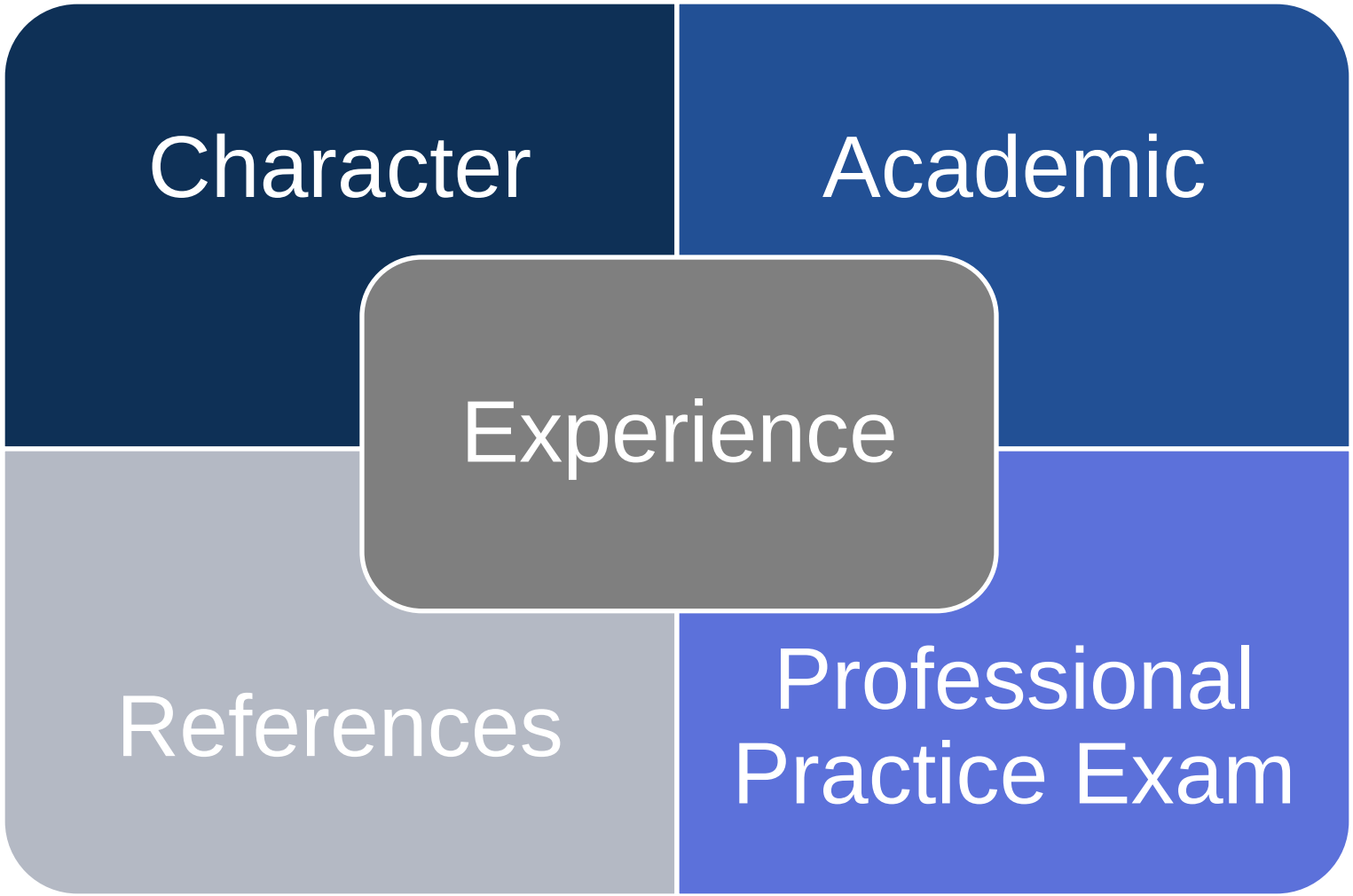
Licence Requirements

EXPERIENCE

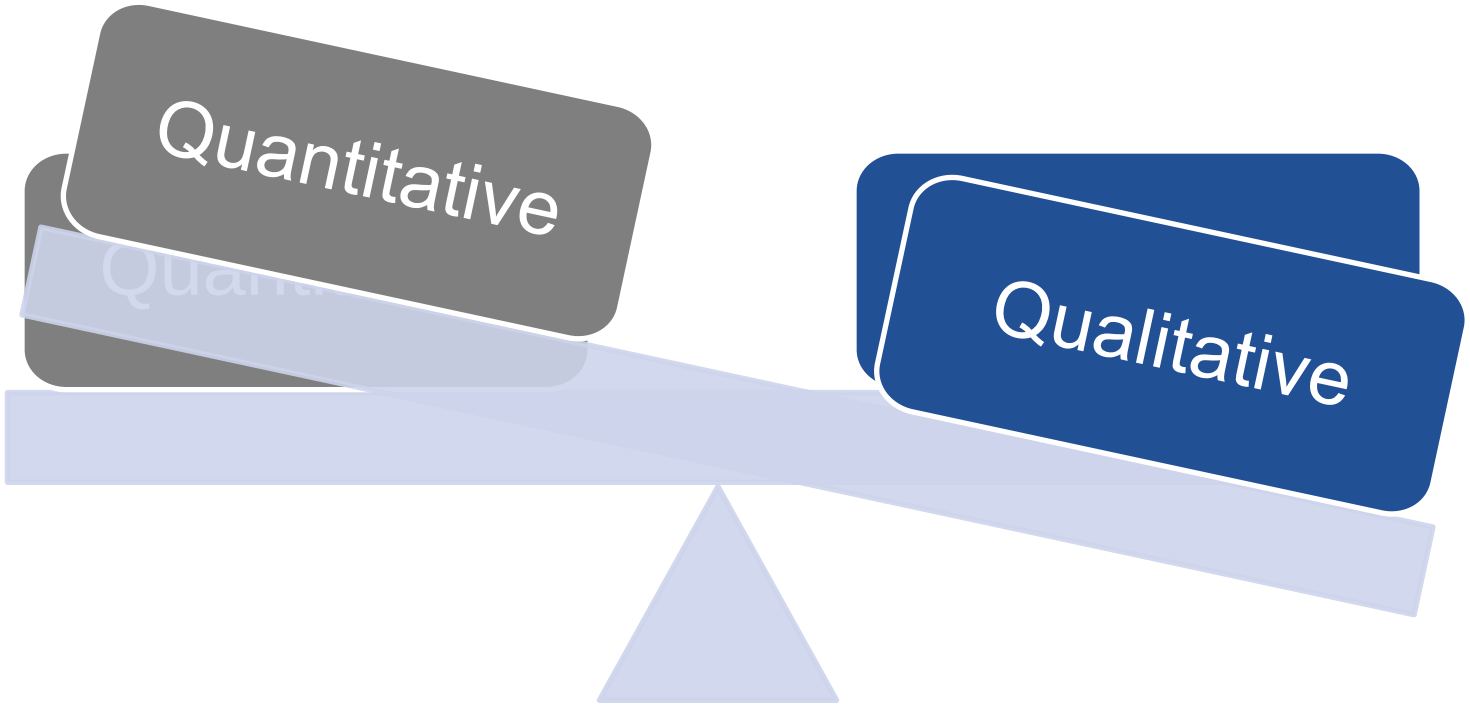
Professional Engineers
Ontario

Licence Requirements



Experience Requirements

Two main requirements



Experience

How much experience do I need?

Quantitative Requirements

- **Minimum of 48 months** of acceptable experience of which **at least 12 months** must be acquired in a Canadian jurisdiction supervised by a person legally authorized to practice in that jurisdiction.

  (i.e. professional engineer)

Credits

- **Pre-graduation Experience**
  - Eligible for up to 12 months credit maximum.
  - After completing 50% of course work.
  - **Not** eligible for the required 12 months of Canadian experience.
  - Must be related to engineering discipline and career.

