

Chartered Engineer

Regulations for the title of Chartered Engineer





FOREWORD

Engineers Ireland is the operating title of the Institution of Engineers of Ireland.

Engineers Ireland, founded in 1835, represents all branches of the engineering profession and all categories of engineering in Ireland.

The fundamental aims of Engineers Ireland are:

- To promote knowledge of engineering and of engineering science,
- To establish and maintain standards of engineering education and training,
- To promote and provide opportunities for continuing professional development for engineers and engineering technicians,
- To maintain standards of professional ethics and conduct,
- To ensure that the Registered Professional Titles of Engineers Ireland are awarded only to appropriately qualified engineers and technicians.

The Council of Engineers Ireland is empowered to define and protect the use of the title Chartered Engineer under its Charter Amendment Act, 1969 which states:

Chartered members of the Institution of Engineers of Ireland shall be known as "Chartered Engineers" and shall have the right so to describe themselves and to use after their names the abbreviation "CEng". Such right shall be confined to such Chartered members and to persons within the State in respect of whom the Council is satisfied that they are authorised to describe themselves as Chartered Engineers by a professional body recognised by the Council in that behalf.

Within Ireland, Engineers Ireland is the authoritative voice of the engineering profession on relevant national issues. It makes submissions and representations to Government and official bodies on national policy for infrastructure, budgets, industry, education and the overall development of the Irish economy.

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TABLE OF CONTENTS

	Page
FOREWORD	3
TABLE OF CONTENTS	5
1 THE CHARTERED ENGINEER	7
2 THE FORMATION OF A CHARTERED ENGINEER	8
3 THE EDUCATIONAL STANDARD	9
4 INITIAL PROFESSIONAL DEVELOPMENT	10
5 THE PROFESSIONAL REVIEW – DOCUMENTATION	11
6 THE PROFESSIONAL REVIEW – SCHEDULE	14
7 THE PROFESSIONAL INTERVIEW	15
8 RECOGNITION OF PROFESSIONAL TITLES FROM OTHER COUNTRIES	16
APPENDIX 1 CHECKLIST FOR CANDIDATES	17
APPENDIX 2 DEFINITION OF A PROFESSIONAL ENGINEER (CHARTERED ENGINEER)	18
APPENDIX 3 COMPETENCES OF A CHARTERED ENGINEER*	19
APPENDIX 4 GLOSSARY OF ACRONYMS	25
APPENDIX 5 SAMPLE SUMMARY OF CAREER DETAILS TABLE	26
APPENDIX 6 SAMPLE TABLE OF TRAINING COURSES UNDERTAKEN	27

**Courtesy Engineering Council U.K.*

1 THE CHARTERED ENGINEER

In this section

- ~ *The legal basis to the title Chartered Engineer is explained*
- ~ *Professional titles for engineers in other countries are described*
- ~ *The general competences of a Chartered Engineer are summarised*
- ~ *The designatory letters you can use after your name are given*

1.1 In 1969, Oireachtas Éireann granted to Engineers Ireland the statutory power and responsibility for awarding the title of Chartered Engineer (CEng MIEI) to professional engineers.

1.2 The CEng title is recognised internationally as the title to be used by Irish professional engineers and has the same status as the professional engineering titles used in other countries. For example, in the US, the title Professional Engineer or PE is used, in Japan the title is Registered Engineer or RE, in Australia and New Zealand the title is Chartered Professional Engineer or CPEng, while the UK uses the title CEng, as we do.

1.3 As a Chartered Engineer (Appendix 2) you will

- Use a combination of general and specialist engineering knowledge and understanding to optimise the application of existing and emerging technology;
- Apply appropriate theoretical and practical methods to the analysis and solution of engineering problems;
- Provide technical, commercial and managerial leadership;
- Use effective communication and interpersonal skills;
- Make a personal commitment to abide by the code of ethics of Engineers Ireland, recognising obligations to society, the profession and the environment.

1.4 If you are successful you will be entitled to style yourself as a Chartered Engineer and use the designatory letters CEng MIEI after your name.



2 THE FORMATION OF A CHARTERED ENGINEER

In this section

- *The educational standard required of a Chartered Engineer is described*
- *The competences to be acquired during Initial Professional Development (IPD) are outlined.*

2.1 When you completed your accredited honours engineering degree (level 8) programme*, which is the educational standard in Ireland for Chartered Engineers, you acquired a wide and deep understanding of the engineering principles associated with your engineering discipline.

The combined effect of such studies will also have given you the ability to consider engineering problems systematically and in a logical fashion. This is the first phase in the formation of a Chartered Engineer.

2.2 The second phase is called Initial Professional Development. IPD involves the development of the competences (see Appendix 3) to apply what you learned in your degree, to the solution of engineering problems. This takes a minimum of four years and involves training, experience and participation in professional development courses which are appropriate to your career path. You will be required to demonstrate that you have acquired these competences both in your written submissions and at interview.

2.3 As a Chartered Engineer you will have acquired certain competences both during your engineering degree studies and your IPD. These are listed in Appendix 3.

**see our website for a list of accredited honours engineering degree (level 8) programmes*

3 THE EDUCATIONAL STANDARD

In this section

- ~ *The accredited honours engineering (level 8) degree programme and the accreditation process of Engineers Ireland are described*
- ~ *Educational standards equivalent to an accredited degree are listed*

3.1 THE ACCREDITED HONOURS ENGINEERING (LEVEL 8) DEGREE PROGRAMME IN IRELAND

- 3.1.1 The Accreditation Board of Engineers Ireland is responsible for accrediting engineering degree programmes in Irish universities and institutes of technology.
- 3.1.2 Degree programmes are accredited in accordance with Accreditation Criteria which are published on our website. Such accreditations are carried out by teams of assessors drawn from the academic staff of universities, institutes of technology, state agencies and industry and from professional bodies abroad with whom we have international agreements.
- 3.1.3 The list of honours engineering (level 8) degree programmes accredited by Engineers Ireland can be found on our website. You must hold such a degree (or equivalent, see below) if you wish to be a candidate for the title of Chartered Engineer.

3.2 OTHER EQUIVALENT EDUCATIONAL STANDARDS

You will also be considered an eligible candidate for the CEng MIEI title if:

- a) you have been admitted to Ordinary Membership of Engineers Ireland (MIEI) by succeeding in the Examinations of Engineers Ireland
- b) you have been admitted to Ordinary Membership of Engineers Ireland through any of our Alternative Routes to Membership
- c) you hold an accredited engineering degree accepted by Engineers Ireland through the Washington Accord*.
- d) you hold an accredited engineering degree listed on the FEANI ** Index of courses accepted for the Eur Ing title and which is four years or more in duration.
- e) under EU Directives on recognition of professional qualifications, you hold an engineering qualification substantially equivalent to an honours engineering (level 8) degree, accredited by Engineers Ireland.

** The Washington Accord is an international agreement entered into by Engineers Ireland with other professional bodies in the UK, USA, Canada, Australia, New Zealand, Hong Kong-China, South Africa and Japan. Through this Accord, the signatories accept each other's accreditation decisions thereby enabling mutual recognition of each signatory's engineering degree programmes (See our website for more information)*

*** FEANI is the European Federation of Engineering Professional Bodies*

4 INITIAL PROFESSIONAL DEVELOPMENT

In this section:

- ~ *The Initial Professional Development required of a graduate engineer is described*
- ~ *The training you should undertake together with the type of experience you should acquire are explained*
- ~ *The experiential value of teaching, research or working as an Associate Engineer is described*

4.1 TRAINING

- 4.1.1 Training is defined as the application of learning principles to improving technical and other skills through systematic activity monitored by appropriately competent people who are prepared to provide advice or counselling to the trainee in order to improve or correct performance.
- 4.1.2 Graduate training is provided by certain companies as part of a structured approach to training and development, broadly consistent with the recommendations of Engineers Ireland. A list of companies accredited for Continuing Professional Development (CPD) by Engineers Ireland in this respect is provided on our website.
- 4.1.3 The early stages of your IPD may involve a planned structured approach through a company's own graduate training scheme. Alternatively, especially if you are working in a small company or one which does not employ a large number of professional engineers, the approach will be more informal. In such a case, you may find yourself in an environment where you will acquire your engineering competences through the experience of your own professional engineering practice.
- 4.1.4 Irrespective of your training environment, the primary concern of Engineers Ireland is that training should enable the engineering graduate to learn how to apply engineering principles to the solution of problems in the work place.

