Chartered Engineers are characterised by their ability to develop appropriate solutions to engineering problems, using new or existing technologies through innovation, creativity and change. Being a Chartered Engineer proves that you have a level of knowledge and experience that can be relied on by employers and the community.

As many physicists move into engineering at some point in their career, the Institute of Physics offers CEng to suitably qualified and experienced members.

To be eligible to apply for CEng through us you will need to be a member or fellow of the Institute of Physics (MInstP or FInstP) and have a physics based qualification or equivalent knowledge and experience. If you are uncertain about your eligibility to apply for CEng please contact us on cpd@iop.org.

You can submit your membership and chartership applications at the same time if necessary however your chartership application won’t be processed until your application for membership has been approved. For more information and to apply for membership please visit iop.org/join.
Eligibility Requirements

To be eligible for Chartered Engineer you will:

1. **Have a good breadth and depth of engineering knowledge**
   You will demonstrate this by either:
   - Holding an Engineering Council accredited integrated master’s degree
   - Or showing knowledge and skills equivalent to this through completing the CEng technical report (see page six for more details)

2. **Have sufficient work experience to enable you to demonstrate the CEng competencies and provide examples of sustained experience at a responsible level**
   You will demonstrate this by completing the Professional Review Report (see page nine for details)

3. **Nominate supporters who can vouch for you**
   You will provide us with details of two people who can confirm your experience and knowledge
In this pack

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4. How is my application assessed?

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### 1. How do I apply?

To apply for Chartered Engineer status, you will need to complete the online application form, which can be found at [applications.iop.org](http://applications.iop.org).

Please note that depending on your qualifications and experience, you may not need to complete every section of the form. Please see the table below for details.

<table>
<thead>
<tr>
<th></th>
<th>I hold an Engineering Council accredited MEng degree</th>
<th>I DON'T hold an Engineering Council accredited MEng</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main application form</td>
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<td>Yes</td>
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<tr>
<td>Your current CV</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Engineering Knowledge</strong></td>
<td></td>
<td></td>
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<tr>
<td>Your degree certificates</td>
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<td>Yes</td>
</tr>
<tr>
<td>CEng technical report</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Professional Review Report</strong></td>
<td></td>
<td></td>
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<tr>
<td>An organisational chart showing your current position</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>A written professional review report:</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>IPD</td>
<td></td>
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<tr>
<td>(If you have completed an ACTS scheme accredited by IOP for CEng this section is not mandatory until January 2019 but we strongly recommend that you complete it).</td>
<td></td>
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<tr>
<td>- Responsible experience examples</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>- CPD</td>
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<td>Yes</td>
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<tr>
<td>The application fee</td>
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<td>Yes</td>
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<tr>
<td><strong>Interview process</strong></td>
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<tr>
<td>Technical report interview</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Professional review interview</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Supporters</strong></td>
<td></td>
<td></td>
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<tr>
<td>I have two supporters who are CEng</td>
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<td></td>
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<tr>
<td>Supporter details required</td>
<td>Contact details only required</td>
<td>Supply contact details plus a covering letter explaining your choices</td>
</tr>
<tr>
<td>I have one supporter who is CEng plus one supporter who isn't</td>
<td>Supply contact details plus a covering letter explaining your choices</td>
<td></td>
</tr>
<tr>
<td>I have three supporters none of whom are CEng</td>
<td>Supply contact details plus a covering letter explaining your choices</td>
<td></td>
</tr>
</tbody>
</table>

If you have any questions, or require a paper copy of the application form, please contact us on +44 (0)20 7470 4800 or email [cpd@iop.org](mailto:cpd@iop.org).

**Fee information**

Our current subscription and professional fees can be found on our website at [iop.org/membership/rates/page_56634.html](http://iop.org/membership/rates/page_56634.html)
2. Eligibility Criteria

Engineering knowledge

All applicants are required to demonstrate that they have the breadth and depth of engineering knowledge that is required for a Chartered Engineer (CEng).

There are two ways that you can show this:

Option 1: Accredited master's degree
You hold an Engineering Council accredited MEng. To establish whether your master's is accredited by the Engineering Council please visit their website engc.org.uk.

Non-UK degrees: If you have a degree from outside the UK or Ireland you can ask the Institute to compare it to UK degrees using an international database, found at naric.org.uk. The Institute subscribes to this well-respected database and uses it to judge the level of your qualification. Depending on how your degree compares to the requirements for CEng you may be asked to complete additional paperwork but we will get in touch if this is the case.

Option 2: Submission of a CEng technical report
If you do not hold an Engineering Council accredited master's degree, we ask that you demonstrate equivalent knowledge through completion of the CEng technical report.

Most applicants through the Institute do not have engineering degrees, and as a result we are very used to guiding people with physics based qualifications towards Chartered Engineer (CEng). This is what the Technical Report option route to CEng has been designed for.

Please note that whichever route you follow you will be asked to attend an interview to discuss your knowledge in greater depth (see page 18).
2. Eligibility Criteria

Engineering knowledge cont

How do I show MEng equivalence?
All applicants without an Engineering Council accredited MEng degree, even those very senior in the engineering community, need to demonstrate equivalent underpinning engineering knowledge. You need to show that you have made up for the enhanced and extended education in engineering, equivalent to the final year of an accredited MEng degree. Unfortunately, a PhD or MSc in physics or engineering does not automatically fulfil this requirement.

Your technical report should describe your involvement in an in-depth study covering engineering projects. We expect you to be able to base your CEng report on projects or publications written as part of your employment, so existing reports may be submitted alongside a covering note giving details of your role. Please note that your project must cover work of a professional standard worthy of a Chartered Engineer.

It is very important that you emphasise the engineering applications and the design elements of your work. The report needs to substantiate your ability to undertake individual project work (although this may be part of a larger project) and to undertake group projects.

Report structure:
- Project aim - Describe what the project was designed to achieve. Rough guide: 1000 words
- Outcome – Explain what you did, the results of the project and how they relate to the original aims. Rough guide: 1500 words
- Development – Outline how you developed your skills and knowledge to meet the needs of the project. Rough guide: 1500 words
- Evaluation - Review the project, consider future improvements and provide a summary of the skills and knowledge you learnt. Rough guide: 1000 words

Please note that not all sections of the report template will be relevant to you and your project, however this structure should help to guide you as to what the panel are looking for.
2. Eligibility Criteria

**Engineering knowledge cont**

If you are using or describing a project that you have worked on collaboratively then you will need to emphasise your personal learning, contribution and findings.

You can use different projects or pieces of work to fill out the different sections of the template however, to help with coherency, we find that it’s best to use the same project or piece of work so that this can be followed all the way through.

You are welcome to use diagrams and charts to help demonstrate certain elements of your Technical Report. In this case you should write your report as a Word/PDF document, following the same headings and word count guidelines, and upload it to your application under the supporting documentation section. Please leave the template on the form blank.

We appreciate that your report may contain some confidential information, so we understand if reports need to be censored to remove areas of particular sensitivity. This confidentiality will be honoured and your report will not be photocopied or distributed externally. The technical report is discussed prior to the professional review interview and will therefore be seen by the two interviewers, the assessing panel and appropriate staff members only.

However, it is your responsibility to make sure the sensitive information you have provided us with is okay to be distributed to us with your company/place of employment.
2. Eligibility Criteria

Professional Review Report

All applicants are required to demonstrate that they have sufficient professional experience in an engineering-related role.

Career length: There is no specific time-served requirement, but generally as an IOP member you will need a minimum of four to five years’ post-education experience before you are ready to apply for CEng. This is because you will need to have been working for long enough to allow you to demonstrate all of the CEng competencies, and provide evidence of sustained work at a responsible level.

To enable sufficient assessment of your professional experience, ALL applicants are required to submit a professional review report. This report summarises and links your experiences to the competencies for CEng. It should also highlight how you have gained experience at a responsible level, and provide us with a snapshot of your career at the time of application.

The report should have a total length of approximately 2000 words, the maximum length is 3000 words. Unfortunately, we will have to return reports in excess of this length to you for editing, which will delay your application.

A template for the report is provided within the application form. It includes the following sections:

INTRODUCTION – A brief outline of your current role and its engineering content, around 200 words in length.

ORGANISATIONAL CHART – Attach a chart showing your current position within your organisation, displayed as a hierarchical company structure.