Credits con't

- **Post Graduate Degree**
  - Completed degree usually credited for 12 months engineering experience.
  - **Must** be in same discipline or closely related to your bachelor of engineering degree.
  - Only one credit (not 12 months for each degree).
  - **Not** eligible for the required 12 months of Canadian experience.

Credits con’t

- Applicant may receive additional work experience credits for postgraduate degree(s) – related industrially applied research providing that it meets the 5 quality based experience criteria.
- The **maximum** credit for this research may **not exceed** 12 months for a doctoral degree and six months for Master’s degree.
- No additional experience credit is given for over time work.

Experience

What type of experience do I need?

Qualitative Requirements

What makes it acceptable?

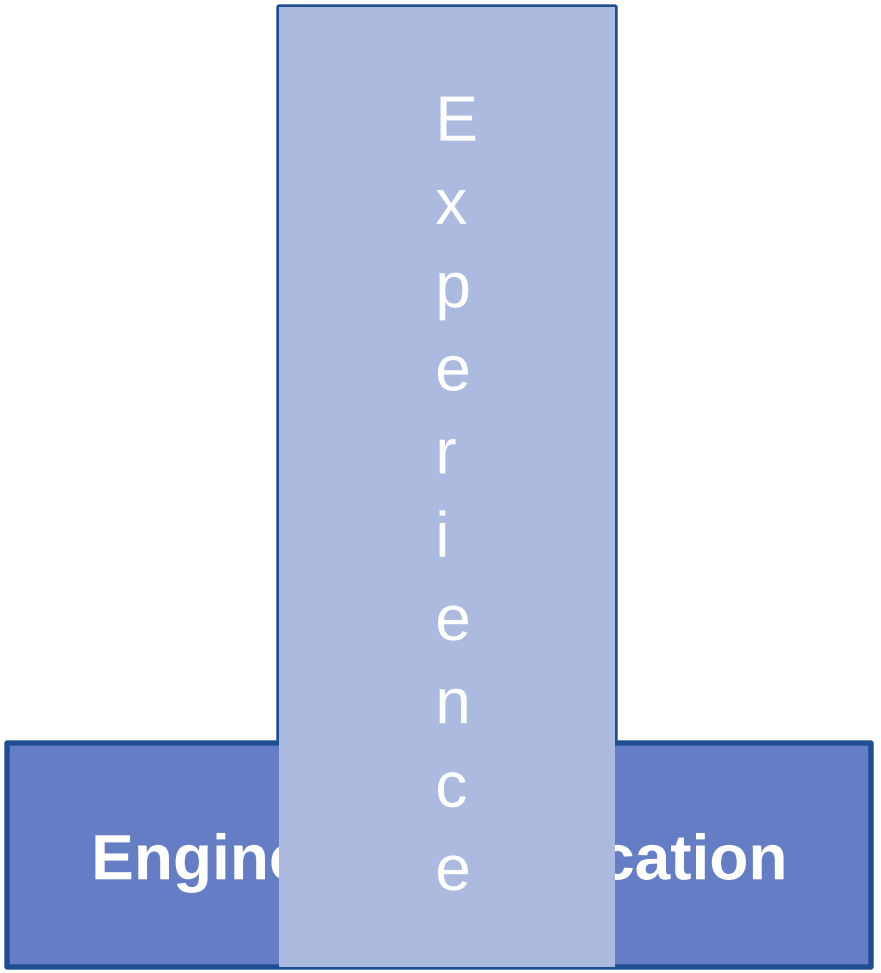
- Application of Engineering Theory
- Practical Experience
- Management of Engineering
- Communication Skills
- Awareness of the Social Implications of Engineering

Application of Theory

Do I need my engineering studies to do my job?

If so, how?

Link your work to your academics; refer to specific engineering principles.