4.2 EXPERIENCE

- 4.2.1 The other element of IPD is experience of professional engineering practice. The proportion of your time spent in professional practice as opposed to training will obviously increase as you develop engineering competences.
- 4.2.2 Engineers Ireland requires candidates for the Chartered Engineer title to have spent at least two years of the IPD period in responsible charge of significant engineering work.
- 4.2.3 A fundamental part of a professional engineer's career is CPD. This is defined as the planned acquisition of knowledge, experience and skills and the development of the personal qualities necessary for the execution of professional and technical duties throughout an engineer's professional life. It encompasses both technical and non-technical matters.
- 4.2.4 You should engage in CPD from the earliest stages of your professional career. Engineers Ireland recommends that you should undertake a minimum of five days of appropriate CPD per annum (on average) during your period of IPD and that you maintain a continuing record of your CPD. Our Assessors and Interviewers will expect you to demonstrate that you are actively involved in CPD.

4.3 OTHER EXPERIENCE FORMING PART OF IPD

- 4.3.1 Full time research work leading to a Master degree and involving significant engineering work or participation in full time postgraduate engineering courses may be accepted as meeting up to one year of the IPD period.
- 4.3.2 Full time research work leading to a PhD degree and involving significant engineering work may be accepted as meeting two years of the IPD period.
- 4.3.3 If you have been lecturing on engineering subjects on a third level engineering programme leading to a diploma or a degree, this period will be taken into account as part of the IPD period.
- 4.3.4 If you have been working as an Associate Engineer (AEng AMIEI) prior to qualifying as a professional engineer, Engineers Ireland may accept up to a maximum of one year of the IPD period as having been satisfied by that experience.

5 THE PROFESSIONAL REVIEW – DOCUMENTATION

In this section:

- ~ *The documentation you must supply, ie, the Engineering Practice Report and Essays, for your Professional Review is described*
- ~ *The requirement for Supporters and their input to the documentation are described*
- ~ *The format and presentation of the documentation are outlined*

5.1 The purpose of the Professional Review is to ascertain and verify that you have the competences of a Chartered Engineer (Appendix 3).

5.2 To enable us to carry out this evaluation, we will need

- a) Your Engineering Practice Report
- b) Your Essays on engineering topics.

5.3 THE ENGINEERING PRACTICE REPORT

5.3.1 The purpose of the Report is to provide a clear, comprehensive account of your IPD

5.3.2 The Report should be written using the first person singular. You should pay particular attention to ensuring that you communicate the information in the Report in a clear and articulate manner, as would be expected of a Chartered Engineer. Spelling and use of grammar are deemed to be important by our Assessors and Interviewers. The report should be written in chronological order commencing at the date of graduation.

5.3.3 The Report should be prefaced as follows:

- a) A photocopy of both sides of the front page of your Application Form for the title Chartered Engineer
- b) A Title Page (including your name, professional title being sought, date Report submitted)
- c) A Table of Contents.

5.3.5 The content of the Report must consist of the following:

- a) Summary of Career Details
- b) Training Courses undertaken
- c) Description of your IPD
- d) Your Essays.

5.3.6 Summary of Career Details

The Summary must be in chronological order, commencing at date of graduation, sequentially numbered and must include the following in tabular format (see Appendix 4 for sample layout):

- a) The name of the company / organisation which employed you
- b) The title of the position you held
- c) Your level of responsibility
- d) The position, qualifications and / or membership of professional bodies of your immediate superior in each position
- e) The duration of each phase of training you undertook, commencing from date of graduation and indicating start and finish dates (month and year)
- f) The total periods claimed for training and responsible experience respectively.

5.3.7 Training Courses undertaken

You should provide in tabular form a list of the Training Courses and CPD activities you have undertaken since you graduated (see sample table in Appendix 6).

