

STEP 1

Technical Disciplines

Start with sector-specific technical training.
Choose from four civil engineering disciplines.

			
STRUCTURES	TRANSPORT	GEOTECH/GROUND ENGINEERING	ENERGY
Essentials Design, assess, and maintain structural assets across their lifecycle.	Essentials Design and deliver safe, sustainable, and user-focused transport systems.	Essentials Understand ground conditions and develop safe, efficient geotechnical solutions.	Essentials Support the delivery of reliable, sustainable, and low-carbon energy infrastructure.
Introduction to Structural Appraisals	Highway Design and Detailing using DMRB	Earthworks - Theory and Practice	Coming 2027
CDM2015: The Full Picture, Principles and Practice	Active Travel Design Principles	Foundation Design	
Progression Materials & design → Structural assessment → Maintenance & retrofit	Progression Design principles → Scheme development → Network optimisation	Progression Ground investigation → Soil behaviour → Foundation design	Progression Energy systems → Infrastructure design → Decarbonisation and transition
Temporary Works Design (Above Ground)	Using Asphalts with Confidence	Carbon in Infrastructure Procurement	Comprehensive pathways for renewable energy, grid infrastructure, and energy transition
Outcomes - Understand structural behaviour - Assess asset condition - Apply maintenance strategies	Outcomes - Apply transport design standards - Integrate safety and accessibility - Support sustainable mobility	Outcomes - Interpret ground conditions - Assess geotechnical risk - Apply appropriate design solutions	Outcomes - Understand energy systems and networks - Apply principles of energy infrastructure design - Support low-carbon and net zero solutions

STEP 2

Cross-Sector Capabilities

Strengthen every pathway with cross-sector professional skills.
These capabilities apply across all disciplines.

				
SUSTAINABILITY	HEALTH & SAFETY	DIGITAL TRANSFORMATION	INFRASTRUCTURE DELIVERY	LEADERSHIP & ETHICS
Overview	Overview	Overview	Overview	Overview
Embed sustainable principles to infrastructure projects and lifecycle stages	Manage health, safety, and risk across construction and engineering activities	Use digital tools and emerging technologies to enhance project delivery and performance	Plan, manage, and deliver infrastructure projects effectively.	Lead teams and make effective, ethical decisions in complex engineering environments
Example Courses	Example Courses	Example Courses	Example Courses	Example Courses
Introduction to Sustainable Development	Fundamentals of CDM 2015	ICE BIM for Infrastructure – BIM in Practice	Construction Project Management	ICE Mini-MBA in Infrastructure
Carbon Management in Infrastructure	CDM 2015: The Principal Designer and Designer	Digital Twins - Foundation	Principles of Construction Contracts	Technical Report Writing
Outcomes - Apply sustainable principles in infrastructure design and delivery - Assess carbon impacts and reduction strategies - Integrate sustainability into decision-making	Outcomes - Implement CDM regulations in practice - Identify and manage health and safety risks - Apply safe design principles in project delivery	Outcomes - Apply BIM and digital tools in project delivery - Interpret and use data to inform decision-making - Identify opportunities to improve digital delivery	Outcomes - Plan and manage project delivery and coordination - Understand contracts and commercial drivers - Mitigate risks and manage performance	Outcomes - Lead teams and manage stakeholders effectively - Communicate clearly in technical contexts - Apply ethical judgement in decision-making

Proficiency Levels Across the Pathway:

