

OBJECTIVES FOR INCORPORATED ENGINEERS

These IPD Objectives are based on the Engineering Council generic competencies and set out the related skills and knowledge of the discipline of fire engineering.

You are NOT expected to be fully competent in ALL of these objectives. You must, however, have broad based experience and responsibility in one or more aspects of fire engineering as well as some knowledge of related aspects.

OBJECTIVE		RANGE		EVIDENCE EXAMPLES
A	Use a combination of general and specialist fire engineering knowledge and understanding to apply existing and emerging technology.	A.1	Maintain and extend a sound theoretical approach to the application of technology in fire engineering practices.	<ul style="list-style-type: none"> • Identify and accept limits of personal knowledge, understanding and skills and a striving to maintain currency in the Fire Engineering field by accessing and exploiting relevant sources. • Be conversant with key information resources such as the Internet, the media, professional journals, attending professional seminars and networking with peers. • Deepening of personal knowledge base in the Fire Engineering field through research and experimentation.



OBJECTIVE		RANGE		EVIDENCE EXAMPLES
		A.2	Use a sound evidence-based approach to problem-solving and contribute to continuous improvement.	<ul style="list-style-type: none"> Analyse the requirements of clients, based on Fire Engineering principles and scientific understanding, for the provision of products, systems and services. Plan, monitor and evaluate the operation of projects, against best practice indicators as well as using appropriate Fire Engineering principles and scientific understanding. Apply scientific and Fire Engineering principles to the provision of engineering advice and professional opinion. Review current methods and operations, to arrive at a valid diagnosis of faults and explanation of problems. Use market intelligence and knowledge of technological developments to improve the effectiveness of Fire Engineering products, services and systems. Use evidence from best practice to improve the effectiveness, reliability, maintainability and economy of Fire Engineering products, systems and services. Evaluate and develop quality management systems.
B	Apply appropriate theoretical and practical methods to design, develop, manufacture, construct, commission, operate and maintain fire engineering products,	B.1	Identify, review and select techniques, procedures and methods to undertake fire engineering tasks.	<ul style="list-style-type: none"> Use personal experience, an understanding of the employer's commercial position and available Fire Engineering resources to develop a review methodology. Review the potential for enhancement of Fire Engineering products, processes, systems and services and establish an action plan to implement the results of any such review.
		B.2	Contribute to design and development of fire engineering solutions.	<ul style="list-style-type: none"> Contribute to the determination of design and development requirements for Fire Engineering products, processes, systems and services. Contribute to the specification of implementation methods and procedures to achieve design requirements and demonstrate an ability to obtain the resources required for implementation.



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		B.3	Implement design solutions and contribute to their evaluation.	<ul style="list-style-type: none"> Secure the resources required for implementation Implement design solutions, taking account of cost, quality, safety, reliability, appearance, fitness for purpose and environmental impact Identify problems during implementation and take corrective action Contribute to the evaluation of design solutions <p>Contribute to recommendations for improvement and actively learn from feedback on results.</p>
C	Provide technical and commercial management.	C.1	Plan for effective project implementation.	<ul style="list-style-type: none"> Identify and develop objectives for projects to meet clients' requirements. Plan for the delivery of tasks to complete a project. Identify and obtain the resources required to achieve project objectives Specify and co-ordinate the engineering resources and activities required to achieve project objectives Apply the necessary contractual arrangements with other stakeholders (client, subcontractors, suppliers, etc.).
		C.2	Manage the planning, budgeting and organisation of tasks, people and resources.	<ul style="list-style-type: none"> Set and implement work objectives and priorities, including time, resource budget and quality standards. Identify variations from quality standards, programme and budgets, and take corrective action. Monitor, evaluate and adjust tasks as appropriate to ensure that they are performed within financial, commercial and regulatory constraints.
		C.3	Manage teams and develop staff to meet changing technical and managerial needs.	<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 Manage and support team and individual development Assess team and individual performance, and provide feedback.



