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| 1. **Use a combination of general and specialist engineering knowledge and understanding to apply existing and emerging technology.** | | |
| UK-SPEC Competence Requirement | This could include ability to: | Please describe how and why you believe you meet this standard: |
| **A.1. Maintain and extend a sound theoretical approach to the application of technology in engineering practice.**  ***Examples of activities which may help demonstrate this:***  *Engage in formal learning. Learn new engineering theories and techniques in the workplace, at seminars, etc. Broaden your knowledge of engineering codes, standards and specifications.* | • Identify the limits of own personal  knowledge and skills  • Strive to extend own technological capability  • Broaden and deepen own knowledge base through new applications and techniques. |  |
| **A.2. Use a sound evidence-based approach**  **to problem-solving and contribute to continuous improvement.**  ***Examples of activities which may help demonstrate this:***  *Manage/contribute to market research, and product and process research and development. Involvement with cross disciplinary working. Conduct statistically sound appraisal of data. Use evidence from best practice to improve effectiveness. Apply root cause analysis.* | • Use market intelligence and knowledge  of technological developments to promote and improve the effectiveness of engineering products, systems and services  • Contribute to the evaluation and development of continuous improvement systems  • Apply knowledge and experience to investigate and solve problems arising during engineering tasks and implement corrective action. |  |

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| 1. **Apply appropriate theoretical and practical methods to design, develop, manufacture, construct, commission, operate, maintain, decommission and re-cycle engineering processes, systems, services and products.** | | |
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| **B1. Identify, review and select techniques, procedures and methods to undertake engineering tasks.**  ***Examples of activities which may help demonstrate this****:*  *Contribute to the marketing of and tendering for new engineering products, processes and systems. Contribute to the specification and procurement of new engineering products, processes and systems. Develop decommissioning processes. Set targets, and draft programmes and action plans. Schedule activities.* | • Establish users’ requirements for improvement  • Select a review methodology  • Fully exploit and implement current technology  • Review the potential for enhancing engineering practices, products, processes, systems and services, using evidence from best practice  • Establish an action plan to implement the results of the review. |  |
| **B2. Contribute to the design and development of engineering solutions.**  ***Examples of activities which may help demonstrate this:***  *Contribute to theoretical and applied research. Manage/ contribute to value engineering and whole life costing. Work in design teams. Draft specifications. Find and evaluate information from a variety of sources, including online.*  *Develop and test options. Identify resources and costs of options. Produce detailed designs. Be aware of IP constraints and opportunities.* | • Contribute to the identification and specification of design and development requirements for engineering products, processes, systems and services  • Identify operational risks and evaluate possible engineering solutions, taking account of cost, quality, safety, reliability, appearance, fitness for purpose, security, intellectual property (IP) constraints and opportunities, and environmental impact  • Collect and analyse results  • Carry out necessary tests. |  |
| **B3. Implement design solutions and contribute to their evaluation.**  ***Examples of activities which may help demonstrate this:***  *Follow the design process through into product manufacture. Operate and maintain processes, systems etc. Contribute to reports on the evaluation of the effectiveness of the designs, including risk, safety and life cycle considerations. Contribute to product improvement. Interpret and analyse performance. Contribute to determining critical success factors.* | • Secure the resources required for implementation  • Implement design solutions, taking account  of critical constraints, including due concern  for safety and sustainability  • Identify problems during implementation  and take corrective action  • Contribute to recommendations for improvement and actively learn from feedback on results. |  |

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| **C. Provide technical and commercial leadership.** | | | |
| UK-SPEC Competence Requirement | This could include ability to: | | Please describe how and why you believe you meet this standard: |
| **C1. Plan for effective project implementation**  ***Examples of activities which may help demonstrate this****:*  *Manage/contribute to project planning activities. Produce and implement procurement plans. Contribute to project risk assessments. Collaborate with key stakeholders. Plan programmes and delivery of tasks. Identify resources and costs. Prepare and agree contracts/work orders*. | | • Identify factors affecting the project  implementation  • Carry out holistic and systematic risk  identification, assessment and management  • Prepare and agree implementation plans  and method statements  • Secure the necessary resources and confirm roles in project team  • Apply the necessary contractual arrangements with other stakeholders (client, subcontractors, suppliers, etc.). |  |
| **C2. Manage tasks, people and resources to plan and budget.**  ***Examples of activities which may help demonstrate this:***  *Manage/contribute to project operations. Manage the balance between quality, cost and time. Manage contingency processes. Contribute to the management of project funding, payments and recovery. Satisfy legal and statutory obligations. Manage tasks within identified financial, commercial and regulatory constraints.* | | • Operate appropriate management systems  • Work to the agreed quality standards, programme and budget, within legal and statutory requirements  • Manage work teams, coordinating project  activities  • Identify variations from quality standards,  programme and budgets, and take corrective action  • Evaluate performance and recommend improvements. |  |
| **C3. Manage teams and develop staff to meet changing technical and managerial needs.**  ***Examples of activities which may help demonstrate this:***  *Carry out/contribute to staff appraisals. Plan/contribute to the training and development of staff. Gather evidence from colleagues of the management, assessment and feedback that you have provided. Carry out/contribute to disciplinary procedures* | | • 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  • Manage and support team and individual  development  • Assess team and individual performance, and provide feedback. |  |
| **C4. Manage continuous quality improvement.**  ***Examples of activities which may help demonstrate this:***  *Promote quality. Manage/contribute to best practice methods of continuous improvement, e.g. ISO 9000, EFQM, balanced scorecard. Carry out/contribute to quality audits. Monitor, maintain and improve delivery. Identify, implement and evaluate changes to meet quality objectives.* | | • Ensure the application of quality  management principles by team members  and colleagues  • Manage operations to maintain quality  standards  • Evaluate projects and make recommendations for improvement. |  |

