|  |
| --- |
| **Name:** |

|  |  |  |
| --- | --- | --- |
| **A - Knowledge and Understanding**    **Chartered Engineers shall use a combination of general and specialist engineering knowledge and understanding to optimise the application of advanced and complex systems.** | | |
| The applicant shall demonstrate that they: | Examples of evidence: | Please describe how and why you believe you meet this standard: |
| **A.1. Have maintained and extended a sound theoretical approach to enable them to develop their particular role.** | • Formal training related to your role  • Learning and developing new engineering  knowledge in a different industry or role  • Understanding the current and emerging  technology and technical best practice in your area of expertise  • Developing a broader and deeper knowledge base through research and experimentation  • Learning and developing new engineering theories and techniques in the workplace |  |
| **A.2. Are developing technological solutions to unusual or challenging problems, using their knowledge and understanding and/or dealing with complex technical issues or situations with significant levels of risk.** | • Carrying out technical research and development  • Developing new designs, processes or systems  based on new or evolving technology  • Carrying out complex and/or non-standard technical analyses  • Developing solutions involving complex or multidisciplinary technology  • Developing and evaluating continuous improvement systems  • Developing solutions in safety-critical industries or Applications |  |

|  |  |  |
| --- | --- | --- |
| **B - Design, development and solving engineering problems**  **Chartered Engineers shall apply appropriate theoretical and practical methods to the analysis and solution of engineering problems.** | | |
| The applicant shall demonstrate that they: | Examples of evidence: | Please describe how and why you believe you meet this standard: |
| **B1. Take an active role in the identification and definition of project requirements, problems**  **and opportunities** | • Identifying projects or technical improvements to products, processes or systems  • Preparing specifications, taking account of  functional and other requirements  • Establishing user requirements  • Reviewing specifications and tenders to identify technical issues and potential improvements  • Carrying out technical risk analysis and identifying mitigation measures  • Considering and implementing new and emerging technologies. |  |
| **B2. Can identify the appropriate investigations and research needed to undertake the design, development and analysis required to complete an**  **engineering task and conduct these activities effectively** | • Identifying and agreeing appropriate research  methodologies  • Investigating a technical issue, identifying potential solutions and determining the factors needed to compare them  • Identifying and carrying out physical tests or trials and analysing and evaluating the results  • Carrying out technical simulations or analysis  • Preparing, presenting and agreeing design  recommendations, with appropriate analysis of risk, and taking account of cost, quality, safety, reliability, accessibility, appearance, fitness for purpose, security (including cyber security), intellectual property constraints and opportunities, and environmental impact |  |
| **B3. Can implement engineering tasks and evaluate the effectiveness of engineering solutions** | • Ensuring that the application of the design results in the appropriate practical outcome  • Implementing design solutions, taking account of critical constraints, including due concern for safety, sustainability and disposal or decommissioning  • Identifying and implementing lessons learned  • Evaluating existing designs or processes and  identifying faults or potential improvements  including risk, safety and life cycle considerations  • Actively learning from feedback on results to  improve future design solutions and build best  practice |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **C - Responsibility, management and leadership**  **Chartered Engineers shall demonstrate technical and commercial leadership.** | | | |
| The applicant shall demonstrate that they: | Examples of evidence: | | Please describe how and why you believe you meet this standard: |
| **C1. Plan the work and resources needed to enable effective implementation of a significant engineering task or project** | | • Preparing budgets and associated work  programmes for projects or tasks  • Systematically reviewing the factors affecting  the project implementation including safety,  sustainability and disposal or decommissioning  considerations  • Carrying out a task or project risk assessment and identifying mitigation measures  • Leading on preparing and agreeing implementation plans and method statements  • Negotiating and agreeing arrangements with  customers, colleagues, contractors and other  stakeholders, including regulatory bodies  • Ensuring that information flow is appropriate and effective |  |
| **C2. Manage (organise, direct and control), programme or schedule, budget and resource elements of a significant engineering task or project.** | | • Operating or defining appropriate management  systems including risk registers and contingency  systems  • Managing the balance between quality, cost and  time  • Monitoring progress and associated costs and cost forecasts, taking appropriate actions when required  • Establishing and maintaining appropriate quality  standards within legal and statutory requirements  • Interfacing effectively with customers, contractors and other stakeholders |  |
| **C3. Lead teams or technical specialisms and assist others to meet changing technical and**  **managerial needs** | | • Agreeing objectives and work plans with teams and individuals  • Reinforcing team commitment to professional  standards  • Leading and supporting team and individual  development  • Assessing team and individual performance, and  providing feedback  • Seeking input from other teams or specialists where needed and managing the relationship  • Providing specialist knowledge, guidance and input in your specialism to engineering teams, engineers, customers, management and relevant stakeholders  • Developing and delivering a teaching module at  Masters level, or leading a University research programme. |  |
| **C4. Bring about continuous quality improvement and promote best practice.** | | • Promoting quality throughout the organisation as well as its customer and supplier networks  • Developing and maintaining operations to meet  quality standards e.g. ISO 9000, EQFM  • Supporting or directing project evaluation and  proposing recommendations for improvement  • Implementing and sharing the results of lessons  learned |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **D - Communication and interpersonal skills**  **Chartered Engineers shall demonstrate effective communication and interpersonal skills.** | | | |
| The applicant shall demonstrate that they: | Examples of evidence: | | Please describe how and why you believe you meet this standard: |
| **D1. Communicate effectively with others, at all levels, in English.** | | • Preparing reports, drawings, specifications and  other documentation on complex matters  • Leading, chairing, contributing to and recording meetings and discussions  • Exchanging information and providing advice to technical and non-technical colleagues  • Engaging or interacting with professional networks |  |
| **D2. Clearly present and discuss proposals, justifications and conclusions.** | | • Contributing to scientific papers or articles as an author  • Preparing and delivering presentations on strategic matters  • Preparing bids, proposals or studies  • Identifying, agreeing and leading work towards  collective goals |  |
| **D3. Demonstrate personal and social skills and awareness of diversity and inclusion issues** | • Knowing and managing own emotions, strengths and weaknesses  • Being confident and flexible in dealing with new and changing interpersonal situations  • Identifying, agreeing and working towards collective goals  • Creating, maintaining and enhancing productive working relationships, and resolving conflicts  • Being supportive of the needs and concerns of  others, especially where this relates to diversity and inclusion | |  |