INITIAL PROFESSIONAL DEVELOPMENT (IPD) – Specify the experience you have gained in the competence areas and how this relates to engineering. Around 100–200 words per section.
2. Eligibility Criteria

Professional Review Report  cont

The competencies have to be met during employment, for some this will be through participation in an IOP Accredited Company Training Scheme (ACTS). However, it is recognised that many physics graduates become engineers gradually over a number of years without undertaking formal training, or participating in a professional development scheme.

Training Scheme: Please note that applicants who have completed a CEng accredited Training Scheme are not required to complete this section, however we strongly recommend that they do so to aid the decision-making process. Applicants should supply contact details for the scheme leader, or a certificate of completion. From January 2019 ALL applicants will be required to complete the IPD section regardless of whether they have completed a training scheme.

We expect you to interpret the competency statements in the context of your job. While everyone has to satisfy each of the major headings A–E, we realise that within each heading you are likely to be stronger in some areas than others.

Competence A - Use a combination of general and specialist engineering knowledge to optimise the application of existing and emerging technology.

A1: Maintain and extend a sound theoretical approach in enabling the introduction and exploitation of new and advancing technology
   - Identify the limits of your own personal knowledge and skills
   - Strive to extend your own technological capability
   - Broaden and deepen your own knowledge base through research and experimentation

A2: Engage in the creative and innovative development of engineering technology and continuous improvement systems
   - Assess market needs and contribute to marketing strategies
   - Identify constraints and exploit opportunities for the development and transfer of technology
   - Promote new applications when appropriate
   - Secure the necessary intellectual property (IP) rights
   - Develop and evaluate continuous improvement systems
2. Eligibility Criteria

Professional Review Report  cont

Competence B - Apply theoretical and practical methods to the analysis and solution of engineering problems.

B1: Identify potential projects and opportunities
   • Establish and help develop solutions to meet users’ requirements
   • Consider and implement new and emerging technologies
   • Enhance engineering practices, products, processes, systems and services
   • Use own knowledge of the employer’s position to assess the viability of opportunities

B2: Conduct appropriate research, and undertake design and development of engineering solutions
   • Identify and agree appropriate research methodologies
   • Allocate and manage resources
   • Develop the necessary tests
   • Collect, analyse and evaluate relevant data
   • Undertake engineering design
   • Prepare, present and agree design recommendations, with appropriate analysis of risk, and taking account of cost, quality, safety, reliability, appearance, fitness for purpose, security, intellectual property (IP) constraints and opportunities, and environmental impact

B3: Manage implementation of design solutions and evaluate their effectiveness
   • Ensure that the application of the design results in the appropriate practical outcome
   • Implement design solutions, taking account of critical constraints, including due concern for safety and sustainability
   • Determine the criteria for evaluating the design solutions
   • Evaluate the outcome against the original specification
   • Actively learn from feedback on results to improve future design solutions and build best practice
2. Eligibility Criteria

Professional Review Report cont

Competence C - Provide technical and commercial leadership

C1: Plan for effective project implementation
- Systematically review the factors affecting the project implementation including safety and sustainability considerations
- Define a holistic and systematic approach to risk identification, assessment and management
- Lead on preparing and agreeing implementation plans and method statements
- Ensure that the necessary resources are secured and brief the project team
- Negotiate the necessary contractual arrangements with other stakeholders (client, subcontractors, suppliers, etc)

C2: Plan, budget, organise, direct and control tasks, people and resources
- Set up appropriate management systems
- Define quality standards, programme and budget within legal and statutory requirements
- Organise and lead work teams, coordinating project activities
- Ensure that variations from quality standards, programme and budgets are identified, and that corrective action is taken
- Gather and evaluate feedback, and recommend improvements

C3: Lead teams and develop staff to meet changing technical and managerial needs
- 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
- Lead and support team and individual development
- Assess team and individual performance, and provide feedback

C4: Bring about continuous improvement through quality management
- Promote quality throughout the organisation and its customer and supplier networks
- Develop and maintain operations to meet quality standards
- Direct project evaluation and propose recommendations for improvement
2. Eligibility Criteria

Professional Review Report  cont

Competence D - Demonstrate effective interpersonal skills

D1: Communicate in English with others at all levels
   • Lead, chair, contribute to and record meetings and discussions
   • Prepare communications, documents and reports on complex matters
   • Exchange information and provide advice to technical and nontechnical colleagues

D2: Present and discuss proposals
   • Prepare and deliver presentations on strategic matters
   • Lead and sustain debates with audiences
   • Feed results back to improve proposals
   • Raise the awareness of risk

D3: Demonstrate personal and social skills
   • 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 lead work towards collective goals
   • Create, maintain and enhance productive working relationships, and resolve conflicts
Competence E - Demonstrate personal commitment to professional standards, recognising obligations to society, the profession and the environment.

