

Occupational Profile:

Internationally Educated/Trained Engineers in Alberta



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Alberta Network of Immigrant Women Capacity Alberta Project

Capacity Alberta, a project of the Alberta Network of Immigrant Women, represents active and well-qualified professionals willing and able to enhance Alberta's economic and social well-being. ANIW is proud of this project because it's a continuation of the work begun in 1994 in addressing foreign credential recognition. This Occupational Profile of the Engineering profession allows ANIW to assist internationally educated/trained engineers in Alberta to better understand and maneuver through the licensing and accreditation process.

Occupational Profile: Overview of Engineering Profession in Alberta

- The Alberta government produces information on what it believes the province will need in terms of labour and professions in the near future.
- Its publication, Alberta's Occupational Demand and Supply Outlook 2006 - 2016, forecasts a shortage of approximately 5,800 engineers (differing specialties) by the year 2016 based on demand and supply projections.
- The average annual salary for a licensed engineer in Alberta ranges from \$45,000 to \$240,000 per annum based on the area of engineering, education, experience, and the industry sector.
- There are over 300 internationally educated/trained engineers in Alberta who can help fill this shortage.

Engineering Regulatory Bodies in Alberta

- In Canada, regulation and licensing of engineers is done at a provincial level.
- The Association of Professional Engineers, Geologists and Geophysicists of Alberta (APEGGA) is the only regulatory body in Alberta or Canada with the authority to issue engineering licenses in Alberta.
- To obtain a license to practice as an engineer in Alberta, all internationally educated/trained engineers must apply to APEGGA to have all qualifications evaluated.

APEGGA

- Receives its mandate from The Engineering, Geological and Geophysical Professions Act in Alberta legislation.
- Legislation governs the scope of practice (what work engineers do) and the use of the title "professional engineer" (P.Eng.).
- APEGGA is responsible for the professional discipline of its membership.

Engineers Canada

- Canadian Council of Professional Engineers (CCPE) was established in 1936.
- In February of 2007, it began "carrying on its activities under the business name Engineers Canada."
- Coordinates among the provincial and territorial organizations; works to provide a common way of working and licensing of professionals.
- Is not a regulatory body and does not issue engineering licenses

Becoming A Professional Engineer in Alberta

You do not need to be living in Alberta or in Canada in order to begin the application process with APEGGA. You can begin this process before you move to Canada.

Types of Applications to APEGGA:

- Professional Engineer (P.Eng.): Engineers may apply to be a licensed professional engineer if they meet all of the requirements and are permanent residents or Canadian citizens.
- Foreign Licensee: Engineers may apply to be a licensed professional engineer if they meet all of the requirements but are not a permanent resident or Canadian citizen.
- Engineer-in-Training (E.I.T.): Candidates may apply to APEGGA as an Engineer-in-Training (E.I.T.) prior to becoming a full professional if they have completed the academic requirements but are still working towards having the required experience necessary to be licensed as a P.Eng. As an E.I.T., individuals can practice engineering in Alberta as long as they are working under the supervision and control of a licensed Professional Engineer.
- Provisional License: A provisional license is a new designation available to Internationally Educated Graduates (IEGs) who have satisfied all the requirements for licensing as a Professional Engineer (P.Eng.) except the one year equivalent North American engineering experience requirement. Engineers who apply for professional engineer or foreign licensee status and who meet the requirements for provisional license will be notified that this designation is available to them.

The Process of Becoming Licensed in Alberta

To become a licensed Professional Engineer (P.Eng.) by APEGGA, you must satisfy the following requirements:

I. Academic Requirements

- Degrees from countries with mutual recognition agreements:

If you have received an engineering undergraduate degree from the United States, United Kingdom (since 1989), Ireland (since 1989), Australia (since 1989), New Zealand (since 1989), Hong Kong (since 1995), South Africa (since 1999), France and Japan (since 2005) Singapore (since 2006), Taiwan (since 2007) and Korea (since 2007) and if your degree is listed on the list of approved programs from that country you may not need to write confirmatory exams (technical engineering exams); most likely you will still need to write the 'engineering economics' exam. You may need to write exams in 'Engineering Economics,' Engineering in Society – Health, Safety and the Environment and Management Concepts for Engineers.

The Process of Becoming Licensed in Alberta cont...