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		C.4	Manage continuous quality improvement.	<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.
D	Demonstrate effective interpersonal skills	D.1	Communicate in English with others at all levels	<ul style="list-style-type: none"> • Develop good personal relationships that are appropriate to the level of communication being used and communicate effectively in a manner that the circumstances of the project dictate. • Ensure effective 2-way communication in discussions and be prepared to liaise with colleagues, peers and experts within and beyond the employer's organisation. • Respond effectively and efficiently to all received communication, howsoever it is received.
		D.2	Present and discuss proposals	<ul style="list-style-type: none"> • Select the most appropriate medium for clearly clarifying Fire Engineering Design objectives and select the most suitable method of communication using, words, images, audio and video as necessary. • Communicate fluently in written and oral expression at an experienced professional standard and prepare and present lectures, reports and published papers at professional level. • Feedback results to improve the proposals
		D.3	Demonstrate personal and social skills	<ul style="list-style-type: none"> • Establish fire engineering teams capable of working towards collective goals and create, maintain and enhance effective working relationships. • Be aware of the needs and concerns of others • Develop the team, the individuals within the team and yourself to enhance performance. • Provide negotiation, conflict resolution and counselling within the team and provide a conduit through which ideas, convictions and attitudes can be exchanged and conveyed. • Demonstrate confidence and flexibility in dealing with new and changing interpersonal situations



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E	Demonstrate a personal commitment to professional standards, recognising obligations to society, the profession and the environment	E.1	Comply with relevant Codes of Conduct	<ul style="list-style-type: none"> • Comply with rules of professional conduct of the IFE • Apply professional skill in the interests of the employer and client for whom you act in professional matters. • Give evidence, express opinions or make statements in an objective manner and on the basis of adequate knowledge. • Work constructively within all relevant legislation and regulatory frameworks, including social and employment legislation
		E.2	Manage and apply safe systems of work	<ul style="list-style-type: none"> • Take account of potential professional risks and liabilities and accept responsibility for them. • Consider and implement as necessary appropriate occupational health, safety and welfare requirements. • Develop and implement appropriate hazard identification and risk management systems • Manage, evaluate and improve these systems
		E.3	Undertake engineering activities in a way that contributes to sustainable development	<ul style="list-style-type: none"> • Promote the considerations and actions required in engineering practice to improve, sustain and restore the environment. • Be aware of the wise use of non-renewable resources through waste minimisation, recycling and the development of alternatives where possible. • Strive to achieve the beneficial objectives of Fire Engineering design whilst striving to minimise the consumption of raw materials and energy, and by designing sustainable management procedures. • Take account of life-cycle implications with respect to how Fire Engineering designs will impact on the environment. • Understand and encourage stakeholder involvement



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	E.4 Carry out the continuing professional development necessary to maintain and enhance competence in your areas of practice	<ul style="list-style-type: none"> • Undertake reviews of own development needs • Undertake continued professional development (CPD) to maintain and enhance competence. • Set your own objectives in relation to personal and organisational objectives and maintain a career plan. • Maintain records of professional development activities. • Assist others with their own CPD
	E5 Exercise responsibilities in an ethical manner	<p>Give an example of where you have applied ethical principles as described in the Engineering Council Statement of Ethical Principles. Full details of this statement are provided in the EngC UK-SPEC document, however, examples of such ethical principles might include:</p> <ul style="list-style-type: none"> • Recognising where an issue falls outside of your area of competence and managing its resolution appropriately. • Preventing avoidable danger to health and safety. • Treating all persons fairly and with respect. • Accepting appropriate responsibility for work carried out under your supervision. • Observing the proper duties of confidentiality owed to appropriate parties. • Raising a concern about a danger, risk, malpractice or wrongdoing which affects others (“blow the whistle”) or supporting a colleague or any other person to whom you have a duty of care who in good faith raises such a concern. • Rejecting bribery and all forms of corrupt behaviour, and making positive efforts to ensure others do likewise. <p>Give an example of where you have applied/upheld ethical principles as</p> <ul style="list-style-type: none"> • defined by your organisation or company, which may be in its company or brand values.