E1: Comply with the relevant codes of conduct
- Comply with the Institute of Physics code of conduct, which can be found on our website at iop.org/about/royal_charter/file_67323.pdf. Please read it before completing your application
- Lead work within all relevant legislation and regulatory frameworks, including social and employment legislation

E2: Manage and apply safe systems of work
- Identify and take responsibility for own obligations for health, safety and welfare issues
- Ensure that systems 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
- Operate and act responsibly, taking account of the need to progress environmental, social and economic outcomes simultaneously
- Use imagination, creativity and innovation to provide products and services which maintain and enhance the quality of the environment and community, and meet financial objectives
- Understand and secure 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 including:
- 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

The Engineering Council provides examples of the type of experience that might help candidates acquire these competences on their website. Applicants should read the current UK-SPEC Edition 3 at engc.org.uk before completing their application.
2. Eligibility Criteria

Professional Review Report  cont

RESPONSIBLE EXPERIENCE - You are required to provide at least three (preferably four) examples of how you are using and applying your knowledge and skills working as an engineer at a professional level. These should show progression from your Initial Professional Development and demonstrate a sustained period of responsibility for at least two years. This section should be around 800 words.

We ask that you demonstrate competence in a range of engineering work that has required your independent technical judgement and some direct responsibility for resources, taking account of financial, commercial, safety, statutory and national considerations.

Your experience needs to range across several aspects of design, construction, manufacture, operation or maintenance of products, systems or services. No potential Chartered Engineer is expected to cover this entire range, although the interviewers will expect to see a balance in your application.

Your knowledge and experience must reflect a broad view of your employer and work environment. The main facets you will need to show evidence of are:

• CPD aimed at developing a deep specialism and/or broad knowledge across a physics-related area
• Ability to carry out complex tasks in a flexible and adaptable manner
• Beginning to gain greater skills in dealing with customers/colleagues/students
• Identifying new opportunities for both your own development and that of your organisation
• Working to support the aims of your organisation and to promote it within your sector
• Starting to demonstrate leadership qualities and to take on team-leader responsibilities
• Aspects of people development
• Management of risk

The following are ways in which the above criteria can be shown. This list is not exhaustive and no candidate is expected to be able to provide evidence in all these areas. However, all candidates are expected to exhibit skills from the general examples.

General

• Leads or manages a small study, research or project team
• Works independently
• Identifies new opportunities and is consulted on technical, research or business plans
• Can make appropriate use of financial/budgetary information
• Responds to the needs of customers/colleagues/students
• Proactive in making changes, allowing for needs for quality standards and continuous improvement
2. Eligibility Criteria

Professional Review Report cont

- Encourages flexibility from others
- Proactive in encouraging others to seek out, record and share new knowledge
- Manages and applies safe systems of work
- Familiarity with intellectual property (IP) issues.

Functional
- Applies knowledge in a broad range of contexts within accepted practice and procedure
- Offers professional advice in complex situations, maintaining professional integrity
- Applies project management principles, identifying milestones and juggling resources
- Works using delegation without abdicating responsibility
- Makes reliable and consistent judgements, where there are few guidelines or precedents
- Carries out risk-assessment on projects
- Promotes team spirit and keeps others focused on tasks ahead

Technical
- Applies knowledge creatively in a broad range of complex and non-routine contexts, including design and development, within a framework of accepted practice and procedure
- Has a growing ability to bridge between technical areas
- Demonstrates technical integrity in approach and ability to meet technical scrutiny
- Oversees the technical aspects of projects, both programs and standards of work
- Shares technical information and ensures the passing on of lessons learned

Academic
- Lecturing at an undergraduate level in pure and applied physics
- Contributing to the design of post or undergraduate courses
- Collaborating with industry and the wider physics community
- Lecturing to peers at academic events
- Publishing in peer-reviewed journals

CONTINUING PROFESSIONAL DEVELOPMENT (CPD) – Outline your career, training and development plans for the next five years. This section should explain how you intend to retain competence once you are chartered. This should be around 200 words.

