



The International University of Beirut  
الجامعة الدولية في بيروت

**Major Title:** Bachelor of Engineering in Mechanical Engineering  
**Major Code:** BEMENG  
**Level:** underGraduate  
**Number Of Credits:** 150  
**Date:** 10-08-2022

## Bachelor of Engineering in Mechanical Engineering (BEMENG)

### Major Electives

| Code  | Title          | Credits | Prerequisites | Corequisites |
|-------|----------------|---------|---------------|--------------|
|       | Major Elective | 3       |               |              |
|       | Major Elective | 3       |               |              |
|       | Major Elective | 3       |               |              |
| Total |                | 9       |               |              |

### Core Requirements

| Code     | Title                                               | Credits | Prerequisites                           | Corequisites     |
|----------|-----------------------------------------------------|---------|-----------------------------------------|------------------|
| CHEM200  | General Chemistry                                   | 3       | ENGL101-CHEM160                         |                  |
| CSCI250  | Introduction to Programming                         | 3       |                                         | ENGL101-CSCI250L |
| CSCI250L | Introduction to Programming Lab                     | 1       |                                         | ENGL101-CSCI250  |
| EENG250  | Electric Circuits I                                 | 3       | PHYS161-PHYS160-MATH161-MATH160-ENGL051 | MATH210          |
| EENG370  | Industrial Electronics                              | 3       | EENG250                                 | EENG370L         |
| EENG370L | Industrial Electronics Lab                          | 1       |                                         | EENG370          |
| ENGG300  | Engineering Economics                               | 3       | ENGL201-MATH225-MATH220                 |                  |
| MATH210  | Calculus II                                         | 3       | MATH161-MATH160                         |                  |
| MATH220  | Calculus III                                        | 3       | MATH210                                 |                  |
| MATH225  | Linear Algebra with Applications                    | 3       | ENGL051-MATH161                         |                  |
| MATH270  | Ordinary Differential Equations                     | 3       | MATH210                                 | MATH225          |
| MATH310  | Probability & Statistics for Scientists & Engineers | 3       | MATH210-ENGL201                         |                  |
| MATH375  | Numerical Methods for Scientists & Engineers        | 3       | ENGL051-MATH270-MATH225                 |                  |
| PHYS220  | Physics for Engineers                               | 3       | PHYS161-ENGL101-PHYS160                 | MATH210          |
| Total    |                                                     | 38      |                                         |                  |

### Major Requirements

| Code     | Title                                          | Credits | Prerequisites                                   | Corequisites     |
|----------|------------------------------------------------|---------|-------------------------------------------------|------------------|
| EENG435  | Control Systems                                | 3       | PHYS220-MENG250-MATH270-MATH225-MATH310-EENG370 |                  |
| EENG492  | Electric Machines For Mechanical Engineers     | 3       | PHYS220-EENG370                                 | MENG430-EENG492L |
| EENG492L | Electric Machines For Mechanical Engineers Lab | 1       |                                                 | EENG492          |
| ENGG499  | Practical Experience                           | 4       |                                                 |                  |

