

STUDENT CATEGORY OF MEMBERSHIP

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The Engineering and Geoscience Professions Act



The Association of Professional
Engineers and Geoscientists of Alberta

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1 Overview

This paper discusses whether the special student category of membership is still needed given the changes to the legislation in 2009 creating the Profession Licensee (P.L.) and the Professional Technologist (P. Tech.) designations.

2 Executive Summary

The current *Engineering and Geoscience Professions Act (The EGP Act)* provides for two categories of student:

1. Individuals enrolled in a full-time program at a university in Alberta leading to an undergraduate degree in engineering or geoscience
2. Individuals who do not have an undergraduate degree in engineering or geoscience but who have at least two years of post-secondary education relating to engineering or geoscience.

This paper addresses the second category of student (referred to as “special student” for the purposes of this paper).

Individuals with only two years of post-secondary education are eligible to apply to APEGA for registration as a Professional Engineer or Professional Geoscientist (P.Eng. or P.Geo.). However, without degrees in engineering or geoscience, they are typically deficient in a large number of courses and are enrolled as special students. The Board of Examiners (BOE) may assign up to 24 exams for engineering and up to 30 exams for geoscience. These exams are administered internally by APEGA.

This special student category is unique to Alberta. No other province or territory in Canada has this category.

This special student category has existed since 1981, prior to the introduction of the Professional Licensee (P.L.) and Professional Technologist (P.Tech.) designations. The P.L and P.Tech. designations currently allow individuals without undergraduate degrees in engineering or geoscience to obtain a licence to practice a specific scope of engineering or geoscience. Given this alternate pathway to licensure, the special student category is no longer necessary.

Few individuals who are in this special student category of membership complete the examinations. It is resource intensive for the BOE to evaluate the qualifications of these individuals and for APEGA to administer the corresponding examinations. These resources could be better used by increasing our capacity to evaluate the qualifications of foreign-trained individuals with engineering and geoscience degrees.

The special student category should be removed from the legislation.

The P.Tech. designation is available for individuals with at least two years of post-secondary education in areas relating to engineering or geoscience and would include individuals who fall within the current special student category. Please refer to the separate policy paper entitled *Professional Licensee* for a detailed discussion.

3 Existing Legislation

The current legislation has two categories of student membership with APEGA.

The first category is for individuals who are enrolled in a full-time program at a university in Alberta that is recognized by the BOE as leading to an undergraduate degree in engineering or geoscience (Appendix 1).

The second category (special student) is for individuals who have applied to APEGA for registration as a Professional Engineer or Professional Geoscientist but do not have an undergraduate degree in engineering or geoscience, but do have at least two years of post-secondary education in areas that relate to the science or technology of engineering or geoscience (Appendix 2).

The BOE assigns examinations to these individuals to fill the academic deficiencies. Individuals who complete all of the prescribed examinations are deemed to have met the academic requirements for registration as a P.Eng. or P.Geo. (Appendix 1)

4 Research Summary

With the creation of the P.L. and P.Tech. designations in 2009, an alternative pathway exists for individuals with two years of post-secondary education (Appendix 2). APEGA's statistics reveal that very few individuals who enrol as special students and are assigned examinations complete them. In the past five years, only three individuals out of about 1,000 completed their examinations and were registered as a P.Eng. or P.Geo. (Appendix 3).

A review of the comparable legislation across Canada revealed that no other jurisdiction has a similar special student category. Similarly, no other jurisdiction allows individuals with two years of post-secondary education to apply for registration as a Professional Engineer or Professional Geoscientist (Appendix 4).

The review also found that other Alberta professionals (architects, physicians and lawyers) do not allow individuals with two years of post-secondary education to apply for registration as a professional member (Appendix 5).

5 Discussion

Special Student Category

The special student category has existed in the legislation since 1981, before the creation of the P.L. and P.Tech. designations. These designations were created to provide a pathway for non-degree holders to obtain a licence to practise engineering or geoscience.

