electrical Circuits & Systems
- **3** ENGR 255 Introduction to Architectural Engineering
- **3** ENGR 351 Structural Analysis
- **3** ENGR 352 Structural Steel Design
- **3** ENGR 353 Reinforced Concrete Design
- **3** ENGR 355 Building Information Modeling
- **3** ENGR 455 Construction Management
- **3** ENGR 456 Mechanical Building Systems
- **3** ENGR 457 Electrical Building Systems
- **3** ESS 360 GIS and GPS

#### B. Civil Concentration

- **3** ENGR 210 Thermo-Fluids Engineering
- **3** ENGR 213 Statics
- **3** ENGR 215 Dynamics
- **3** ENGR 216 Mechanics of Materials
- **3** ENGR 220 Electrical Circuits & Systems
- **3** ENGR 255 Introduction to Environmental Engineering
- **3** ENGR 251 Transportation Planning & Analysis
- **3** ENGR 351 Structural Analysis
- **3** ENGR 352 Structural Steel Design
- **3** ENGR 353 Reinforced Concrete Design
- **3** ENGR 354 Introduction to Soil Mechanics
- **3** ENGR 356 Collection/Pumping of Water/ Wastewater
- **3** ENGR 451 Storm Water Hydraulics/Hydrology
- **3** ENGR 452 Site Design
- **3** ENGR 455 Construction Management

#### C. Mechanical Concentration

- **3** ENGR 213 Statics
- **3** ENGR 215 Dynamics
- **3** ENGR 216 Mechanics of Materials
- **3** ENGR 220 Electrical Circuit & Systems
- **4** ENGR 311 Material Science
- **3** ENGR 312 Thermodynamics
- **3** ENGR 314 Computer Aided Engn. w/ Creo
- **4** ENGR 315 Fluid Mechanics
- **4** ENGR 323 Automatic Controls
- **3** ENGR 412 Machine Design & Dynamics

*Plus 2 additional Upper Division (300/400 level) ENGR courses to be approved by Dept. of Engineering*

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All required Engineering and supporting Math and Science courses must be completed with a grade of C or better to be eligible for graduation.