5.3.8 Description of your IPD

a) General

The description of your IPD should be comprehensive and accurate and linked to the Competences of a Chartered Engineer (Appendix 3). It should be between 3,500 and 4,000 words in length.

b) Significant Engineering Work

The definition of significant engineering work will vary between disciplines. In general, the work should have required the exercise of independent engineering judgement. The projects or programmes concerned should have been substantial in duration, cost and complexity. You should have been personally accountable for their success or failure.

To be seen to have been in responsible charge of significant engineering work you will have:

- i. planned, designed, co-ordinated and executed a small project, or
- ii. undertaken part of a larger project based on an understanding of the whole project, or
- iii. undertaken novel, complex and/or multi-disciplinary work.

c) Extent of Personal Contribution and Personal Responsibility within Employing Organisation

You must demonstrate the extent and character of the personal contribution and level of responsibility you have exercised and, where possible, include some quantified measure of impact, e.g. budget, level of risk, loss implications, etc. This information will assist the Interview Panel in reaching a recommendation on your competences. You should include specific information relating to your personal responsibility within your employing organisation, as well as details of significant technical or managerial problem solving and innovative activity. Your scope for freedom of action as well as the nature of any constraints imposed should be described.

5.3.9 Essays

a) Purpose

The purpose of requiring you to write two Essays is to provide you with an opportunity to articulate your professional opinions on important topics relevant to the professional practice of engineering. The content should not be purely descriptive but should be a clear articulation of your opinion.

b) Topics

You are required to write and include with your Report, two 500 – 600 word Essays on separate topics related to any two of the following areas:

Professional Conduct
The Environment
Health and Safety
Project Management
Dispute Resolution in the Engineering Industry
Engineering Education
Continuing Professional Development
Information Technology.

You should choose an appropriate title for each of the two Essays.

5.4 VALIDATION OF IPD

5.4.1 You are required to have your application validated by two supporters who are Chartered Engineers familiar with all or part of your career as a professional engineer and your engineering experience and ability.

5.4.2 Each supporter must sign your application form in the allocated sections.

5.4.3 Each supporter must read your Engineering Practice Report and initial any parts which they can certify.

- 5.4.4 You should note that Engineers Ireland may contact your supporters to discuss any aspect of your Report.
- 5.4.5 In exceptional circumstances, Engineers Ireland will consider alternative arrangements, where, because of the nature of a candidate's employment he/she cannot provide two Chartered Engineers as supporters. If this applies to you, you should propose alternative arrangements to Engineers Ireland at least two months before you submit your Engineering Practice Report.
- 5.4.6 Family members of candidates may not act as supporters.

5.5 FORMAT AND PRESENTATION OF DOCUMENTATION

- 5.5.1 The documentation should be in one volume, with a transparent front cover and a spiral binding.

The required sequence of the documentation in the Report is as follows:

- a) Photocopy of both sides of the front page of your application form
- b) Title page
- c) Table of contents
- d) Summary of Career Details
- e) Outline of Training Undertaken
- f) Description of your IPD
- g) Two Essays.

- 5.5.2 The Report must be printed with a minimum font size of 12.
- 5.5.3 Each block of experience described in the description of your IPD must follow the same sequence as used in your Summary of Career Details
- 5.5.4 The number of words in both the Report and Essays should be indicated.
- 5.5.5 Presentation is an important feature of the Engineering Practice Report. You should avoid the use of jargon, shorthand terms etc.
- 5.5.6 A Glossary of Terms must be included in an Appendix. The first use of a term or title in the Report which is subsequently abbreviated must be given in full with its acronym.
- 5.5.7 Spelling, grammar and syntax are important. Pages must be numbered. Candidates should provide reasonable spacing between sections. Drawings, diagrams, and /or photographs may be included in an Appendix. The Report should be carefully edited.

5.6 STATEMENT OF AUTHENTICITY

The Engineering Practice Report must end with the following Statement of Authenticity and be signed and dated by you:

I hereby certify that the Engineering Practice Report and Essays have been prepared in their entirety by me and that all statements and claims made therein are true and accurate.

