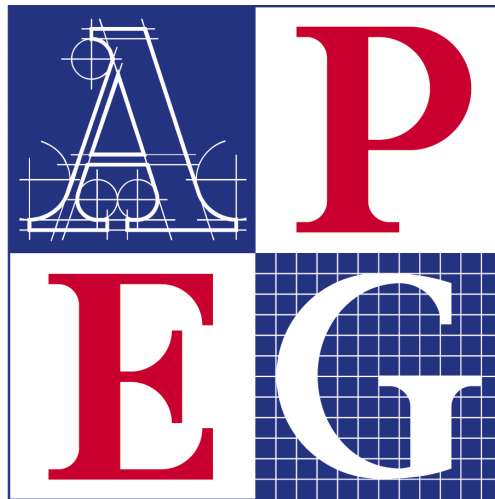


**The Association of Professional Engineers and  
Geoscientists of the Province of British Columbia**

**APPLICATION GUIDE**

**FOR MEMBERSHIP**



Professional Engineers  
and Geoscientists of BC

w w w . a p e g . b c . c a

*Yesterday's Progress.  
Tomorrow's Promise.*

Suite 200 – 4010 Regent Street  
Burnaby, British Columbia  
Canada V5C 6N2

February 2011 #48450



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#### **DISCLAIMER:**

This Application Guide is intended to provide guidance only to individuals applying for membership with APEGBC. The information contained in this Application Guide:

- is of a general nature only;
- is not intended to address the specific circumstances of any particular individual;
- is not intended to provide advice with regard to the application of the *Engineers and Geoscientists Act*, the APEGBC Bylaws or policies;
- is subject to change at any time without notice and therefore not necessarily comprehensive, complete, accurate or up-to-date;
- does not constitute a commitment to extend membership with APEGBC to any individual.

APEGBC accepts no responsibility or liability whatsoever with regard to any of the information contained in this Application Guide. By using this Application Guide, the user acknowledges and agrees with the above disclaimer.



# Part 1: AN INTRODUCTION TO MEMBERSHIP AT APEGBC

## OVERVIEW OF MEMBERSHIP

### ENGINEERING AND GEOSCIENCE IN BRITISH COLUMBIA

Engineering and geoscience are regulated professions in Canada. This means that if you are working as an engineer or as a geoscientist in Canada, you must either:

- be registered as a Professional Engineer or Geoscientist in the province or territory in which you are working; **or**
- work under the direct supervision of someone who is registered as a Professional Engineer or Geoscientist in the province or territory in which you are working.

It is the responsibility of each province and territory to register the professionals offering services in their jurisdiction. In British Columbia, this is done by the “Association of Professional Engineers and Geoscientists of

British Columbia” (APEGBC). Provincial and territorial Associations/Ordre are linked through the Canadian Council of Professional Engineers and the Canadian Council of Professional Geoscientists.

APEGBC was founded in 1920 by the Government of British Columbia to regulate and govern the practice of engineering in the province. In 1990, APEGBC began to regulate the practice of geoscience. The Association strives to set and maintain the highest academic, experience and professional practice standards. These standards help protect public health, safety and welfare.

### BENEFITS OF APEGBC MEMBERSHIP

Membership with APEGBC tells employers in Canada and around the world that they can depend on your proven skills and professionalism. Once registered, you can practice your profession anywhere in British Columbia. Your membership can also simplify your registration process in other Canadian provinces and territories. Through the Canadian Council of Professional Engineers and the Canadian Council of Professional Geoscientists, APEGBC also works with other countries to facilitate your ability to practice internationally. In short,

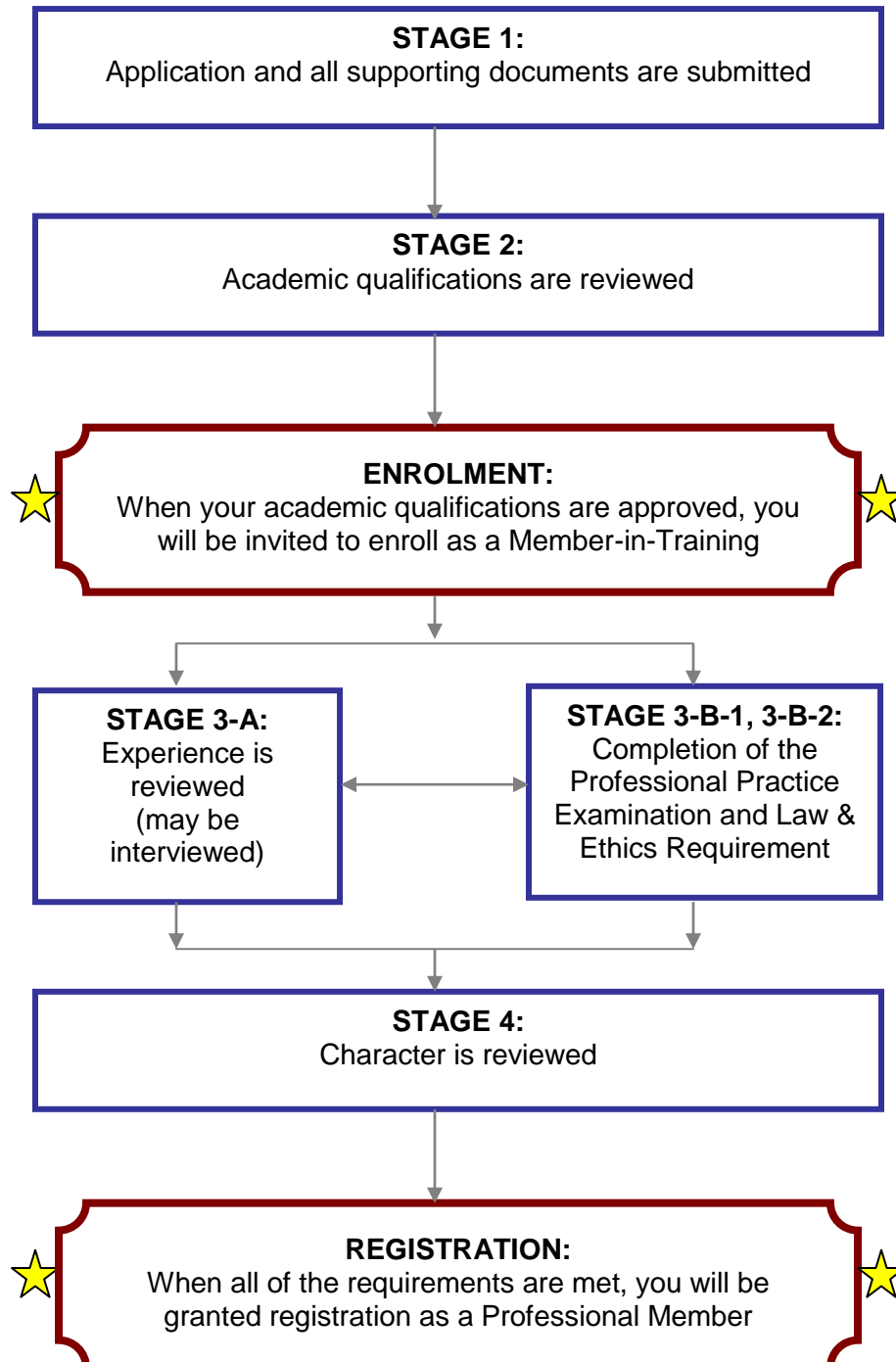
your APEGBC membership can open the door to a world of opportunity.

APEGBC also provides members with a wide variety of member services including access to leading-edge information through professional development events and *Innovation* magazine, opportunities to network and advertise your availability for employment, and discount rates on such products as cell phones, gasoline and insurance plans.