The special student category compels APEGA to maintain and distribute examinations for individuals who do not have the supporting academic knowledge a degree holder would have. As a result, APEGA is responsible for administering comprehensive technical exams to fill the gap of academic deficiencies. These individuals are typically lacking a large number of courses as compared to holders of undergraduate engineering or geoscience degrees and are assigned a large number of examinations to fill these deficiencies (up to 24 examinations in engineering and up to 30 examinations in geoscience).

It is time- and resource-intensive for the BOE to evaluate the academic qualifications of these special students. In addition, as these individuals do not have undergraduate degrees in engineering or geoscience, it can be difficult to evaluate how their education compares to an undergraduate degree in

engineering or geoscience. It becomes even more complex and difficult when the education is from international polytechnic or educational institutions.

Over the past five years, the BOE has assessed more than 1,000 applicants who were assigned to the special student category. It is estimated that the assessment of these candidates consumed between 2,000 to 3,000 hours of BOE effort. This effort could have instead been directed towards evaluating the qualifications of 2,000 to 3,000 individuals with engineering or geoscience degrees, thereby ultimately improving the efficiency and effectiveness of APEGA's registration processes.

It is neither APEGA's role nor mandate to act as an educational institution, and the outdated legislation requires APEGA to maintain an academic infrastructure capable of filling gaps in academic deficiencies across a large number of subjects for individuals who do not have degrees in engineering or geoscience.

Individuals who wish to be licensed as Professional Engineers or Professional Geoscientists should receive their academic training at a recognized post-secondary institution that offers appropriate lectures, laboratories, projects and related learning methodologies.

6 Recommendation

It is recommended that the special student category be removed as a pathway to licensure.

7 Appendices

Appendix 1 – The Engineering and Geoscience Professions Act, Section 30(9), Regulations Divisions 2 and 5

Appendix 2 – The Engineering and Geoscience Professions Act, Section 10 - Professional Licensee and Professional Technologist, Regulations, Division 2

Appendix 3 – APEGA Student Category Statistics

Appendix 4 – Student Category: Legislative Excerpts from Canadian Professional Engineering and Geoscience Associations

Appendix 5 – Student Category: Legislative Excerpts from Other Professions within Alberta

APPENDICES

STUDENT CATEGORY OF MEMBERSHIP



Appendix 1 – The Engineering and Geoscience Professions Act

Board of Examiners

30 (9) The Board of Examiners may, in its discretion, require an applicant for registration

- (a) to pass one or more examinations set by the Board,
- (b) to obtain more experience of a kind satisfactory to the Board for a period set by the Board, or
- (c) to pass one or more examinations and obtain more experience before it approves the registration.

General Regulations - Division 2 Students

Eligibility

6 A person who meets the following requirements and applies to the Registrar for registration is entitled to be enrolled as a student:

- (a) the applicant is of good character and reputation;
- (b) the applicant
 - (i) is enrolled in a full-time program at a university in Alberta that is recognized by the Board of Examiners as leading to a degree in engineering or geoscience, or
 - (ii) has at least 2 years of post-secondary education acceptable to the Board of Examiners in areas that relate to the science or technology of engineering or geoscience, together with
 - (A) one year of experience in work of an engineering or geoscientific nature acceptable to the Board of Examiners where the post-secondary education consists of an engineering or geoscientific technology program recognized by the Board of Examiners, or
 - (B) 3 years of such work experience, where the post-secondary education consists of education other than such a program.

