## Construction Engineering and Management Track – CEM

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<th>FALL</th>
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1. **CEM Core**

   - Students must complete at least one (1) from the following list:
     
     - CE 6035 Leadership and Negotiation
     - CE 6045 Construction Business

   - Students must complete at least one (1) from the following list:
     
     - CE 5035 Construction Estimating and Bidding
     - CE 6015 Project Management

2. **CEM Electives**

   - Students must complete four courses from the following list:
     
     Any CEM Core Course, or
     - CE 5500 Construction Planning, Scheduling, and Control
     - CE 6065 Construction Practice*
     - CE 6025 VDC Coordination and Control
     - LAW 9020 Construction Law
     - ARCH 5114 Sustainability and Systems in the Built Environment
     - PLAN 5200 The Real Estate Development Process

* Construction Practice is a Practicum Course recommended for On-ground M.E. students seeking to gain more industry experience during the program.

3. **Technical Electives** may include any technical course at or above the 5xxx level approved by the academic adviser.

Recommended Technical Electives:

Any CEM Core Course, CEM Elective, or
- CE 6500 Behavioral Design
- SYS 6001 Introduction to Systems Analysis and Design
- SYS 6050 Risk Analysis
- SYS 6582 Introduction to Lean Enterprise and Six Sigma
- PLAN 5201 Real Estate Finance Fundamentals
(4) Pre-requisites of the CEM track include:
Applicants must have taken during their undergraduate degree in engineering an introductory course to Construction Engineering and Management (i.e., construction management, construction engineering, or an equivalent) and Engineering Economics. Otherwise, they must take CE 2030 Management of Engineering and Construction Projects and CE 2020 Engineering Economic Analysis.

Applicants, who do not have an undergraduate degree in engineering, should satisfy the above requirements and take the course Civil Engineering Professional Practice.

(5) Students may be permitted to modify this framework, pending approval of their academic advisor and the CE Director of Graduate Studies. Additionally, online courses from Virginia’s CGEP program may be suitable to meet the requirements for this degree.