## OVERVIEW OF MEMBERSHIP - Continued...

### THE STAGES OF APPLYING FOR PROFESSIONAL MEMBERSHIP

The stages of the registration process are shown in the diagram below. The registration process is an iterative process: depending on your background, the detailed steps involved in moving through these general stages may vary. APEGBC's Registration Staff will guide you each step of the way.





## TYPES OF MEMBERSHIP

APEGBC offers the following types of membership. Please refer to the appropriate section of this Application Guide for the membership type you wish to apply for. If you are unsure of whether you meet the requirements of a particular membership type, please read [Part 3: The Requirements](#) beginning on page 17 first.

### PROFESSIONAL MEMBER

- meets all academic and experience requirements
- licensed to practice engineering or geoscience at a professional level
- takes professional responsibility for work
- includes:
  - *Professional Engineer (P.Eng.)* – See page 8.
  - *Professional Geoscientist (P.Geo.)* – See page 10.

### NON-RESIDENT LICENSEE

- same qualifications and practice rights as a Professional Member
- does not have Canadian Citizenship or Permanent Resident Status
- does not vote on APEGBC business, nor run for election to Council
- license renewed annually
- includes:
  - *Non-Resident Licensee (Engineering)* – See page 8.
  - *Non-Resident Licensee (Geoscience)* – See page 10.

### MEMBER-IN-TRAINING

- meets academic requirements and is gaining the necessary experience to reach a professional level
- does engineering or geoscience work under the supervision of a P.Eng. / P.Geo.
- can use “engineer” or “geoscientist” in title when being supervised by an appropriate professional
- includes:

- *Engineer-in-Training (EIT)* – See page 9; *Geoscientist-in-Training (GIT)* – See page 11.

### LIMITED LICENSEE

- typically has academic qualifications other than a university engineering degree
- has gained several years of experience in a defined scope of engineering or geoscience work and takes professional responsibility for that work
- includes:
  - *Engineering Licensee/Eng.L.*
  - *Geoscience Licensee/Geo.L.*

Further information on Limited License is not provided in this Application Guide. Please visit the APEGBC website to obtain the [Limited License Application Guide](#).

### MEMBER ADVANTAGE PROGRAM FOR STUDENTS (MAPS)

- undergraduate university student working towards academic and experience requirements

Further information on the Member Advantage Program for Students is not provided in this Application Guide. Please visit the APEGBC [website](#) for further information regarding our student program.

## REINSTATEMENT OF FORMER MEMBERSHIP

Former members of APEGBC wishing to re-activate their membership must apply for resumption of Practice Rights.

Former Members-in-Training applying for Professional Membership are encouraged to reinstate their Member-in-Training status before applying for Professional Membership.

Further information on reinstatement is not provided in this Application Guide. Please visit the APEGBC website to obtain an Application for Resumption of Practice Rights or EIT/GIT Reinstatement. <http://www.apeg.bc.ca/reg/non-practising.html>



## Part 2: THE APPLICATION PROCESS

### STAGE 1: HOW DO I APPLY?

#### CHECKLISTS

##### ENGINEERING CHECKLISTS:

###### **IMPORTANT NOTE ABOUT THE CHECKLISTS**

These are checklists of requirements *only*. For an essential description of each requirement, please see the Important Documents Required for Submission section beginning on page 12.

###### **NOTE TO INTER-ASSOCIATION MOBILITY APPLICANTS:**

Active P.Eng.s or EITs of other Canadian Associations/Ordre can apply through the Inter-Association Mobility Agreement. Please refer to page 9.

