COMPETENCE

1

Engineering Knowledge

Competence 1.1

Has the candidate maintained and extended a sound theoretical approach in enabling the introduction and exploitation of engineering technology and other relevant developments?

▸ maintaining CPD;

▸ introducing advances in programming into projects;

▸ explaining how the engineering principles apply to all types of works and projects regardless of the domain.

Competence 1.2

Has the candidate understood and applied advanced knowledge of the widely applied engineering principles underpinning good practice?

▸ researching best practice in the emergency management field in Australia and New Zealand, and applying these to current practices in Ireland;

▸ maintaining a standard approach to software development and always checking that the most up to date method is used;

▸ providing examples of how these principles and approaches were applied in projects and how this resulted in positive outcomes.

Competence 1.3

Has the candidate applied creative problem-solving approaches to their area of engineering expertise?

▸ combining new knowledge gained from study with current best practice to create creative solutions to existing problems;

▸ providing historical context, explaining their approach, highlighting the innovation that they introduced and the lasting effects of that innovation.

Competence 1.4

Has the candidate promoted innovation and technology transfer?

▸ introducing and implementing training on the roll-out of tetra radios within an organisation;

▸ promoting innovation and technology transfer by developing software in a generic manner;

▸ providing examples of the legacy of the innovation the candidate introduced in their projects – papers and guidebooks they wrote, conferences they spoke at, new colleagues that they trained or mentored, etc.

While the examples provided are to assist you in your application, it is not a checklist

Application of engineering knowledge

Competence 2.1
Has the candidate identified potential projects and opportunities?

▸ developing an in-house guidance document and introducing a plan of action;

▸ attending brainstorming sessions weekly to identify new projects;

▸ providing examples of the relationship management approach taken with existing clients, and the business development initiatives carried out, which led to winning new work.

Competence 2.2
Has the candidate conducted appropriate research and undertaken design, evaluation and development of possible solutions?

▸ detailing the steps taken in developing a programme of works, including research and evaluation;

▸ using communication skills and technical knowledge in interaction with all stakeholders;

▸ providing examples of research carried out into new technologies and concepts, resulting in published papers or conference publications.

Competence 2.3
Has the candidate planned, implemented, designed, evaluated and modified engineering solutions holistically?

▸ evaluating the exercises of various establishments, and deriving an electronic evaluation system that was simple to use and collated feedback, which was used to improve quality going forward;

▸ explaining an example project from concept to implementation, providing details on the approach taken at each stage, applying recognised software development approaches, and paying particular care to stakeholder management, applying lessons learned, and carrying out regular checks.

Leadership skills

THE FOLLOWING EXAMPLES HAVE BEEN SUBMITTED BY MEMBERS OF ENGINEERS IRELAND WHO WERE SUCCESSFUL IN THEIR CHARTERED ENGINEER APPLICATION:

Competence 3.1

Has the candidate planned for effective project implementation?

▸ developing goals to ensure that work programmes were achieved, ensuring training needs of staff were met, monitoring and evaluating these plans, and communicating with staff;

▸ explaining the processes, checks, and reviews carried out prior to and during project implementation;

▸ using a Gantt chart to manage the tasks in the development of a project.

Competence 3.2

Has the candidate managed, planned, budgeted, organised, directed, and controlled tasks, people and/or resources?

▸ introducing weekly progress meetings with staff to discuss any issues encountered and how best to address these issues;

▸ encouraging staff to present their ideas on how to solve problems and improve work practices;

▸ explaining the methodology used on a number of projects and discussed challenges/issues and how these were overcome.

Competence 3.3

Has the candidate developed the capabilities of staff to meet the demands of changing technical and managerial requirements?

▸ encouraging and motivating people to deliver their part of the work programme, ensuring that training needs of individuals are met so their competencies are developed in order to attain their full potential;

▸ demonstrating practical methods of software development to students;

▸ providing examples of research, training, and other initiatives carried out and/or managed and the lasting effects of these initiatives.

Competence 3.4

Has the candidate brought about improvement through quality management?

▸ explaining their role as an internal quality auditor and how audits of projects resulted in better project outcomes;

▸ constant monitoring of PMDS and annual work plans in relation to emergency management, and continual review of all emergency plans within a county council.

Competence 3.5

Has the candidate been responsible for making decisions on part or all of complex projects?

▸ providing examples of decisions made, their impacts and the rationale behind them.

COMPETENCE

4

Communication skills

THE FOLLOWING EXAMPLES HAVE BEEN SUBMITTED BY MEMBERS OF ENGINEERS IRELAND WHO WERE SUCCESSFUL IN THEIR CHARTERED ENGINEER APPLICATION::

Competence 4.1
Has the candidate worked and communicated effectively with others at all levels?

▸ communicating verbally in relation to salient points with follow-up written confirmation, clear and concise language, and a consistent approach;

▸ regularly presenting work at various conferences;

▸ explaining and providing examples of professional interactions – internally, externally, and client-facing – and discussing how they effectively informed, advised, and listened to others.

Competence 4.3
Has the candidate been responsible for negotiations and building teams?

▸ encouraging and assisting all junior members to develop their career and achieve their full potential;

▸ discussing examples of project negotiations with colleagues, project partners, and clients;

▸ providing examples of branching out into new workstreams, gathering resources and developing teams to carry out research and new work.

Competence 4.2
How does the candidate effectively present and discuss ideas and plans?

▸ providing visual aids during discussions and listening to all ideas from all stakeholders;

▸ presenting ideas and plans at weekly research meetings;

▸ providing examples of conferences spoken at and training sessions given.

Ethical practice

Competence 5.1
Has the candidate complied with appropriate codes and rules of conduct?

‣ abiding by the codes and embedding these work practices in their career development;
‣ ensuring all work is performed ethically;
‣ discussing how the candidate's personal ethos mirrored the codes and rules of conduct of Engineers Ireland.

Competence 5.2
Has the candidate managed and applied safe systems of work?

‣ ensuring that the correct training and PPE have been provided for everyone, instilling a positive attitude within the workplace, and embedding a degree of professionalism in people;
‣ detailing how the candidate was a postgraduate member of the school safety committee;
‣ providing evidence of safety training undertaken, safety checks and audits carried out, and personal responsibility for safety.

Competence 5.3
Has the candidate undertaken to ensure that their engineering work is in compliance with the code of practice on risk and the environment?

‣ following best practice for the environment, conducting risk assessments, and compliance with all relevant codes of practice;
‣ following work safe systems;
‣ discussing the approach to risk and environmental management used and backing it up with project examples.

Competence 5.4
Has the candidate ensured their continuing professional development to maintain the currency of their professional engineering knowledge and skills?

‣ maintaining CPD through lunchtime seminars, reading, undertaking further education, etc.;
‣ networking at conferences with colleagues to start new projects;
‣ discussing training and further research carried out, and current and future plans to continue to develop skillset.