Division 5 Professional Members

Eligibility

13(1) A person who meets the following requirements and applies to the Registrar for registration is entitled to be registered as a professional member:

- (e) the applicant meets one of the following requirements:
 - (ii) the applicant is enrolled as a student under section 6(b)(ii) and
 - (A) has completed all examinations prescribed by the Board of Examiners, and
 - (B) has obtained at least 8 years of experience in work of an engineering or geoscientific nature that is acceptable to the Board of Examiners, at least one year of which is obtained after completion of the examinations referred to in paragraph (A);

Appendix 2 – The Engineering and Geoscience Professions Act

General Regulations – Part 10

Professional Licensees

Eligibility

77(1) A person who meets the following requirements and applies to the Registrar for registration is entitled to be registered as a professional licensee:

- (a) the applicant is of good character and reputation;
- (b) the applicant has at least 2 years of post-secondary education acceptable to the Board of Examiners in areas that relate to the practice of engineering or geoscience;
- (c) the applicant has a knowledge of the Act and regulations under the Act, and general knowledge related to the practice of engineering or geoscience, which has been demonstrated by passing an examination for those purposes that is prescribed by the Board of Examiners;
- (d) the applicant demonstrates to the Board of Examiners that the applicant has a proficiency in the English language that is sufficient to enable the applicant to responsibly practise the profession of engineering or geoscience;
- (e) the applicant has obtained at least 6 years of experience in work of an engineering or geoscientific nature that is acceptable to the Board of Examiners, at least 2 of which are in the applicant's specific area of professional practice and were completed under the supervision and control of a professional member.

(2) Notwithstanding subsection (1), an applicant is entitled to be registered as a professional licensee if

- (a) the applicant is of good character and reputation, and
- (b) the applicant is registered as a professional licensee or in an equivalent capacity in good standing with a regulated entity in another province that, in the opinion of the Board of Examiners, is equivalent to the Association.

Professional Technologists Regulations – Division 2

Professional Technologists

Eligibility

5(1) A person who meets the following requirements and applies to the ASET Registrar for registration is entitled to be registered as a professional technologist:

- (a) the applicant is of good character and reputation;
- (b) the applicant holds a certificate of registration as a certified engineering technologist with ASET;
- (c) the applicant has a knowledge of the Act and the regulations under the Act, and general knowledge related to the proposed scope of practice of engineering or geoscience, which has been demonstrated by passing an examination for those purposes that is prescribed by the Joint Board of Examiners;
- (d) the applicant demonstrates to the Joint Board of Examiners that the applicant has a proficiency in the English language that is sufficient to enable the applicant to responsibly practice the profession of engineering or geoscience within the prescribed scope of practice;

- (e) the applicant has at least 2 years of post-secondary education acceptable to the Joint Board of Examiners in areas that relate to engineering or geoscience;
 - (f) the applicant has obtained at least 6 years of experience in areas that relate to engineering or geoscience that is acceptable to the Joint Board of Examiners, at least 2 years of which are in the applicant's proposed area and scope of practice and were completed under the supervision and control of a professional member;
 - (g) the applicant meets any other requirements established by the Joint Board of Examiners.
- (2)** Notwithstanding subsection (1), an applicant is entitled to be registered as a professional technologist if the applicant
- (a) is of good character and reputation, and
 - (b) is a professional technologist who, in respect of another province,
 - (i) is eligible to engage in the practice of engineering or geoscience within the scope of practice specified by the Joint Board of Examiners, and
 - (ii) is a member in good standing with a regulated entity in that other province that, in the opinion of the Joint Board of Examiners, is equivalent to ASET.

Appendix 3 – APEGA Student Category Statistics

The below table illustrates that 936 individuals were enrolled as students between July 2009 and October 2014. Of those, 22 students completed one or more exams. Only three students completed all assigned exams in the past five years.