|          |                                       |    |                                         |                                  |
|----------|---------------------------------------|----|-----------------------------------------|----------------------------------|
| MENG225  | Engineering Drawing & CAD             | 3  |                                         |                                  |
| MENG250  | Statics                               | 3  | MATH161-MATH160-PHYS161-PHYS160-ENGL051 | MATH210                          |
| MENG300  | Dynamics                              | 3  | ENGL051-ENGL101-MENG250                 | PHYS220-MATH220                  |
| MENG310  | Engineering Material Science          | 3  | MENG250                                 | CHEM200                          |
| MENG320  | Engineering Thermodynamics I          | 3  | MENG250                                 | CHEM200-MENG320L                 |
| MENG320L | Engineering Thermodynamics I Lab      | 1  |                                         | CHEM200-MENG320                  |
| MENG360  | Mechanics of Materials I              | 3  | MENG310                                 | MENG360L                         |
| MENG360L | Mechanics Of Materials I Lab          | 1  | MENG310                                 | MENG360                          |
| MENG370  | Fluid Mechanics I                     | 3  | MENG300                                 | MATH375-MENG370L                 |
| MENG370L | Fluid Mechanics I Lab                 | 1  | MENG300                                 | MENG370                          |
| MENG410  | Mechanics of Materials II             | 3  | MENG360                                 |                                  |
| MENG420  | Heat Transfer                         | 3  | MENG370-MENG320                         | MENG420L                         |
| MENG420L | Heat Transfer Lab                     | 1  | MENG320                                 | MENG420                          |
| MENG430  | Mechanical Vibrations I               | 3  | MENG300-MATH270                         | MENG410-MATH310-MENG430L         |
| MENG430L | Mechanical Vibrations I Lab           | 1  | CSCI250                                 | MENG430                          |
| MENG450  | Mechanical Systems I                  | 3  | MENG300                                 | MENG430-MENG450L                 |
| MENG450L | Mechanical Systems I Lab              | 1  | MENG300-MENG225                         | MENG450                          |
| MENG470  | Internal Combustion Engines           | 3  | MENG420                                 |                                  |
| MENG501L | Mechanical Engineering Workshop       | 1  | MENG450L                                |                                  |
| MENG520  | Fluid Mechanics II                    | 3  | MENG470                                 |                                  |
| MENG525  | Engineering Thermodynamics II         | 3  | MENG420                                 |                                  |
| MENG550  | Mechanical Systems II                 | 3  | MENG450                                 |                                  |
| MENG560  | Machine Design I                      | 3  | MENG410                                 |                                  |
| MENG596  | Capstone Project                      | 6  | MENG550-MENG615-MENG601-ENGL251-MENG610 |                                  |
| MENG601  | Hydraulic and Pneumatic Systems       | 3  | MENG470                                 | MENG610-MENG525-MENG520          |
| MENG610  | Machine Design II                     | 3  | MENG560                                 | MENG501L                         |
| MENG615  | Refrigeration & Air conditioning      | 3  | MENG470                                 | MENG610-MENG520-MENG525-MENG615L |
| MENG615L | Refrigeration & Air conditioning Lab. | 1  |                                         | MENG615                          |
| Total    |                                       | 82 |                                         |                                  |

### General Education Requirements

| Code    | Title                                        | Credits | Prerequisites | Corequisites |
|---------|----------------------------------------------|---------|---------------|--------------|
| ARAB200 | Arabic Language and Literature               | 3       |               |              |
| CULT200 | Introduction to Arab - Islamic Civilization  | 3       |               |              |
| ENGG450 | Engineering Ethics and Professional Practice | 3       | ENGL251       | ENGG300      |
| ENGL201 | Composition and Research Skills              | 3       | ENGL151       |              |
| ENGL251 | Communication Skills                         | 3       | ENGL201       |              |

|                             |                                         |         |                                 |                                  |
|-----------------------------|-----------------------------------------|---------|---------------------------------|----------------------------------|
| Total                       |                                         | 15      |                                 |                                  |
| General Education Electives |                                         |         |                                 |                                  |
| Code                        | Title                                   | Credits | Prerequisites                   | Corequisites                     |
|                             | General Education Electives             | 3       |                                 |                                  |
|                             | General Education Electives             | 3       |                                 |                                  |
| Total                       |                                         | 6       |                                 |                                  |
| Major Elective Courses      |                                         |         |                                 |                                  |
| Code                        | Title                                   | Credits | Prerequisites                   | Corequisites                     |
| EENG585                     | Introduction to Mechatronics            | 3       | MENG250-MENG601-EENG492-EENG435 |                                  |
| MENG555                     | Introduction To Finite Element Analysis | 3       |                                 | MENG560                          |
| MENG580                     | Advanced Heat Transfer                  | 3       | MENG520                         |                                  |
| MENG585                     | Solar Energy & Thermal Systems          | 3       | MENG525-MENG520                 |                                  |
| MENG591                     | Automotive Engineering Fundamentals     | 3       | MENG550                         | MENG591L                         |
| MENG591L                    | Automotive Engineering Fundamentals Lab | 1       | MENG550                         | MENG591                          |
| MENG595                     | Turbomachinery                          | 3       | MENG525-MENG520                 |                                  |
| MENG615                     | Refrigeration & Air conditioning        | 3       | MENG470                         | MENG610-MENG520-MENG525-MENG615L |
| MENG615L                    | Refrigeration & Air conditioning Lab.   | 1       |                                 | MENG615                          |
| MENG655                     | Power Plant Engineering                 | 3       | MENG525-MENG520                 |                                  |