5.7 SUBMISSION OF DOCUMENTATION TO ENGINEERS IRELAND

Four bound copies of the documentation must be forwarded to Engineers Ireland together with the completed Application Form for the title Chartered Engineer and the Professional Interview fee. Receipt of application is normally acknowledged within two to three weeks.

6 THE PROFESSIONAL REVIEW – SCHEDULE

In this section:

- ~ The procedure which is followed once your Engineering Practice Report and Essays are submitted is outlined
- ~ The timetable and scheduling used for processing applications are given.

6.1 Engineers Ireland processes applications for the title Chartered Engineer twice annually. The deadlines for submission are the last Friday in January and the last Friday in June.

Timetable for Processing CEng MIEI Applications

Deadline for submission of report	Assessment Day	Professional Interviews	Decisions posted to candidates
Last Friday, January	4th Wednesday, February	April / May / June	May / June / July
Last Friday, June	4th Wednesday, July	November / December / January	December / January / February

6.2 Reports are assessed by Assessors drawn from the panel of Professional Interviewers of Engineers Ireland.

6.3 The purpose of the Assessment is to determine if the Report broadly meets the requirements as laid down in the Regulations and if, in the opinion of the Assessor, you should be allowed to proceed to the Professional Interview.

6.4 If your Report is not satisfactory you will normally be advised of this within two weeks of the Assessment Day and

a) asked to modify the Report in accordance with specific requirements before re-submission

or

b) advised to defer your application for a specified period while you further develop your competences.

6.5 Professional Interviews are held either at the offices of Engineers Ireland or in Regional Branches, as appropriate.

6.6 Normally the result of your Professional Interview is submitted for approval to the next scheduled meeting of the Membership and Qualifications Board. The Board meets monthly with the exception of the month of August.

7 THE PROFESSIONAL INTERVIEW

In this Section

- ~ *The criteria which apply to the membership of your Interview Panel are outlined.*
- ~ *The objective of the Professional Interview is described*
- ~ *The duration and format of the Professional Interview is given*
- ~ *The confidentiality of the process is described*
- ~ *The Quality Assurance procedure is notified*
- ~ *How unsuccessful candidates should proceed is outlined*

- 7.1** You will be interviewed by a Panel of three members of Engineers Ireland who are Chartered Engineers and who are considered competent by the Board of Examiners to make recommendations on the suitability of candidates for the title of Chartered Engineer. In exceptional circumstances, the Interview Panel may consist of two members.
Members of Interview Panels will be Chartered Engineers whose knowledge and experience are similar to yours.
- 7.2** The members of the Interview Panel are required to satisfy themselves that you have reached an acceptable level in the competences described in Appendix 3. They will exercise flexibility in interpreting the content of your Report and Essays and careful judgment in reaching a recommendation in respect of your application.
- 7.3** The Interview will last for approximately one hour and you will be given ten minutes at the start of the Interview in which to give an uninterrupted verbal summary of your Report, highlighting significant engineering work you have undertaken. You may use visual aids, up to A4 size, as appropriate for use across a table. No other visual aids are acceptable.
- 7.4** The Interviewers will then question you in relation to the content of your Report and Essays, focusing on the competences of a Chartered Engineer (Appendix 3).
- 7.5** The Interview Process is subject to a Quality Assurance Procedure designed by Engineers Ireland to assure continuing high quality and the integrity of the procedures.
- 7.6** All Assessors and Interviewers are bound by the Council of Engineers Ireland to maintain complete confidentiality in relation to all aspects of the review procedure and documentation
- 7.7** If you are unsuccessful at interview you will be given the reasons for this and, in most cases, advised as to what you must do to make up any deficit before re-applying for the title.



8 RECOGNITION OF PROFESSIONAL TITLES FROM OTHER COUNTRIES

In this section

- The criteria which apply to the recognition of professional titles in EU member states and other countries will be described.*
- The procedure to be followed by those seeking the Chartered Engineer title on the basis of these criteria is outlined.*

- 8.1 EU Directives issued in 1989, 1992 and 2005 provide for the mutual recognition of professional qualifications between EU member states. Provided there are no substantial differences, as defined in these Directives, between such a qualification and the CEng title, Engineers Ireland will grant this title to holders of such qualifications.
- 8.2 Applicants should complete the CEng application form on our website and submit it as instructed. Such applicants will not be required to submit to the professional review process.

