



Competence Criteria for Associate (ACIBSE)

The competence criteria for the Associate grade of CIBSE (ACIBSE) is directly aligned to the Competence Statements issued by the Engineering Council, as part of [UK-SPEC](#), for Incorporated Engineer (IEng) registration

To become an Associate member (ACIBSE) you will need to demonstrate your competence within the field of Building Services Engineering. You may have broad based experience and responsibility or specialise in one or more aspects of building services.

Associate members and Incorporated Engineers maintain, operate and manage applications of current and developing technology, and may undertake engineering design, development, manufacture, construction and operation. You will need to satisfy the 17 objectives in the competence criteria when applying for ACIBSE or ACIBSE IEng.

The examples given are intended to help you identify activities you might quote to demonstrate the required competence and commitment for Associate. These are not exhaustive and you are not required to give multiple examples to demonstrate competence and commitment.

Use this competence criteria framework and the Associate Application Guidance (Factsheet A20) for reference when putting together your Application and Engineering Practice Report. Tell us about your career, education and training; explaining how this has made you more competent.

For further information and guidance please visit www.cibse.org/associate

A. Use a combination of general and specialist engineering knowledge and understanding to apply existing and emerging technology.

| No | Objective | Range | Evidence Examples |
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| A1 | <p>Maintain and extend a sound theoretical approach to the application of technology in engineering practice. This could include an ability to:</p> <ul style="list-style-type: none"> 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. | <p>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.</p> | <p>Identify, through project or operational involvement areas for personal development.</p> <p>Read technical journals via paper/electronic media.</p> <p>Attend courses and seminars.</p> <p>Participate in group peer reviews.</p> <p>Engage in post project or operational change analysis.</p> <p>Identify elements of work which have particular reference to more sustainable solutions and reducing carbon emissions.</p> |
| A2 | <p>Use a sound evidence-based approach to problem-solving and contribute to continuous improvement. This could include an ability to:</p> <ul style="list-style-type: none"> 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. | <p>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.</p> | <p>Establish effective ways of working with multi-disciplinary teams and building occupants.</p> <p>Develop practical engineering solutions within the constraints of your role.</p> <p>Evaluate solutions to practical and physical problems.</p> <p>Participate in team and engineering reviews.</p> <p>Disseminate information to others in a range of forms such as graphs, diagrams, written or spoken.</p> <p>Devise or implement the evaluation and development of continuous improvement ideas.</p> |

B. Apply appropriate theoretical and practical methods to design, develop, manufacture, construct, commission, operate, maintain, decommission and re-cycle engineering processes, systems, services and products.

| No | Objective | Range | Evidence Examples |
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| B1 | <p>Identify, review and select techniques, procedures and methods to undertake engineering tasks. This could include an ability to:</p> <ul style="list-style-type: none"> 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 review the results of the review. | <p>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.</p> | <p>Establish a clear stakeholder or project brief.</p> <p>Define problem or task to be undertaken.</p> <p>Use software or tabulated data in developing solutions.</p> <p>Discuss solutions with peer group or quality circle.</p> <p>Use spreadsheets or other tools/techniques to consolidate information.</p> |

| No | Objective | Range | Evidence Examples |
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| B2 | <p>Contribute to the design and development of engineering solutions.</p> <p>This could include an ability to:</p> <ul style="list-style-type: none"> • 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. | <p>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.</p> | <p>Identify possible routes to develop projects to successful conclusion.</p> <p>Evaluate progress at key milestones for design and delivery.</p> <p>Utilise handover / commissioning experiences to the benefit of future designs or stakeholder requirements.</p> <p>Identify operational risks and implement engineering solutions.</p> <p>Present progress and solutions to others for discussion and development.</p> <p>Demonstrate presentation skills and critical thinking.</p> <p>Validate your solutions or ideas against similar schemes or problems.</p> <p>Use and evaluate innovative solutions or new technology in specific projects with particular reference to sustainability and reduced carbon emissions.</p> |
| B3 | <p>Implement design solutions and contribute to their evaluation.</p> <p>This could include an ability to:</p> <ul style="list-style-type: none"> • 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. | <p>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</p> | <p>Undertake project analysis to establish resource level required.</p> <p>Participate in active projects.</p> <p>Make progress reports to employer/client.</p> <p>Identify and report deficiencies.</p> <p>Receive/evaluate/deliver training in implementation techniques.</p> <p>Work directly or by secondment/placement on site-based activities or at manufacturers' works.</p> <p>Read manufacturers' literature.</p> <p>Attend manufacturers' or suppliers' seminars and presentations.</p> <p>Participate in the analysis of a post-occupancy review.</p> |