Confidentiality: We have many applicants whose work is of a confidential nature, so please contact us if you have any concerns about sharing information to support your application.
2. Eligibility Criteria

Choosing your supporters

Along with your written application, you are required to supply details of two supporters who can verify the information in your application and comment on your suitability for CEng.

Please consider the following when choosing your supporters:

**Aware of your knowledge and experience** - Between them, your supporters should know your IPD and responsible experience entirely.

**One supporter should be outside your workplace** - The panel request this to ensure independence of opinion. There are circumstances where the applicant’s role and experience are particularly confidential and this might not be possible. In these cases, a supporter from within your company, but outside your department, is acceptable.

**Both supporters should have known you for at least one year** – Please remember that you must not be related to either of your supporters.

**Both supporters should be Chartered Engineers** (although they do not have to hold their registration with IOP) – however, the panel will accept applications from people who have only one Chartered Engineer supporting them, or if three non-CEng supporters are provided. In these cases, supporters who are not Chartered Engineers should be of similar professional standing and be entirely familiar with your work (e.g. your line manager). You will need to include a covering letter explaining your choice which outlines how long you have known them, under what capacity you have worked with them, and why they are in the best position to comment on your suitability for chartership.

Please ensure that between them, the supporters are willing and able to verify your experience. They should be contactable by email in the months following your application. Supporters are sent links to the forms that they need to complete online via a generic IOP email address. Please try to provide an email address that doesn’t have high firewalls (e.g. Government and company) as this can cause delays to your application.

In the event of inconclusive comment from your supporters, we may contact them for further information or ask you to nominate an additional supporter.

**Mentoring**: Our mentoring scheme is a great way to get one-on-one help and advice for your CEng application. Previous applicants have found this invaluable and many have chosen their mentor as one of their supporters. Please contact us at cpd@iop.org if you would like further information on this.
3. The interview process

All applicants for Chartered Engineer will be asked to attend an interview to discuss their knowledge in greater depth. The aim of the interview is to confirm the information supplied within your application and to verify that you meet the standards required of a Chartered Engineer. The interview will be delivered by two CEng professionals, but on occasion there may also be an observer and/or a member of IOP staff present.

For most applicants the interview process is conducted in two parts:

**Assessment of your Technical Report** - If you don’t hold an Engineering Council accredited MEng and have therefore submitted a technical report you will be asked to attend this initial interview stage to talk about how you have gained your equivalent knowledge. This interview lasts for around 45 minutes.

You will not need to attend this part of the interview if you hold an Engineering Council accredited MEng.

**Assessment of your professional review report** – If the interviewers are satisfied that you have demonstrated MEng equivalence (through your Technical Report interview), you will be asked to sit the second part of the interview on the same day where your competencies and responsible experience examples will be assessed. This interview lasts for around 45 minutes.

Interviews are arranged regularly throughout the year; the exact frequency depends on demand and the availability of interviewers. They are most often held in London, but can take place throughout the UK and Ireland, or be conducted over video calling for overseas applicants.
Each application is peer reviewed by a panel of seven members who are also Chartered Engineers, the seven panel members include both of your interviewers. The panel assess the information in your application, the feedback from the interviewers, and the comments of your supporters. These are then compared with the requirements for Chartered Engineer. Once assessed, the panel will choose to accept, reject or defer your application.

Occasionally, applications are deferred to allow the applicant an opportunity to supply additional information. Other deferrals are generally due to insufficient responsible experience. A deferral can be granted for up to a maximum of 12 months. Where an application is deferred or rejected the applicant will always receive a letter explaining the reason for this and suggesting a future course of action as put forward by the assessing panel.
5. How long will my application take to process?

You will normally receive a decision on your application within six – eight weeks of your application being sent to panel. You can log back onto the online application form to check the progress of your application.

Poorly prepared applications will inevitably take longer so it is in your best interest to ensure that the information supplied is as accurate, clear and as complete as possible.
Visit our website
iop.org/chartership
or contact us to discuss your application
on +44 (0)20 7470 4800
or cpd@iop.org

Apply online: applications.iop.org