APPENDIX 1

Checklist for candidates

- 1 Read the publication "Chartered Engineer" (this document)
- 2 Title Page should include
 - Name of candidate
 - Title being sought
 - Date report submitted
- 3 Include Table of Contents
- 4 Include tabular Summary of Career Details (see Section 5.3.6) and indicate total time claimed for training and responsible experience
- 5 Include table of Training Courses undertaken
- 6 The Description of Initial Professional Development must
 - a) be 3500 – 4000 words in length
 - b) include comprehensive information on training and experience
 - c) describe growth and development of career
 - d) demonstrate technical depth of engineering practice
 - e) state your precise role in various projects and emphasise the degree of personal responsibility in the facets of engineering on which you were engaged
 - f) avoid excessive use of jargon, acronyms and abbreviations
 - g) include headings
 - h) avoid use of colloquialisms
 - i) include Glossary of Terms
 - j) include the two Essays
 - k) end with signed and dated Statement of Authenticity.
- 7 Include the Professional Interview Fee
- 8 Include charts and diagrams where appropriate in Appendices
- 9 Edit carefully
- 10 Pages should be numbered
- 11 Indicate actual number of words in Report and Essays
- 12 Ensure the Chartered Engineers verifying your experience have signed your Application Form and initialled your Report as appropriate



APPENDIX 2

Definition of a Professional Engineer (Chartered Engineer)

The following is the definition of a professional engineer recognised by the Council of Engineers Ireland for the title Chartered Engineer and is the definition adopted in 1960 by the Conference of Engineering Societies of Western Europe and the United States of America (EUSEC):

A professional engineer is competent by virtue of his / her fundamental education and training to apply the scientific method and outlook to the analysis and solution of engineering problems. He/she is able to assume personal responsibility for the development and application of engineering science and knowledge, notably in research, design, construction, manufacturing, superintending, managing and in the education of the engineer. His/her work is predominantly intellectual and varied and not of a routine mental or physical character. It requires the exercise of original thought and judgement and the ability to supervise the technical and administrative work of others.

His/her education will have been such as to make him/her capable of closely and continuously following progress in his/her branch of engineering science by consulting newly published works on a worldwide basis, assimilating such information and applying it independently. He/she is thus placed in a position to make contributions to the development of engineering science or its applications.

His/her education and training will have been such that he/she will have acquired a broad and general appreciation of the engineering sciences as well as thorough insight into the special features of his/her own branch. In due time he/she will be able to give authoritative technical advice and to assume responsibility for the direction of important tasks in his/her branch.



APPENDIX 3

Competences of a Chartered Engineer*

The competences of a Chartered Engineer are listed and analysed in terms of the range of abilities normally associated with each one.

Competence 1

Use a combination of general and specialist engineering knowledge and understanding to optimise the application of existing and emerging technology

This normally includes an ability to:

- a) **Maintain a sound theoretical approach in enabling the introduction of new and advancing technology and other relevant developments.**

The Chartered Engineer:

- 1) Continually strives to extend capabilities by accessing and exploiting all relevant personal and professional development sources;
- 2) Exercises information retrieval skills to keep abreast of current and future technological or other relevant developments;
- 3) Broadens knowledge base through the Internet, the media, professional journals, attendance at professional seminars and networking;
- 4) Deepens knowledge base systematically through research and experimentation.

- b) **Apply a creative problem solving approach.**

The Chartered Engineer:

- 1) Identifies and agrees customer, user and community requirements;
- 2) Exercises creativity and initiative in investigating, analyzing and conceptualizing possible solutions to achieve objectives;
- 3) Analyses promising concepts for final solution to assess impacts of factors such as performance, reliability and maintainability and customer satisfaction.