#### Professional Engineer (P.Eng.) / Non-Resident Licensee Checklist

***To apply for registration as a Professional Engineer or licensure as a Non-Resident Licensee (Engineering):***

***... You must mail/ email or fax the following to APEGBC:***

- A completed application form
- A certified copy of proof of your Canadian Citizenship (citizenship card, birth certificate or current Canadian passport) or Permanent Resident Status (P.Eng. applicants only; EITs are not required to re-submit this item)
- A certified copy of your birth certificate or current passport (Non-Resident Licensee applicants only)
- An application fee
- Work experience details (EITs using the On-Line Reporting System are not required to submit this item)
- A completed Practice Declaration Form
- Specific discipline requirements (if required for your discipline)
- A Letter of Intent (Non-Resident Licensee applicants only)

***... you must arrange for the following to be sent directly to APEGBC:***

- Transcripts directly from your university / college / institute (EITs are not required to re-submit this item)
- Completed reference forms, directly from your referees

***After your application has been reviewed, APEGBC will ask you to:***

- Apply to write the Professional Practice Exam
- Attend the Law and Ethics Seminar or purchase and view the CD-ROM Set

#### ***Estimated Review Time After All Documents Received***

New applicants: 3-6 months. Active EITs applying for P.Eng.: 3 months.

## STAGE 1: HOW DO I APPLY? - Continued...

### ENGINEERING CHECKLISTS:

#### Engineer-in-Training (EIT) Checklist

##### ***To apply for enrolment as an EIT:***

##### ***You must mail/ email or fax the following to APEGBC:***

- A completed application form
- A certified copy of proof of your Canadian Citizenship (citizenship card, birth certificate or current Canadian passport) or Permanent Resident Status. Non-Residents please submit a copy of your current passport.
- An application fee (this is waived for individuals applying within 12 months of graduation from an acceptable engineering degree program. Please note once enrolled all EIT members are expected to pay the annual membership fee.)
- A completed Practice Declaration Form
- Specific discipline requirements (if required for your discipline)

##### ***You must arrange for the following to be sent directly to APEGBC:***

- Transcripts directly from your university / college / institute

##### ***Estimated Review Time After All Documents Received for EIT Applicants***

Graduates with accredited, Canadian engineering degrees: 5 business days.

Graduates with unaccredited or international engineering degrees: 3-6 months.

#### Inter-Association Mobility Applicants (Engineering) Checklist

##### ***To apply for P.Eng. or EIT through the Inter-Association Mobility Agreement:***

##### ***You must mail/ email or fax the following to APEGBC:***

- A completed application form
- A certified copy of proof of your Canadian Citizenship (citizenship card, birth certificate or current Canadian passport) or Permanent Resident Status
- An application fee
- A completed Practice Declaration Form

##### ***You must arrange for the following to be sent directly to APEGBC:***

- Completed Confirmation Request Form(s) from all of your Associations/Ordre

##### ***Estimated Review Time After All Documents Received for IAMA Applicants***

New applicants: 3 business days



## STAGE 1: HOW DO I APPLY? - Continued...

### GEOSCIENCE CHECKLISTS:

#### **IMPORTANT NOTE ABOUT THE CHECKLISTS**

These are checklists of requirements *only*. For an essential description of each requirement, please see the [Important Documents Required for Submission](#) section beginning on page 13.

#### **NOTE TO INTER-ASSOCIATION MOBILITY APPLICANTS:**

Active P.Geo.s or GITs of other Canadian Associations/Ordre can apply through the Inter-Association Mobility Agreement. Please refer to page 11.

### Professional Geoscientist (P.Geo.) / Non-Resident Licensee Checklist

**To apply for registration as a P.Geo. or licensure as a Non-Resident Licensee (Geoscience):**

**... You must mail/ email or fax the following to APEGBC:**

- A completed application form
- A certified copy of proof of your Canadian Citizenship (citizenship card, birth certificate or current Canadian passport) or Permanent Resident Status (P.Geo. applicants only; GITs are not required to re-submit this item)
- A certified copy of your birth certificate or current passport (Non-Resident Licensee applicants only)
- An application fee
- Work experience details (GITs using the On-Line Reporting System are not required to submit this item)
- A completed Practice Declaration Form
- A completed Self-Assessment Checklist
- Specific discipline requirements (if required for your discipline)
- A Letter of Intent (Non-Resident Licensee Applicants only)

**... you must arrange for the following to be sent directly to APEGBC:**

- Transcripts directly from your university / college / institute (GITs are not required to re-submit this item)
- Course descriptions directly from your university / college / institute (GITs are not required to re-submit this item)
- Completed reference forms, directly from your referees

**After your application has been reviewed, APEGBC will ask you to:**

- Apply to write the Professional Practice Exam
- Attend the Law and Ethics Seminar or purchase and view the CD-ROM Set

#### **Estimated Review Time After All Documents Received**

New applicants: 3-6 months.

