

Degree Title: MS - Construction Management

Although the degree title states “Construction Management,” the program is an **engineering-based graduate program**. The curriculum is grounded in civil engineering theory, quantitative analysis, engineering economics, sustainability, safety engineering, and technical project execution.

STEM and Civil Engineering Alignment of Core Curriculum

The required core coursework consists of the following engineering-focused STEM courses:

- **CEE 670 Construction Management (3 credits)**
Applies civil engineering principles to construction systems, methods, sequencing, constructability analysis, and engineering project execution.
- **CEE 672 Material Selection, Cost Estimation, and Bidding (3 credits)**
Focuses on engineering materials, quantitative cost modeling, life-cycle analysis, and technical bidding processes used in civil engineering projects.
- **CEE 609 / EMGT 609 / IE 609 Engineering Cost Analysis (3 credits)**
A mathematically intensive course emphasizing engineering economics, financial modeling, cost optimization, and quantitative decision-making.
- **EMGT 627 Legal and Ethical Issues of Engineering (3 credits)**
Addresses engineering standards, professional responsibility, regulatory compliance, and ethical decision-making within engineering practice.
- **EMGT 522 Occupational Safety and Health (3 credits)**
Covers safety engineering, hazard analysis, risk mitigation, and compliance with engineering safety standards in construction and infrastructure environments.
- **CEE 606 Advanced Green and Sustainable Civil Engineering (3 credits) or CEE 641 Energy Management (3 credits)**
These courses apply engineering science to sustainability, energy systems, environmental impact analysis, and infrastructure efficiency.
- **EMGT 648 Project Management (3 credits) or EMGT 602 Engineering Crisis, Disaster, and Risk Management (3 credits)**
Focuses on engineering-based risk modeling, systems analysis, disaster mitigation, and technical project control methodologies.

These required courses total **21 credits** and are predominantly **engineering and STEM-designated coursework**, emphasizing analytical reasoning, applied mathematics, systems engineering, and technical problem-solving.

STEM Nature of Electives and Project Option

Students complete an additional **9 credits of advanced electives** selected from:

- **CEE 500 and 600 level Civil Engineering courses**
- **EMGT 500 and 600 level Engineering Management courses**
- Approved **technical electives** with engineering and quantitative content

Alternatively, students may complete the **Civil Engineering Project Option**, including:

- **CEE 680 Civil Engineering Project (3 credits)**

An applied engineering project requiring technical analysis, engineering design considerations, data interpretation, and professional reporting.

STEM Justification

All elective and project options maintain the program's **engineering and STEM focus**, ensuring depth in civil engineering applications rather than general business management.

CIP Code and STEM Qualification Justification

The program is correctly classified under **CIP code 14.0899 (Civil Engineering, Other)** based on:

- Its academic home within the civil engineering department
- Engineering-based curriculum and learning outcomes
- Quantitative, analytical, and technical coursework
- Instruction by engineering faculty
- Preparation for STEM occupations such as construction engineer, project engineer, cost engineer, and infrastructure analyst

While the diploma title uses the term "Construction Management," the **academic substance and instructional framework are commensurate with DHS-listed civil engineering STEM programs**, consistent with federal CIP assignment guidance.

Conclusion

Based on curriculum content, engineering rigor, departmental oversight, and learning outcomes, the **Master of Science in Construction Management at Western New England University qualifies as a STEM degree** and corresponds directly to **CIP code 14.0899** as reflected on the student's Form I-20 and SEVIS record.