C. Provide technical and commercial management

| No | Objective | Range | Evidence Examples |
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| C1 | <p>Plan for effective project implementation.</p> <p>This could include an ability to:</p> <ul style="list-style-type: none"> • 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). | <p>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.</p> | <p>Establish critical completion or review dates/programmes.</p> <p>Have experience of supervising others to co-ordinate activities with objectives.</p> <p>Assist in preparation of job/person specifications or adverts.</p> <p>Identify risks associated with the delivery of engineering solutions, ways to mitigate the risks and effective checks/controls.</p> <p>Participate in selecting team members. Coach, and train and develop team spirit.</p> <p>Contribute to preparation/handling of handover/closing documentation.</p> <p>Assist budget projections by forecasting long-term life costs.</p> <p>Take account of effects of total life costing.</p> |
| C2 | <p>Manage tasks, people and resources to plan and budget. This could include an ability to:</p> <ul style="list-style-type: none"> • 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. | <p>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.</p> | <p>Analyse and predict resource level required having assembled programme, delivery dates and budget requirements.</p> <p>Schedule work against agreed targets and monitor progress.</p> <p>Engage in ongoing evaluation of building services engineering projects or facilities from conception throughout the whole life cycle.</p> <p>Have experience of:</p> <ul style="list-style-type: none"> • Factory acceptance tests, witness testing, role of regulatory authorities. • Documentation/commissioning activity/setting to work of projects or systems within one or more of the building services engineering sectors. |
| C3 | <p>Manage teams and develop staff to meet changing technical and managerial needs. This could include an ability to:</p> <ul style="list-style-type: none"> • 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. | <p>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.</p> | <p>Prepare short, medium, long-term programmes to meet objectives.</p> <p>Have experience of working with colleagues, contemporaries and other professionals.</p> <p>Contribute to developing team spirit to achieve common objectives.</p> <p>Participate in appraisal process or HR development scheme such as Investors in People.</p> <p>Prepare project or progress reports.</p> <p>Supervise others.</p> |

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| C4 | <p>Manage continuous quality improvement. This could include an ability to:</p> <ul style="list-style-type: none"> • 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. | <p>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.</p> | <p>Take part in quality circles or similar. Point to examples of QA success and shortfall. Be aware of /participate in achieving international quality benchmarks e.g. ISO. Participate in damage limitation/repairation when QA becomes compromised. Participate in post project reviews or internal audits.</p> |
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D. Demonstrate effective interpersonal skills.

| No | Objective | Range | Evidence Examples |
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| D1 | <p>Communicate in English¹ with others at all levels. This could include an ability to:</p> <ul style="list-style-type: none"> • 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. | <p>Reports, letters, emails, drawings, specifications and working papers (e.g. meeting minutes, planning documents, correspondence) in a variety of formats.. Engaging or interacting professional networks.</p> | <p>Prepare agendas, participate in and minute meetings. Be confident in presenting ideas and information in written, electronic and verbal form. Develop communication channels with other team members or stakeholders and be familiar with document control and information transfer. Involve third parties such as professionals, contractors, service providers, manufacturers, in continuous dialogue.</p> |
| D2 | <p>Present and discuss proposals. This could include an ability to:</p> <ul style="list-style-type: none"> • Prepare and deliver appropriate presentations • Manage debates with audiences • Feed the results back to improve the proposals • Contribute to the awareness of risk. | <p>Presentations, records of discussions and their outcomes.</p> | <p>Participate in receiving and developing a brief or technical documents, having due regard to cultural and commercial backgrounds of clients, stakeholders or colleagues. Participate in analysis of stakeholder feedback. Develop and practice skills in presentation, using the appropriate software, flip charts or overheads, having prepared the material. Attend seminars or courses; feedback the knowledge gained, ask questions and debate answers. Participate in Risk Assessments and planning of risk mitigation.</p> |
| D3 | <p>Demonstrate personal and social skills. This could include an ability to:</p> <ul style="list-style-type: none"> • 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. | <p>Records of meetings. Evidence from colleagues of your personal and social skills. Contribute to productive working relationships. Apply diversity and anti-discrimination legislation.</p> | <p>Select and use a variety of communications styles (formal and informal). Write for different uses such as memos, formal letters, reports, e-mails, minutes, etc. Exhibit listening skills and contribute to solution of problems. Develop inter-personal skills, for example assertiveness, negotiation, compromise and dealing with conflict. Have the ability to communicate in a foreign language.</p> |

¹ Any interviews will be conducted in English, subject only to the provisions of the Welsh Language Act 1993 and any Regulations which may be made in implementation of European Union directives on free movement of labour.

