



## **Civil Engineering Department**

### **General Information**

Mumford Institute of Technology offers the following Undergraduate degree in Civil Engineering

B.Eng. (C. E.)

### **Programs and Objectives**

#### **Declaration of Major**

Students in the four-year Bachelor of Engineering program can declare their major after the first year, or they can declare their major at the time of Admission. All engineering major require hundred and forty one credits to graduate.

### **Four – Year Civil Engineering**

#### **Curricula**

#### **First – Year Program**

#### **Pre-Engineering Courses**

**Biology 90 Introduction to Biology** ( 0 cr.)

The strategy of life: The basic properties of living systems with emphasis on human beings as functioning biological entities. Prereq. Math 80

**English University Skills 1 ( 0 cr.)**

This course is designed to prepare the students for successful performance in university courses. Assignment to this course is based on the level of competence indicated by the student's high school English record.

**English University Skills 2 ( 0 cr.)**

Evaluation of individual reading and study skills in English. Instruction and practice is based on individual basic reading comprehension, vocabulary, and study skills to university content areas.

**Chemistry 90 Introduction to Chemistry ( 0 cr.)**

The fundamental principles of chemistry and their applications to social issues. Problem solving in chemistry. Prereq. Math 80, Coreq. Math 90

**Math 70 Elementary Algebra (0 cr)**

Review of arithmetic, algebraic expressions, Linear equations, monomial fractions, graphing lines, polynomials, verbal problems.

**Math 80 Fundamentals of Algebra and Geometry (0 cr.)**

Linear equations and graphs, functions, the point-slope equation, linear in qualities, polynomial functions, rational expressions, radicals, quadratic equations, sequences, series, and the binomial theorem. Prereq. Math70

**Math 90 Intermediate Algebra and Trigonometry (0 cr.)**

Rational expressions, rational exponents and radicals, conic sections and systems of equations, binomial theorem, introduction to trigonometry. Prereq. Math 80.

**Physics 100 Introductory Physics (0 cr.)**

This course is with two themes:

1. How nature works the interplay of space, time, matter, and energy;

2. Structures are born, live out their life cycles, and die. These include us, the stars, and perhaps the universe. This theme may be called scientific story of genesis.  
Prereq. Math 80, Coreq. Math 90

## **First- Year (Freshman year)**

### **First-Term**

Math 101-01	Analytic Geometry and Calculus I	(3 cr.)
Chem 103-01	General Chemistry for Engineers I	(3 cr.)
Engl 101-01	Freshman Composition I	(3 cr.)
Phys 101-01	General Physics 1	(3 cr.)
Engr 101-01	Engineering Graphics (Design)	(1 cr.)
Engr 102-01	Engineering Orientation	(3 cr.)
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		<b>16 cr.</b>

### **Second –Term**

Math 102-01	Analytic Geometry and Calculus II	(3 cr.)
Chem 104-01	General chemistry for Engineers II	(3 cr.)
Phys 108-01	General Physics II	(3 cr.)
Engr 103-01	Introduction to Computers for Engineers	(3 cr.)
Econ 101-01	Engineering Economics	(3 cr.)
Engl 102-01	Freshman Composition II	(3 cr.)
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		<b>18 cr.</b>

## Second-Year Program (Sophomore Year)

### First-Term

Math 203-02 Analytic Geometry and Calculus III	(3 cr.)
Engr 204-02 Engineering Circuit Analysis 1	(3 cr.)
CE 231-02 Intro. to Structural Mechanics	(3 cr.)
CE 263-02 Surveying	(3 cr.)
Engl 210-02 Technical Communications	(3 cr.)
Csc 102-02 Introduction to Computing	(3 cr.)

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**18 cr.**

### Second-Term

Math391-02 Methods in Differential Equations	(3 cr.)
CE209-02 Structural and Site Plans	(3 cr.)
CE 332-02 Mechanics of Deformable Bodies	(4 cr.)
CE350-02 Fluid Mechanics I	(3 cr.)
Engr276-02 Engineering Economics	(3 cr.)

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**16 cr.**

## Third-Year ( Junior year)

### First-Term

Math 392 -03 Linear Algebra and Vector Analysis For Engineers	(3 cr.)
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CE340-03	Structural Analysis I	(3 cr.)
CE361-03	Hydraulics	(3 cr.)
CE370-03	Economic Planning and Management	(3 cr.)
EAS 213-03	Engineering Geology	(3 cr.)
Liberal Art Course		(3 cr.)

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**18 cr.**

**Second-Term**

CE345-03	Soil Mechanics and Foundations	(3 cr.)
CE 390	Dynamics of Civil Engineering systems	(3 cr.)
CE381	Contracts and Specifications	(3 cr.)
CE480-03	Environmental Engineering I	(3 cr.)
ENGR 230-03	Thermodynamics I	(3 cr.)
Ghana History		(3 cr.)

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**(18 cr.)**

**Fourth- Year ( Senior year)**

**First-Term**

EE 444	Digital Computer Systems	(3 cr.)
CE 416	Engineering Project I	(3 cr.)
CE441-03	Reinforced Concrete I	(3 cr.)
CE470-03	Transportation Engineering I	(3 cr.)

Specialization Electives (6 cr.)

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**18 cr.**

**Second-Term**

EE 418 Engineering Project II (3 cr.)

CE441-03 Reinforced Concrete I (3 cr.)

EE 445 Fiber Optics II (3 cr.)

CE470-03 Transportation Engineering I (3 cr.)

Specialization Electives (6cr.)

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**18 cr.**

**Total Credits 140cr.**