- c) **Look for ways of exploiting emerging technologies to enhance current practices and to ensure continuing fitness for purpose of engineered products and services.**

The Chartered Engineer:

- 1) Extends knowledge of related disciplines or fields and fosters co-operation across discipline boundaries to identify future potential opportunities;
- 2) Assesses potential impact of emerging technologies;
- 3) Identifies opportunities to apply emerging technologies to existing products and processes.

* Courtesy Engineering Council U.K.

d) Promote innovation and technology transfer.

The Chartered Engineer:

- 1) Assesses user acceptance and future requirements;
- 2) Investigates needs and exploits opportunities for the transfer of technology within a particular industry or area of expertise, taking appropriate actions to secure the value of intellectual property;
- 3) Promotes new applications internally and externally when appropriate;
- 4) Assesses marketing needs and contributes to marketing strategies.

Competence 2

Apply appropriate theoretical and practical methods to the analysis and solution of engineering problems.

This normally includes an ability to:

a) Identify potential projects and opportunities.

The Chartered Engineer:

- 1) Reviews external developments to assess applicability to areas of responsibility;
- 2) Continually reviews the potential for enhancement of products and services;
- 3) Identifies the complexities of the potential projects and problems;
- 4) Exercises original thought in synthesizing satisfactory outcomes to engineering challenges;
- 5) Utilizes knowledge of employers' commercial position to assess viability of projects;

b) Conduct appropriate research, and undertake design and development of possible solutions.

The Chartered Engineer:

- 1) Demonstrates potential solutions by physical or computer models using mathematical analysis, computer simulations or other modelling techniques;
- 2) Analyses promising concepts for final design to assess impacts of factors such as performance, reliability and maintainability;
- 3) Undertakes cost-benefit and risk analyses, feasibility studies and life –cycle costing to produce a workable design;
- 4) Uses appropriate engineering and technological aids.

- c) **Plan and implement solutions, taking a holistic approach to cost, benefits, safety, reliability, appearance and environmental impact.**

The Chartered Engineer:

- 1) Prepares and recommends for implementation a documented proposal to meet client or manufacturing requirements;
- 2) Prepares test schedules for performance and physical environmental testing, oversees testing, analyses test results and recommends or arranges tests;
- 3) Identifies possible problem areas and negotiates modifications or adaptations as necessary;
- 4) Takes corrective action to overcome any shortcomings revealed;

- d) **Evaluate the solutions and make improvements.**

The Chartered Engineer:

- 1) Determines impact on design of factors such as production, construction, installations, commissioning, life cycle implications, logistic support and training of users;
- 2) Participates in consultation with affected parties on product or process evaluation;
- 3) Evaluates the solution against the specification;
- 4) Identifies potential improvements and ensures that they meet the specification, are practicable and are implemented;

Competence 3

Provide technical, commercial and managerial leadership.

This normally includes an ability to:

- a) **Plan for effective project implementation.**


The Chartered Engineer:

- 1) Prepares and agrees the development of a project proposal;
- 2) Negotiates adequate resources provision;
- 3) Determines methods of approach and analyses work to be performed to provide the basis for resource estimates, applying appropriate project management techniques;
- 4) Makes appropriate contractual arrangements with customers, suppliers and partners to secure employer's commercial position;
- 5) Recognises the competence of others, including non – engineering specialists, and uses them to secure project delivery.

- b) **Plan, budget, organise, direct and control tasks, people or resources.**

The Chartered Engineer:

- 1) Sets and implements work objectives and priorities, including time, resource and cost estimates;
- 2) Organises work teams, exercising leadership over other engineers, technical or other personnel where required;

- 
- 3) Monitors tasks to ensure activities are performed as planned, and takes corrective action as required;
 - 4) Recognises, interprets and applies appropriate regulations.

c) **Develop the capabilities of staff to meet the demands of changing technical and managerial requirements.**

The Chartered Engineer:

- 1) Contributes to identifying and determining training needs;
- 2) Develops training plans for subordinates;
- 3) Implements experiential development programmes for subordinates, including workforce retraining, adaptation to new technology and skills extension tasks;
- 4) Participates in reviews of effectiveness of work place training programmes.

d) **Bring about continuous improvement through quality management.**

The Chartered Engineer:

- 1) Contributes to implementation of quality system;
- 2) Fosters the acceptance by subordinates and colleagues of quality management principles;
- 3) Performs work to appropriate quality standards;
- 4) Applies quality control and assurance techniques.