Application of Theory

- Analysis: *scope, operating conditions, performance assessments, safety and environmental issues, technology assessment, economic assessment, reliability analysis.*

- Design: *functionality, product specification, component selection, integration of components into larger system, reliability and maintenance factors, environmental, quality improvements.*

Application of Theory

- Testing Methods: *devising testing methodology, techniques, verifying specification, new product or technology commissioning.*

- Implementation Methods: *applying technology, engineering cost studies, optimization techniques, process flow and time studies, cost/ benefit analysis, environmental issues and recommendations, maintenance and replacement evaluation.*

Application of Theory

Questions:

- What were the important parameters to consider?
- What were the options available to you?
- How did you make your decision?
- Who did you consult and how much assistance did you need?
- Why was the selected method appropriate?

Practical Experience

- Function of Components as Part of Larger System: *merits of reliability, role of computer software, relationship of end product to equipment and control systems.*
- Limitations of Practical Engineering: *production methods, manufacturing tolerances, operating and maintenance philosophies.*
- Significance of Time: *workflow, scheduling, corrosion rates, replacement scheduling.*
- Codes, Standards, Regulations, Laws

Practical Experience

- Questions:
  - What considerations did you have to make due to real world conditions?
  - What codes and standards did you use as part of your engineering work?
  - Why was it necessary to refer to these – what is the basis for them?
  - How did limitations of time, material, personnel etc. affect your engineering work?

Management of Engineering

- Planning: *identifying requirements, developing concepts, evaluating alternative methods, required resources.*
- Scheduling: *establishing interactions and constraints, activity schedules, impact of delays, interaction with other projects.*
- Budgeting: *conceptual and detailed budgets indentifying labour, materials, overhead, cost escalation.*

Management of Engineering

- Supervision*: leadership and professional conduct, human resources, motivating teams .*

- Project Control: *coordinating phases of project work, monitoring expenditures and schedules and taking corrective action.*

- Risk Assessment: *operating equipment and system performance, technological risk, product performance, social and environmental impacts.*

Management of Engineering

- Questions:
  - How do these concepts fit into the engineering work that you did?
  - Are you responsible for controlling any of these that affect other members of the team?
  - Have your responsibilities increased in this area?

Communication Skills

- Written Work: *correspondence, design briefs, major reports.*
- Making Oral Reports: *coworkers, supervisors, senior management, clients, regulatory authorities.*
- Making Presentations to the Public

Communication Skills

- Questions:
  - How do you report your work?
  - Are there any written reports? Who receives these?
  - Opportunities for presentations?
  - Any examples of having to promote your engineering ideas?

Social Implications

- Value or Benefits to the Public
- Safeguards in Place
- Relationship between Engineering and the Public
- Role of Regulatory Agencies

Social Implications

- Questions:
  - What are the potential effects - positive or negative - of the engineering project?
  - How are the negative effects mitigated?
  - Who are the end users of the engineering work? Were they consulted on the project?
  - What involvement did you have in the process?

Experience Assessment

Tools Used

- Summary of experience provided by the applicant (may include earlier EIT reviews and responses by applicant).
- Referees' evaluations covering all reported time periods (may also include follow up discussions with referees).
- Interview with an Experience Requirements Committee (ERC) panel.

Experience Summary

- Reverse chronological order.
- Include start date (month and year) and end date (month and year) of each job.
- Include all employers' names and addresses (including country) for each period to be assessed.
- Should include a clear summary of your engineering experience.
- Use a narrative style – "I" not "we".

Sample Layout

EXPERIENCE RECORD FORM **Current Date:**

Name: _____ File:_____

Telephone (H): ( ) _____ Email Address (H): _____

Telephone (B): ( ) _____ Email Address (B): _____

ENGINEERING EXPERIENCE SUMMARY	
Company Name and Address (include Country)	
Length of Employment Start date (MM, YYYY) to end date (MM, YYYY)	
Position Title	
Job Responsibilities and Engineering Duties	
Provide a brief description of your engineering duties.	
Application of Theory	
Describe how you have applied engineering fundamentals in analysis, design, synthesis, testing methods, implementation methods.	
Practical Experience	
Describe your practical engineering experience in relation to the function of components as part of a larger system, limitations of practical engineering, significance of time in the engineering process, knowledge and understanding of codes, standards, regulations and laws	
Management of Engineering	
Describe situations involving planning, scheduling, budgeting, supervision, project control, risk assessment.	
Communication Skills	
Describe how you communicated your engineering ideas through written work, oral presentations, presentations to the general public.	
Knowledge of the Social Implications of Engineering	
Describe situations involving the benefits of the engineering work to the public, safeguards, the relationship between the engineering activity and the public, the role of regulatory agencies.	