	Number of Applicants	Number of Exams Assessed	Completed One or More Exam(s)	Completed All Exams
	18	5	2	1
	36	6	2	0
	92	7	4	0
	67	8	5	0
	77	9	4	1
	77	10	2	0
	83	11	0	0
	58	12	0	0
	50	13	2	0
	56	14	0	0
	106	15	0	0
	33	16	0	0
	19	17	0	0
	21	18	1	1
	133	19	0	0
	10	20+	0	0
TOTALS	936		22	3
			2%	0.30%

Year	Number of Student Assessments in a Year	Average Number of Exams Assessed	Average Number of Exams Written	Average Number of Exams Passed
2010	173	9.7	1.2	0.8
2011	157	10.9	1.3	1.0
2012	265	10.8	0.7	0.5
2013	249	11.3	0.3	0.2
2014	323	12.5	0.1	0.1

Appendix 4 – Student Category: Legislative Excerpts from Canadian Professional Engineering and Geoscience Associations

Student Category of Membership	Association of Professional Engineers And Geoscientists of Alberta	Association of Professional Engineers and Geoscientists of BC	Association of Professional Engineers and Geoscientists of Saskatchewan	Association of Professional Engineers and Geoscientists of Manitoba	Professional Engineers Ontario
Offers student category of membership	Yes	No	No	Yes	Yes
Conditions for enrollment as a student	<p>Regulations</p> <p>6 A person who meets the following requirements and applies to the Registrar for registration is entitled to be enrolled as a student:</p> <p>(a) the applicant is of good character and reputation;</p> <p>(b) the applicant</p> <p>(i) is enrolled in a full-time program at a university in Alberta that is recognized by the Board of Examiners as leading to a degree in engineering or geoscience, or</p> <p>(ii) has at least 2 years of post-secondary education acceptable to the Board of Examiners in areas that relate to the science or technology of engineering or geoscience, together with</p> <p>(A) one year of experience in work of an engineering or geoscientific nature acceptable to the Board of Examiners where the post-secondary education consists of an engineering or geoscientific technology program recognized by the Board of Examiners, or</p> <p>(B) 3 years of such work experience, where the post-secondary education consists of education other than such a program.</p>			<p>Act</p> <p>1. "student" means a natural person who is registered in an accredited engineering or geoscience program at a Manitoba university, who has been enrolled by the association as a student and whose name is entered on the association's register of students</p>	<p>Regulation</p> <p>32.2 (1) The class of "engineer student" is established as a class of persons whose interests are related to those of the Association. O. Reg. 205/09, s. 2.</p> <p>(2) The Registrar shall accept as a member of the engineer student class any person who registers for membership on-line through the Association's website in the form provided by the Association for the purpose and is enrolled in,</p> <p>(a) the Association's student's program; and</p> <p>(b) an engineering program offered by a Canadian university and accredited to the Council's satisfaction or for which accreditation from the Canadian Engineering Accreditation Board is being sought.</p>

Student Category of Membership	Association of Professional Engineers And Geoscientists of Alberta	Association of Professional Engineers and Geoscientists of BC	Association of Professional Engineers and Geoscientists of Saskatchewan	Association of Professional Engineers and Geoscientists of Manitoba	Professional Engineers Ontario
Board of Examiners assigns exams	<p>Act</p> <p>(9) The Board of Examiners may, in its discretion, require an applicant for registration</p> <p>(a) to pass one or more examinations set by the Board,</p> <p>(b) to obtain more experience of a kind satisfactory to the Board for a period set by the Board, or</p> <p>(c) to pass one or more examinations and obtain more experience before it approves the registration.</p> <p>Regulations</p> <p>13(1) A person who meets the following requirements and applies to the Registrar for registration is entitled to be registered as a professional member:</p> <p>(e) the applicant meets one of the following requirements:</p> <p>(i) the applicant is enrolled as a member-in-training and has obtained at least 4 years of experience in work of an engineering or geoscientific nature that is acceptable to the Board of Examiners;</p> <p>(ii) the applicant is enrolled as a student under section 6(b)(ii) and</p> <p>(A) has completed all examinations prescribed by the Board of Examiners, and</p> <p>(B) has obtained at least 8 years of experience in work of an engineering or geoscientific nature that is acceptable to the Board of Examiners, at least one year of which is obtained after completion of the examinations referred to in paragraph (A);</p>	No	No	No	No

