

This Competency Standard for Professional Interview is aligned with the IEA Professional Competency Profile, and benchmarked to the UK Standard for Professional Engineering Competence for Chartered Engineers.

Corporate Members of IEM and Professional Engineers should demonstrate:

- The theoretical knowledge, understanding and skills in own specialisation, coupled with related technology, products, and services as well as engineering codes, practises, standards, specifications and techniques.
- Application of the knowledge and practical methods to the analysis and solution of engineering problems; and take technical responsibility for complex engineering systems.
- Accountability for project, finance and personnel management, and managing trade-offs between technical and socio-economic factors.
- Effective interpersonal skills in communicating technical matters.
- Personal commitment to professional standards.

This Competency Standard consists of eighteen Competency Elements grouped under five Competency Categories. The Standard demonstrates the underpinning knowledge and understanding of engineering fundamentals, application abilities, leadership and management skills, communication and interpersonal skills, and personal commitment to the profession that must be demonstrated in order to practice professionally. The Competency Elements are used as the basis for assessing those who apply to sit for the Professional Interview conducted by the IEM. Applicants will be required to provide evidence of competence against each of the eighteen Competency Elements. The evidence is to be drawn from their work experience, specifically as they have encountered engineering problems or engaged in engineering activities.

A	Use a combination of general and specialist engineering knowledge and understanding as a basis for optimising the application of existing and emerging technology.
A1	Maintain and extend personal knowledge, understanding and technical skills in own and allied fields of specialisation.
PI Candidates will have progressed from the formal educational base to having the breadth and depth of knowledge, understanding and technical skills necessary to put to use new and developing technologies from their own and allied fields. They should be able to identify their own personal limits, strive to extend their own technological / engineering capability, and broaden and deepen their own knowledge base.	
A2	Learn and broaden personal knowledge and experience in the technology, products or services related to own specialisation, preferably with a view to improvement.
PI Candidates will have the ability to learn and broaden their knowledge base and experience in new application, technology, products, services or process. They should preferably be able to make related market research, and contribute to continuous improvement systems.	
A3	Comprehend and apply knowledge and understanding of the relevant engineering codes, standards, specifications, applications, especially those appropriate to local context, requirements, and application.
PI Candidates will have the ability to comprehend and apply knowledge and understanding of the relevant engineering codes, practices, standards, specifications, materials, products, environmental plans and other requirements, particularly those developed for local context, requirements, and application that are collectively referred to as “local engineering knowledge”.	

B	Apply appropriate theoretical and practical methods to the analysis and solution of engineering problems
B1	Identify projects and/or opportunities/problems
<p>PI Candidates will have identified, reviewed and defined new opportunities/problems within their field, using appropriate problem-solving methodology. This could include ability to establish users' requirements of the engineering solutions; consider or propose new and emerging technologies; enhance engineering practices, products, services, processes, and systems; recognise project complexity; use own knowledge of employer's position to assess and judge the viability of opportunities; conduct appropriate risk analysis; and take account of cost, quality, safety, reliability, appearance, fitness for purpose, security, intellectual property (IP), constraints and opportunities, and environmental impact.</p>	
B2	Conduct appropriate research and undertake design and development of engineering solutions.
<p>PI Candidates will have carried out theoretical or applied research to evaluate potential design options; and produced concept and finalised engineering design; made sound judgment, recommended design solution, and gained approvals. This could include ability to judge level of complexity; identify and use appropriate research methodologies; develop necessary tests; collect, analyse and evaluate relevant data; undertake engineering design; prepare, present and agree design recommendations.</p>	
B3	Implement design solutions, and evaluate their effectiveness.
<p>PI Candidates will have implemented the design strategy through to final solution, taking account of critical constraints, including due concern for safety and sustainability. This could include ability to devise and use appropriate criteria for monitoring and evaluating progress and outcomes; ensure that design performance, cost benefit and project milestones are met, and if necessary, devise design modifications; carry out project review, assessing the performance against the original specification, and using the results to improve the future design process and build best practices.</p>	