Describing Your Work

- Focus on what you did as it relates to the 5 criteria.
- Structure your description to include:

WHAT you did	I calculated the total heat load on the reactor
HOW you did it	Using the theoretical heat of reaction
WHY you did it	In order to size the heat exchanger.

Describing Your Work

WHAT

HOW

WHY

Referee Requirements

- Need your direct supervisor from each employer (job) covering the time of employment.
- Need one P. Eng. supervisor for a minimum of 12 months.
- Need a minimum of 3 referees (may require more depending on number of employers).

Referee Requirements

- Ideally, one P.Eng. supervisor and another P. Eng. familiar with your work for each place of employment for the entire 48 months.
- All referees **must be sufficiently familiar** with the details of your work, either through direct supervision or ongoing contact, to be able to confirm that the work experience qualifies within the five quality based criteria.

Referee Examples

If you have had 3 employers:

- 3 direct supervisors
- A P.Eng for a minimum of 12 months (if not one of the above.

If you have had 1 employer:

- Direct supervisor
- A P.Eng for a minimum of 12 months
- One other (coworker, client…)

If you have had 5 employers:

- 5 direct supervisors
- A P.Eng for a minimum of 12 months

Interviews

Interviews are required only when experience

- Doubtful: *cross discipline, selling/ marketing, patent, teaching, researching, project management, supervision, maintenance and operations, quality related work , Military experience… etc.*
- Unsuitable: *technician, technologist, work that does not require application of engineering principles*

Cross Discipline

PEO's concern: Work experience is not in compliance with educational background.

- Must provide evidence of educational courses or training to bridge the gap between your educational background and the work done.

Quality Assurance and Quality Control

PEO's concern: Inspections/ testing for verification purposes only is a technician's level.

Applicant must demonstrate involvement with the following:

- Process design modifications as a result of findings of non- conformances, including application of engineering analysis or calculations.
- Failure and stress analysis of products/ processes.
- Development of control plans and identification of critical attributes to be controlled during product life cycle.

Sales and Marketing Activities

PEO's concern: Little or no requirement for engineering expertise and/or little opportunity to work independently.

- Must provide specific examples of hands-on involvement and contribution to solving engineering problems including design work and professional advise in the selection of equipment, products or process parameters.
- Must describe engineering thought processes.

PEO's concern: business role that does not requiring engineering training.

- Must provide specific examples of solving engineering technical problems rather than delegating all technical issues.
- Must provide specific examples of design review including engineering analysis and calculations.

Operations and Maintenance

Work experience exclusively in the area of operations and maintenance will frequently fall short of requirements for licensure.

Consideration will be given to the following types of experience:

- Design, development or upgrading product or process specifications, preventative action plans and maintenance programs.
- Engineering analysis of equipment/ process failure.

Licence Requirements

Good Character	Academics	PPE	References	Experience
• Self declaration on application form • Referees' comments	• CEAB accredited degree • ARC review	• Professional Engineers Act • Ethics	• Contact information supplied by applicant • Must cover all work experience	• Experience summary provided by applicant
✓	✓	✓	✓	✓

Questions

For general questions, please contact your **admissions representative.**

Questions

- Please contact the Admission Representatives by the letter of your surname:
- A,B,W-Z: Kafa Hajjar, khajjar@peo.on.ca
- C-G: Nadiya Hassan, nhassan@peo.on.ca
- H-L: Angela Bennett, abennett@peo.on.ca
- M-Q: Tebello Thoahlane, tthoahlane@peo.on.ca
- R-V: Irene Zdan, izdan@peo.on.ca