Student Category of Membership	Association of Professional Geoscientists of Ontario	Ordre des Ingénieurs du Québec	Ordre des Géologues du Québec	Professional Engineers and Geoscientists Newfoundland and Labrador	Association of Professional Engineers and Geoscientists of New Brunswick	Engineers Nova Scotia	Geoscientists Nova Scotia	Engineers PEI	Association of Professional Engineers of Yukon	Northwest Territories and Nunavut Association of Professional Engineers and Geoscientists
Offer student category of membership	No	No	No	Yes	No	No	No	No	No	Yes
Conditions for enrollment as a student				2. In this Act (n) "student" means a person registered in a recognized undergraduate degree program in engineering or geoscience.						Bylaws 22. (a) Application to become a student of the Association may be made by any person who: i. has an NWT or Nunavut high school diploma, or in the opinion of the Council, the equivalent, and satisfies Council that he/she is engaged or is about to be engaged in work of some branch of engineering, geology or geophysics, or ii. is registered as a student with the Board of Examiners or at a University in Canada in a program leading to a degree in engineering, geology or geophysics. (b) Council, upon being satisfied as to the good character of the applicant, and as to his/her intention to qualify for registration as a member and in due course to apply therefore, may enrol the applicant as a student. (c) There shall be no admission fees or annual fee for a student. (d) The Executive Director shall keep a record of the names of all students in good standing Roster

Student Category of Membership	Association of Professional Geoscientists of Ontario	Ordre des Ingénieurs du Québec	Ordre des Géologues du Québec	Professional Engineers and Geoscientists Newfoundland and Labrador	Association of Professional Engineers and Geoscientists of New Brunswick	Engineers Nova Scotia	Geoscientists Nova Scotia	Engineers PEI	Association of Professional Engineers of Yukon	Northwest Territories and Nunavut Association of Professional Engineers and Geoscientists
										<p>(e) Council, in its discretion, for conduct considered unbecoming, may strike the name of any student from the record of students of the Association and the person shall no longer be a student member of the Association.</p> <p>(f) No person shall remain a student of the Association for more than eight years, unless he/she is making satisfactory progress towards membership and no person eligible to become a Member-in-Training shall be a student member of the Association.</p>
Board of Examiners assigns exams	No	No	No	No	No	No	No	No	No	No

Appendix 5 – Student Category: Legislative Excerpts from Other Professions within Alberta

The premise of technical exams administered by APEGA is to provide challenge exams for applicants to demonstrate their competence of post-secondary course material for assessed academic deficiencies. The challenge is how to provide a defensible, fair and expedited path for applicants who did not graduate from a CEAB- accredited institution to demonstrate their academic knowledge to obtain their professional licence. Other regulated professions face a similar challenge for their applicants who have not graduated from approved post-secondary institutions. The below table summarizes how other regulated professions in Canada address this issue.

Profession	Nurses	Pharmacists	Dentists	Lawyers	Veterinarians	Physicians	Optometrists	Physiotherapists
Offer technical exam?	No, must take courses or bridging program and substantially equivalent competency assessment to be able to take national entry to practice exam	No, must take courses and, once academically qualified, the national entry to practice exam	No, bridging programs and national entry to practice exam	Potentially yes, but applicants must also pass provincial bar admission course and articling	No, must take courses and, once academically qualified, national entry to practice exam	No, must take courses and, once academically qualified, national entry to practice exam	No, mandatory bridging programs and national entry to practice exam	No, must take courses and, once academically qualified, national entry to practice exam

Of the other regulated professions surveyed, only lawyers seem to offer exams similar to APEGA technical exams to address deficiencies in education. All other regulated professions surveyed require that applicants obtain the necessary educational requirements by taking courses or bridging programs. Most regulated professions have an entry-to-practice examination that all applicants must pass to practice, which is only available for applicants to take once their academic requirements have been fulfilled.