C	Provide technical and commercial management.
C1	Plan for effective project / job task implementation.
<p>PI Candidates will have performed project or job task planning based on project or organization objectives. This could include ability to systematically review factors affecting project or job task implementation including safety, sustainability, and social, cultural and environmental factors; define a holistic and systematic approach to risk identification, assessment and management; recognise competing demands and made sound judgment; prepare and agree implementation plans and method statements; ensure that the necessary resources are secured; negotiate the necessary contractual arrangements with other stakeholders (client, subcontractors, suppliers, etc).</p>	
C2	Plan, budget, organise, direct and control tasks, people and resources.
<p>PI Candidates will have executed and controlled project or job task implementation. This could include ability to set up appropriate management systems; define quality standards, programme/schedule and budget within legal and statutory requirements; organise/lead work teams and coordinate project / job activities; ensure that variations from quality standards, programme/schedule and budgets are identified, evaluate impact and take corrective action; gather and evaluate feedback, and recommend improvements.</p>	
C3	Lead teams and develop staff to meet changing technical and/or managerial needs.
<p>PI Candidates will be able to demonstrate leadership and manage staff development in a project or job setting. This could include an ability to agree objectives and work plans with teams and individuals; identify team and individual needs, and plan for their development; reinforce team commitment to professional standards; lead and support team and individual development; assess team and individual performance, and provide feedback.</p>	
C4	Bring about continuous improvement through quality management.
<p>PI Candidates will have brought about continuous improvement through quality management. This could include an ability to promote quality throughout the organisation and its customer and supplier networks; develop and maintain operations to meet quality standards; direct project evaluation and propose recommendations for improvement.</p>	

D	Demonstrate effective interpersonal skills
Interpersonal skills are to be assessed in three areas: general communications at all levels: presenting and discussing proposals; and people skills. These skills are of increasing importance in modern engineering practice, and ideally a good engineer will be highly competent in all aspects.	
D1	Communicate in National or English Language with others at all levels.
PI Candidates will have written and oral skills enabling communications in National or English Language with a wide range of internal and external stakeholders at all levels such as architect, quantity surveyors, customers, contractors, consultants, suppliers, financials, lawyers, local authorities, government agencies, peers, seniors and juniors. This could include an ability to lead, chair, contribute to and record meetings and discussions; prepare communications, documents and reports on complex matters; exchange information and provide advice to technical and non-technical colleagues.	
D2	Present and discuss proposals.
PI Candidates will have presented proposals for work programmes and/or projects in a clear and concise manner. This could include ability to prepare and deliver presentations on various matters; lead or manage discussion or debates with audiences; feed results back to improve the proposals; raise the awareness of risk.	
D3	Demonstrate personal and social skills
PI Candidates will have shown ability to create, maintain and enhance productive working relationships with stakeholders. This could include ability to know and manage own emotions, strengths and weaknesses; be aware of the needs and concerns of others, especially where related to diversity and equality; be confident and flexible in dealing with new and changing interpersonal situations; identify, agree and lead work towards collective goals; manage and resolve conflicts.	



E	Demonstrate a personal commitment to professional standards, recognizing obligations to society, the profession and the environment
<p>PI Candidates must have personal integrity and a professional approach. It is therefore a condition of registration that candidates show adequate commitment (at least level 2) to the profession under EI, E2 and E3 below. They should demonstrate an understanding of the need for codes of conduct and statutory requirements with regard to risks and is especially aware of, and complies with, requirements involving the safety of the community and protection of the environment. They should understand and accept obligations and responsibilities to those employing their professional services as well as the wider public.</p>	
E1	Comply with relevant codes of conduct
<p>PI Candidates will have shown how they comply with the rules of professional conduct of their own institution; lead/manage their work within all relevant legislation and regulatory frameworks, including social and employment legislation.</p>	
E2	Manage and apply safe systems of work.
<p>PI Candidates will have shown the ability to identify and take responsibility for own obligations for health, safety and welfare issues; ensure that systems satisfy health, safety and welfare requirements; develop and implement appropriate hazard identification and risk management systems and culture; manage, evaluate and improve these systems; apply sound knowledge of health and safety legislation</p>	
E3	Undertake engineering activities in a way that contributes to sustainable development.
<p>PI Candidates will have shown ability to operate and act responsibly, taking account of the need to progress environmental, social and economic outcomes simultaneously; use imagination, creativity and innovation to provide products and services which maintain and enhance the quality of the environment and community, and meet financial objectives; understand and encourage stakeholder involvement in sustainable development; use resources efficiently and effectively.</p>	
E4	Carry out and record continuing professional development (CPD) necessary to maintain and enhance competence in own area of practice.
<p>PI Candidates will have shown ability to maintain the currency of their competence; undertake reviews of own development needs; plan how to meet personal and organisational objectives; carry out planned (and unplanned) CPD activities; maintain evidence of competence development and keep an up-to-date CPD plan; evaluate CPD outcomes against any plans made; assist others with their own CPD.</p>	

E5	Understand the legal matters pertaining to engineering profession.
PI Candidates will have shown the ability to understand relevant legal matters that are related to the engineering work and services. They must possess knowledge on overview of laws having relevance and impact on the practice of engineering professional services.	