

**Vecellio Construction Engineering Management Program**  
Via Department of Civil and Environmental Engineering  
**Vecellio Construction Engineering and Management Program**  
**2024-2025 MSCE in CEM Course Requirements Check Sheet**

				Credit Hours	Semester Offered
<b>I - VCEMP Common Courses</b> <span style="color: red;">(7 credit hours required)<sup>1</sup></span>					
CEE 5944	Seminar: Construction (CRN: 82431)			1	F
CNST 5074	Construction Professional Competencies <sup>2</sup>			3	F
CNST 5114	Leadership in Arch/Engineer/Const			3	F
<b>II - Track-Specific Requirements</b>					
<b>Non-Thesis Track (0 or 3 credit hours required)</b>			OR	<b>Thesis Track (10 credit hours required)</b>	
CEE 5904	Project and Report <sup>3</sup>	3	F, S	CNST 5084	Methods in Const Research <sup>4</sup>
				CNST 5424	Construction Research Present <sup>5</sup>
				CEE 5994	Research and Thesis
<b>III - CEE Electives</b> <span style="color: red;">(Take at least 9 credit hours from Subject Area; Minimum 15 credit hours of CEE Electives)<sup>6</sup></span>					
<b>Indicate Subject Area:</b>		PD&M <input type="checkbox"/> ID&M <input type="checkbox"/>		<b>Subject Area</b>	
CEE 4014	Estimating, Productivity and Cost Engineering <sup>7</sup>			General Elective	
CEE 5004	Adaptive Reuse and Redevelopment			ID&M	
CEE 5014	Facility Delivery & Financing Strategies			PD&M and ID&M	
CEE 5020	Infrastructure Policy			ID&M	
CEE 5024	Contract Administration & Claims Resolution			PD&M	
CEE 5034	Smart Sustainable Infrastructure			ID&M	
CEE 5054	Project Control of Built Infrastructure			PD&M	
CEE 5060	Built Environment Information Modeling and Processing			PD&M and ID&M	
CEE 5064	Construction Project Dynamics			PD&M	
CEE 5074	Global Virtual Design & Construction			PD&M	
CEE 5080	Infrastructure Asset Management			ID&M	
CEE 5084	Information Technology in Infrastructure			ID&M	
CEE 5984	GenAI and Robotics in Infrastructure Applications			PD&M and ID&M	
CEE 5974	Independent Study <sup>8</sup>			General Elective	
<b>IV - Other Electives</b> <span style="color: red;">(Minimum 0 credit hours required)</span>					
CNST 5214	Construction Company Management			3	S
CEE 5884	Legal Aspects of Civil/Construction/Environmental Engineering			3	Not Offered
<i>Any 4000 or 5000 courses in the areas of Construction, Engineering, Business or Policy approved by advisor</i>				3+	F, S

<sup>1</sup> Students without a sufficient background in CEM fundamentals may be required to take background supporting courses. All students must take *ENGE 5304 Graduate Student Success in Multicultural Environments* to graduate.

<sup>2</sup> Fall entrants should enroll in first semester, spring entrants should enroll in second semester.

<sup>3</sup> Not required for coursework-only exit option; enroll for 3 credits for P&R exit option.

<sup>4</sup> Thesis students must take CNST 5084 or an approved substitute.

<sup>5</sup> Pass/Fail option only, taken in final semester.

<sup>6</sup> Choose a subject area: Project Delivery & Management (PD&M) or Infrastructure Development & Management (ID&M) and take at least 9 subject area credit hours - more information on next page; take a minimum of 15 credit hours of CEE Electives

<sup>7</sup> Approval of supervising faculty required; student will need to request a force-add.

<sup>8</sup> Approval of supervising faculty required; must submit independent study form in accordance with departmental policy.

**A PLAN OF STUDY must be submitted before completion of 15 hours of graduate coursework. Class waivers or variations from the Course Requirements must be approved by the Program**

## **VCEMP Subject Areas of Study**

CEE Electives are in two subject areas: (1) Project Delivery & Management and (2) Infrastructure Development & Management. Students must choose one of the two subject areas.

### ***Project Delivery & Management: (PD&M)***

*Students interested how projects are planned, delivered, financed, modeled/simulated and managed should select this subject area and then must select at least three electives (9 credit hours) in Section III of the check sheet from the PDM subject area.*

### ***Infrastructure Development & Management (ID&M)***

*Students interested in how infrastructure development and management are impacted by sources of capital, policies, societal aspirations such as sustainability and how infrastructure assets are managed should select this subject area and must select at least three electives (9 credit hours) in Section III of the check sheet from the IDM subject area.*

### **Project Delivery & Management (PD&M) Subject Area Electives**

CEE 5014 Facility Delivery & Financing Strategies  
CEE 5024 Contract Administration & Claims Resolution  
CEE 5054 Project Control of Built Infrastructure  
CEE 5060 Built Environment Information Modeling & Processing  
CEE 5064 Construction Project Dynamics  
CEE 5074 Global Virtual Design & Construction  
CEE 5984 GenAI and Robotics in Infrastructure Applications

### **Infrastructure Development & Management (ID&M) Subject Area Electives**

CEE 5004 Adaptive Reuse and Redevelopment  
CEE 5014 Facility Delivery & Financing Strategies  
CEE 5020 Infrastructure Policy  
CEE 5034 Smart Sustainable Infrastructure  
CEE 5060 Built Environment Information Modeling & Processing  
CEE 5080 Infrastructure Asset Management  
CEE 5084 Information Technology for Infrastructure  
CEE 5984 GenAI and Robotics in Infrastructure Applications