- Undergraduate degrees from programs not included in mutual recognition agreements but included on the List of Foreign Educational Institutions and Professional Qualifications will initially be assigned three confirmatory exams and possibly exams in 'Engineering Economics,' Engineering in Society – Health, Safety and the Environment and Management Concepts for Engineers. Once this initial assessment is completed, APEGGA will determine if the exams can be waived.
- Undergraduate degrees from programs not included in mutual recognition agreements and not included on the List of Foreign Educational Institutions and Professional Qualifications will initially be assigned five confirmatory examinations and possibly exams in 'Engineering Economics,' Engineering in Society – Health, Safety and the Environment and Management Concepts for Engineers. Once this initial assessment is completed, APEGGA will determine if the exams can be waived.
- If APEGGA's assessment determines that your academic training does not cover the scope of a Canadian undergraduate degree in engineering you may be given a greater number of confirmatory examinations (up to 24).
- Exams are scheduled twice per year, usually in May and in October.
- APEGGA may waive confirmatory exams if:
 - you have an acceptable post-graduate degree, a Masters or PhD, from a Canadian Engineering Accreditation Board (CEAB) or a mutual recognition agreement listed institution.
 - you have at least 10 years of high level engineering experience demonstrating increasing technical competency and levels of responsibility and you provide APEGGA with references with first-hand knowledge of your work experience covering this period of time. If you have been assigned five confirmatory examinations you will need to provide evidence and references for at least 12 years of high level engineering experience in order to waive all exams.

II. Work experience and Work references

- Experience:
At least four years of acceptable engineering experience under the supervision and control of an engineer and you must have at least one year of acceptable equivalent Canadian engineering experience, working under the supervision and control of a licensed P. Eng.
- References:
Required for all your work experience.
A minimum of three references; should be engineers in the country in which you worked and should have first-hand knowledge of the work you were doing; best to have supervisors as references but APEGGA will also accept references from engineering colleagues.
References from your Canadian experience must come from Professional Engineers who have personal knowledge of your work.

III. Be of good character and reputation

- Members are expected to adhere to the Code of Ethics.

IV. National Professional Practice Exam

- All Engineers applying to be licensed in Canada are required to write this exam; individuals require at least two years engineering experience before writing this exam. It is scheduled in January, April, July, and October.

V. English Language Requirement

- An applicant must demonstrate his/her competency in the English language by providing copies of TOEFL scores; or by providing APEGGA with a handwritten letter describing your competency in the English language.

Challenges and Resolutions

<i>Personal Challenges:</i>	<i>Resolutions in Progress:</i>
- The cost of the various applications, study materials, and exams may be burdensome.	- The Immigrant Access Fund was started to assist internationally trained immigrants to gain employment in their areas of expertise. The fund can provide loans up to \$5,000.
- English language requirements.	- Work has been undertaken to develop an English language standard and assessment tool for international engineering graduates (IEGs). A report with recommendations was presented September '07 to determine the language assessment tools needed.

Challenges and Resolutions Cont...

Systemic challenges:	Resolutions in Progress:
- Lack of clarity as to the value of foreign degree – other than those recognized under the mutual recognition agreement.	- Engineers Canada is leading a project, FC2I, that is to develop “an accurate, current database of recognized international degrees and institutions” to be used in the licensing process (it is not yet completed). - In Manitoba there is a one-year pilot program (IEEQ) of university engineering courses and co-op work experience at the University of Manitoba; this is an option only for applicants assigned five or less confirmatory examinations. There is work being done to try and produce a model that can be created to suit any jurisdiction (this is not currently in place). - ACCPA is working to organize a cooperative program between the Colombian School of Engineering - Julio Garavito (ECI) and the University of Calgary. The initial purpose is for student exchanges, but also to provide a basis of acceptance and familiarity between engineering graduates of the two institutions.
- One year minimum Canadian work experience requirement prior to licensure.	- APEGGA offers a provisional licence to IEG applicants when all licensing criteria are met except for one year of Canadian experience.
- Needing to provide contact information for international references, particularly older ones as many of them move.	
- Assessments take place monthly.	
- Assessments may differ even though education and work experience may be the same.	- No one’s academics and education are ever identical. All files are reviewed on an individual basis.
- The overall length of time APEGGA takes to make an assessment may be lengthy.	- APEGGA streamlined its processes and increased the size of the Board of Examiners to handle the increased volume of applications. - The length of time it takes to receive academic documents and completed reference questionnaires also affect the overall time.
- Exams are scheduled only twice per year.	- International engineering graduates are allowed to write the Professional Practice Exam at any time in the licensing process; confirmatory exams are still scheduled only twice per year.
- Lack of clarity around the length of time an appeal will take.	
- Lack of clarity as to what criteria is used to conduct an appeal – is it the same or different from the initial assessment?	- The appeal process is available on the APEGGA website at www.apegga.org .

Capacity Alberta Member Engineering Associations

Association of Colombian Canadian Professionals
of Alberta (ACCPA).
www.accpa.ab.ca

Association of Bangladeshi Engineers of Alberta,
Canada (ABEAC).
<http://abeac.org>

Edmonton Chinese Engineers Society (ECES).
www.eces.cc

Indo-Canadian Engineers Association of Edmonton
(ICE Edmonton).
<http://iceedmonton.ca>



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