E. Demonstrate a personal commitment to professional standards, recognising obligations to society, the profession and the environment.

| No | Objective | Range | Evidence Examples |
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| E1 | <p>Comply with relevant codes of conduct.</p> <p>This includes an ability to:</p> <ul style="list-style-type: none"> • Comply with the rules of professional conduct of own institution • Manage work within all relevant legislation and regulatory frameworks, including social and employment legislation. | <p>Contribute to the affairs of your institution. Work with a variety of conditions of contract.</p> | <p>Understand and abide by the CIBSE Code of Conduct.</p> <p>Exercise all reasonable professional skill and care.</p> <p>Give due regard to the Engineering Council (EngC) Guidelines.</p> <p>Guide and regulate your work with a working knowledge of current and impending legislation, standards and Codes of Practice.</p> |
| E2 | <p>Manage and apply safe systems of work</p> <p>This could include an ability to:</p> <ul style="list-style-type: none"> • Identify and take responsibility for own obligations for health, safety and welfare issues • Manage systems that satisfy health, safety & 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. | <p>Undertake formal health and safety training. Work with health and safety legislation and best practice, In the UK, examples include HASAW 1974, CDM regs, OHSAS 18001:2007 and company safety policies.</p> <p>Carry out safety audits. Identify and minimise hazards. Assess and control risks. Deliver health and safety briefings & inductions.</p> | <p>Understand health and safety policies and practices affecting your work and exercise responsibilities for the safety and welfare of others.</p> <p>Participate in providing information for the Health and Safety File and to comply with the Construction (Design & Management) Regulations (CDM).</p> <p>Understand relevant health, safety and welfare issues arising in design, construction, maintenance, operation and deconstruction of built environment solutions.</p> <p>Co-operate and provide relevant information required in systems to plan and manage health, safety, and welfare.</p> <p>Have a broad understanding of safe systems of work, method statements and permit-to-work systems.</p> |
| E3 | <p>Undertake engineering activities in a way that contributes to sustainable development.</p> <p>This could include an ability to:</p> <ul style="list-style-type: none"> • 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. | <p>Carry out/contribute to environmental impact assessments.</p> <p>Carry out/contribute to environmental risk assessments.</p> <p>Manage best practice environmental management systems, e.g. ISO 14000. Manage best practice risk management system e.g. ISO 31000. Work within environmental legislation. Adopt sustainable practices.</p> <p>Contribute social, economic and environmental outcomes.</p> | <p>Have a general understanding of the principles of sustainable development and how these are relevant to your work.</p> <p>Understand the environmental and social contexts of your work, as well as the economic context.</p> <p>Understand the sustainability issues arising in the design, construction, maintenance, use and deconstruction of built environment solutions.</p> <p>Actively promote solutions in the built environment which pursue the principles of sustainable development.</p> <p>Actively engage in the process of reducing carbon emissions, energy demands and resource consumption</p> |

| No | Objective | Range | Evidence Examples |
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| E4 | <p>Carry out and record Continuing Professional Development (CPD) necessary to maintain and enhance competence in one's area of practice.</p> <p>This could include an ability to:</p> <ul style="list-style-type: none"> • 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. | <p>Keep up to date with national and international engineering issues. Maintain CPD plans and records. Involvement with the affairs of your professional body. Evidence of your development through on-the-job learning, private study, in-house courses, external courses and conferences.</p> | <p>Recognise and pursue opportunities to review your knowledge, professional competence and your professional development.</p> <p>Be involved with CIBSE activities.</p> <p>Read professional journals and attend development seminars.</p> <p>Plan short, medium and long term CPD.</p> <p>Advise others on building services engineering careers.</p> <p>Monitor, assist and guide the professional development of others.</p> <p>Access information sources for learning opportunities.</p> <p>Exercise skills transfer between professional and personal life.</p> |
| E5 | <p>Exercise responsibilities in an ethical manner.</p> | <p>Give an example of where you have applied ethical principles as described in the Statement of Ethical Principles as published by the Engineering Council and the Royal Academy of Engineering.</p> <p>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.</p> | <p>Recognise and operate within the limits of your knowledge and competence.</p> <p>Understand and operate within the Engineering Council's Statement of Ethical Principles; also understand how this is relevant to the stature of the engineering professions.</p> <p>Have a general understanding of how ethical dilemmas can arise in your work and own duties to employers and society.</p> <p>Understand and operate within your Employer's Ethical Standards Policy</p> <p>Present only justifiable information and technical opinion, be receptive to concerns, other aspirations and contrary opinion or information.</p> <p>Evidence of training, advice and information given by your employer.</p> |