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| **D. Demonstrate effective interpersonal skills.** | | | |
| UK-SPEC Competence Requirement | This could include ability to: | | Please describe how and why you believe you meet this standard: |
| **D1. Communicate in English with others at all levels.**  ***Examples of activities which may help demonstrate this:***  *Reports, letters, emails, drawings, specifications and working papers (e.g. meeting minutes, planning documents, correspondence) in a variety of formats. Engaging or interacting with professional networks.* | | • Contribute to, chair and record meetings  and discussions  • Prepare communications, documents and  reports on technical matters  • Exchange information and provide advice to technical and non-technical colleagues. |  |
| **D2 Present and discuss proposals.**  ***Examples of activities which may help demonstrate this:***  *Presentations, records of discussions and their outcomes.* | | • Prepare and deliver appropriate presentations  • Manage debates with audiences  • Feed the results back to improve the proposals  • Contribute to the awareness of risk. |  |
| **D3 Demonstrate personal and social skills**  ***Examples of activities which may help demonstrate this:***  *Records of meetings. Evidence from colleagues of your personal and social skills. Contribute to productive working relationships. Apply diversity and anti-discrimination legislation.* | • 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 work towards collective  goals  • Create, maintain and enhance productive working relationships, and resolve conflicts. | |  |

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| **E. Demonstrate a personal commitment to professional standards, recognising obligations to society, the profession and the environment.** | | |
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| **E1. Comply with relevant codes of conduct**  ***Examples of activities which may help demonstrate this:***  *Contribute to the affairs of your professional institution. Work with a variety of conditions of contract.* | • Comply with the rules of professional conduct of own professional institution  • Manage work within all relevant legislation and regulatory frameworks, including social and employment legislation. |  |
| **E2 Manage and apply safe systems of work**  ***Examples of activities which may help demonstrate this:***  *Undertake formal health and safety training. Work with health and safety legislation and best practice. In the UK, examples include HASAW 1974, CDM regulations, OHSAS 18001:2007 and company safety policies.*  *Carry out safety audits. Identify and minimise hazards. Assess and control risks. Deliver health and safety briefings and inductions.* | • Identify and take responsibility for own  obligations for health, safety and welfare  issues  • Manage systems that 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 a sound knowledge of health and safety legislation. |  |
| **E3 Undertake engineering activities in a way that contributes to sustainable development**  ***Examples of activities which may help demonstrate this:***  *Carry out/contribute to environmental impact assessments. Carry out/contribute to environmental risk assessments. Manage best practice environmental management systems, e.g. ISO 14000. Manage best practice risk management systems e.g. ISO 31000. Work within environmental legislation. Adopt sustainable practices. Contribute to social, economic and environmental outcomes.* | • Operate and act responsibly, taking account  of the need to progress environmental, social and economic outcomes simultaneously  • 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. |  |
| **E4 Carry out and record CPD necessary to maintain and enhance competence in own area of practice**  ***Examples of activities which may help demonstrate this:***  *Keep up to date with national and international engineering issues. Maintain CPD plans and records. Involvement with the affairs of your professional institution. Evidence of your development through on-the-job learning, private study, in-house courses, external courses and conferences* | • 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  • Evaluate CPD outcomes against any plans made  • Assist others with their own CPD. |  |
| **E5 Exercise responsibilities in an ethical manner**  ***Examples of activities which may help demonstrate this:***  *Give an example of where you have applied ethical principles as described in the Statement of Ethical Principles (Listed on page 33 of UK-SPEC).*  *Give an example of where you have applied/upheld ethical principles as defined by your organisation or company, which may be in its company or brand values* | Please refer to the Statement of Ethical Principles in UK-SPEC, 3rd edition |  |