Competence 4

Use effective communication and interpersonal skills.

This normally includes an ability to:

a) **Work and communicate with others at all levels.**


The Chartered Engineer:

- 1) Develops good personal relationships appropriate to the level of communication;
- 2) Communicates effectively in the English language and in other languages if circumstances dictate;
- 3) Takes part in discussions ensuring two way effective communication;
- 4) Responds effectively and efficiently to all received communication.

b) **Effectively present and discuss ideas and plans.**

The Chartered Engineer:

- 1) Clarifies objectives, identifies main purpose, and selects appropriate medium for communication;
- 2) Prepares and presents lectures and reports, and publishes papers at a professional level;

- 
- 3) Selects appropriate methods of communication using words, images, audio and video, as appropriate;
 - 4) Communicates fluently in written and oral expression at an experienced professional standard.

c) Build teams and negotiate.

The Chartered Engineer:

- 1) Identifies collective goals and responsibilities;
- 2) Works towards collective goals;
- 3) Creates, maintains and enhances effective working relationships;
- 4) Issues clear and accurate instructions to subordinates as appropriate;
- 5) Develops teams, individuals and self to enhance performance;
- 6) Undertakes negotiation, conflict resolution, counselling, exchanging ideas and conveying convictions and attitudes.

Competence 5

Make a personal commitment to abide by the appropriate code of professional conduct, recognising obligations to society, the profession and the environment.

In order to satisfy this commitment, Chartered Engineers must:

a) Comply with Codes and Rules and Conduct.

Chartered Engineers:

- 1) Place responsibility for the welfare, health and safety of the community at all times before responsibility to the profession, to sectional interests, or to other engineers;
- 2) Comply with the Code of Ethics of Engineers Ireland;
- 3) Apply professional skill in the interests of employer or client, for whom they act in professional matters, as a faithful agent or trustee;
- 4) Give evidence, express opinions or make statements in an objective and truthful manner and on the basis of adequate knowledge.

b) Manage and apply safe systems of work.

The Chartered Engineer:

- 1) Takes account of potential professional risks and liabilities, and accepts responsibility for them;
- 2) Implements appropriate occupational health and safety requirements;
- 3) Investigates community safety requirements and acts to solve any incipient safety problems;
- 4) Takes appropriate precautions when dealing with hazardous operations;
- 5) Takes account of disaster prevention, mitigation and recovery methods.



c) **Undertake their engineering work in compliance with the Codes of Practice on Risk and the Environment.**

The Chartered Engineer:

- 1) Promotes the actions required in engineering practice to improve, sustain and restore the environment;
- 2) Promotes the wise use of non-renewable resources through waste minimization, recycling and the development of alternatives wherever possible;
- 3) Strives to achieve the beneficial objectives of engineering work with the lowest possible consumption of raw materials and energy, and by adopting sustainable management practices;
- 4) Takes account of total life-cycle implications of products and projects in relation to the environment.

d) **Carry out the continuing professional development necessary to ensure competence in his/her areas of future intended practice.**

The Chartered Engineer:

- 1) Undertakes professional development to enhance technical and management competence;
- 2) Sets goals to achieve personal and organizational objectives;
- 3) Prepares and maintains a career action plan;
- 4) Maintains records of professional development activities.



APPENDIX 4

Glossary of Acronyms

IPD	Initial Professional Development
CPD	Continuing Professional Development
CEng MIEI	Chartered Engineer and Ordinary Member of the Institution of Engineers of Ireland
MIEI	Ordinary Member of The Institution of Engineers of Ireland
FEANI	European Federation of Engineering Professional Bodies
AEng AMIEI	Associate Engineer and Associate Member of the Institution of Engineers Ireland

APPENDIX 5

Sample Summary of Career Details Table

Employment Dates		Company	Position	Responsibilities	Supervisor	Duration claimed for:	
From	To					Training	Responsible Experience

APPENDIX 6

Sample Table of Training Courses Undertaken

Course Title	Duration	Venue



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