|  |  |  |
| --- | --- | --- |
| **E - Personal and professional commitment**  **Chartered Engineers shall demonstrate a personal commitment to professional standards, recognising obligations to society, the profession and the environment.** | | |
| The applicant shall demonstrate that they: | Examples of evidence: | Please describe how and why you believe you meet this standard: |
| **E1. Understand and comply with relevant codes of conduct** | Demonstrating compliance with your Licensee’s  Code of Professional Conduct  • Identifying aspects of the Code which are  particularly relevant to your role  • Being aware of the legislative and regulatory  frameworks relevant to your role and how they  conform to them  • Leading work within relevant legislation and  regulatory frameworks, including social and  employment legislation |  |
| **E2. Understand the safety implications of their role and manage, apply and improve safe**  **systems of work** | Identifying and taking responsibility for your own  obligations and ensuring that others assume similar  responsibility for health, safety and welfare issues  • Ensuring that systems satisfy health, safety and  welfare requirements  • Developing and implementing appropriate hazard  identification and risk management systems and  culture  • Managing, evaluating and improving these systems  • Applying a sound knowledge of health and safety  legislation, for example: HASAW 1974, CDM  regulations, ISO 45001 and company safety  policies |  |
| **E3. Understand the principles of sustainable development and apply them in their work** | Operating and acting responsibly, taking account  of the need to progress environmental, social and  economic outcomes simultaneously  • Providing products and services which maintain  and enhance the quality of the environment and  community, and meet financial objectives  • Recognising how sustainability principles, as  described in the Guidance on Sustainability on  page 48, can be applied in your day-to-day work  • Understanding and securing stakeholder involvement  in sustainable development  • Using resources efficiently and effectively in all  activities  • Taking action to minimise environmental impact in  your area of responsibility |  |
| **E4. Carry out and record the Continuing Professional Development (CPD) necessary to maintain and enhance competence in their own area of practice** | Undertaking reviews of your own development needs  • Planning how to meet personal and organisational  objectives  • Carrying out planned and unplanned CPD activities  • Maintaining evidence of competence development  • Evaluating CPD outcomes against any plans made  • Assisting others with their own CPD |  |
| **E5. Understand the ethical issues that may arise in their role and carry out their responsibilities in**  **an ethical manner.** | Understanding the ethical issues that you may  encounter in your role  • Giving an example of where you have applied  ethical principles as described in the Statement of  Ethical Principles on page 47  • Giving an example of where you have applied  or upheld ethical principles as defined by your  organisation or company |  |