

<b>EA6m</b>	Ability to extract and evaluate pertinent data and to apply engineering analysis techniques in the solution of unfamiliar problems
-------------	--

<b>Design (D)</b>	
<b>D1i</b>	Be aware of business, customer and user needs, including considerations such as the wider engineering context, public perception and aesthetics
<b>D1</b>	Understand and evaluate business, customer and user needs, including considerations such as the wider engineering context, public perception and aesthetics
<b>D2i</b>	Define the problem identifying any constraints including environmental and sustainability limitations; ethical, health, safety, security and risk issues; intellectual property; codes of practice and standards
<b>D2</b>	Investigate and define the problem, identifying any constraints including environmental and sustainability limitations; ethical, health, safety, security and risk issues; intellectual property; codes of practice and standards
<b>D3i</b>	Work with information that may be incomplete or uncertain and be aware that this may affect the design
<b>D3b</b>	Work with information that may be incomplete or uncertain and quantify the effect of this on the design
<b>D3m</b>	Work with information that may be incomplete or uncertain, quantify the effect of this on the design and, where appropriate, use theory or experimental research to mitigate deficiencies
<b>D4i</b>	Apply problem-solving skills, technical knowledge and understanding to create or adapt designs solutions that are fit for purpose including operation, maintenance, reliability etc
<b>D4</b>	Apply advanced problem-solving skills, technical knowledge and understanding, to establish rigorous and creative solutions that are fit for purpose for all aspects of the problem including production, operation, maintenance and disposal
<b>D5i</b>	Manage the design process, including cost drivers, and evaluate outcomes
<b>D5</b>	Plan and manage the design process, including cost drivers, and evaluate outcomes
<b>D6</b>	Communicate their work to technical and non-technical audiences
<b>D7m</b>	Demonstrate wide knowledge and comprehensive understanding of design processes and methodologies and the ability to apply and adapt them in unfamiliar situations
<b>D8m</b>	Demonstrate the ability to generate an innovative design for products, systems, components or processes to fulfil new needs

<b>Economic, legal, social, ethical and environmental context (EL)</b>	
<b>EL1</b>	Understanding of the need for a high level of professional and ethical conduct in engineering and a knowledge of professional codes of conduct
<b>EL1m</b>	Understanding of the need for a high level of professional and ethical conduct in engineering, a knowledge of professional codes of conduct and how ethical dilemmas can arise
<b>EL2</b>	Knowledge and understanding of the commercial, economic and social context of engineering processes
<b>EL3i</b>	Knowledge of management techniques that may be used to achieve engineering objectives
<b>EL3b</b>	Knowledge and understanding of management techniques, including project management, that may be used to achieve engineering objectives
<b>EL3m</b>	Knowledge and understanding of management techniques, including project and change management, that may be used to achieve engineering objectives, their limitations, and how they may be applied appropriately
<b>EL4i</b>	Understanding of the requirement for engineering activities to promote sustainable development
<b>EL4</b>	Understanding of the requirement for engineering activities to promote sustainable development and ability to apply quantitative techniques where appropriate
<b>EL5</b>	Awareness of the relevant legal requirements governing engineering activities, including personnel, health & safety, contracts, intellectual property rights, product safety and liability issues
<b>EL5m</b>	Awareness of the relevant legal requirements governing engineering activities, including personnel, health & safety, contracts, intellectual property rights, product safety and liability issues, and an awareness that these may differ internationally
<b>EL6i</b>	Awareness of risk issues, including health & safety, environmental and commercial risk
<b>EL6b</b>	Knowledge and understanding of risk issues, including health and safety, environmental and commercial risk, and of risk assessment and risk management techniques
<b>EL6m</b>	Knowledge and understanding of risk issues, including health and safety, environmental and commercial risk, risk assessment and risk management techniques and an ability to evaluate commercial risk
<b>EL7m</b>	Understanding of the key drivers for business success, including innovation, calculated commercial risks and customer satisfaction