Active GITs applying for P.Geo.: 3 months.



## STAGE 1: HOW DO I APPLY? - Continued...

### GEOSCIENCE CHECKLISTS:

**SEE IMPORTANT NOTE ABOUT THE CHECKLISTS: Page 10**

**SEE NOTE TO INTER-ASSOCIATION MOBILITY APPLICANTS: Page 10**

#### Geoscientist-in-Training (GIT) Checklist

##### ***To apply for enrolment as an GIT:***

##### ***... You must mail/ email or fax the following to APEGBC:***

- A completed application form
- A certified copy of proof of your Canadian Citizenship (citizenship card, birth certificate or current Canadian passport) or Permanent Resident Status. Non-Residents please submit a copy of your current passport.
- An application fee (this is waived for individuals applying within 12 months of graduation from an acceptable engineering degree program. Please note once enrolled all GIT members are expected to pay the annual membership fee.)
- A completed Self-Assessment Checklist
- A completed Practice Declaration Form

##### ***You must arrange for the following to be sent directly to APEGBC:***

- Transcripts directly from your university / college / institute
- Course descriptions directly from your university / college / institute

##### ***Estimated Review Time After All Documents Received***

New applicants: 3-6 months.

#### Inter-Association Mobility Applicants (Geoscience) Checklist

##### ***To apply for P.Geo. or GIT through the Inter-Association Mobility Agreement:***

##### ***... You must mail/ email or fax the following to APEGBC:***

- A completed application form
- A certified copy of proof of your Canadian Citizenship (citizenship card, birth certificate or current Canadian passport) or Permanent Resident Status
- An application fee
- A completed Practice Declaration Form

##### ***... you must arrange for the following to be sent directly to APEGBC:***

- Completed Confirmation Request Form(s) from all of your Associations/Ordre. Please note it is your responsibility to ensure the APEGBC Confirmation Form is sent to all your Associations /Ordre.

***Estimated Review Time After All Documents Received:*** New applicants: 1-2 weeks.



## IMPORTANT DOCUMENTS REQUIRED FOR SUBMISSION

### **PLEASE READ THIS SECTION CAREFULLY**

Contained below are detailed descriptions of the items to submit for your application. Your application will be reviewed when APEGBC has received all the documents.

#### **Application Form – Required for all applicants**

You must submit a completed, **signed** application form.

#### **Application Fee – Required for all applicants, except for applicants applying for Engineer- or Geoscientist-in-Training status within 12 months of receiving an acceptable graduate degree in engineering or geoscience**

You must submit an application fee with your application. Please refer to the appropriate Application Fees on page 16.

#### **Proof of Canadian Citizenship or Permanent Resident Status – Required for all applicants except Non-Resident Licensee applicants**

You must provide a certified copy of your Canadian Citizenship (citizenship card, birth certificate or current Canadian passport) or Permanent Resident Status.

To have a copy certified, ask a P.Eng., P.Geo., or Notary Public to make a photocopy of your document and sign and stamp it as a "true copy of the original". Alternatively, you may bring your original document to the APEGBC office and we can make a certified copy for you at no cost.

Please do not send your original citizenship card, birth certificate, current Canadian passport or Permanent Resident Status document to APEGBC.

#### **Birth Certificate or Current Passport – Required for Non-Resident Licensee applicants**

You must provide a certified copy of your birth certificate or current passport. To have a copy certified, ask a P.Eng, P.Geo., or Notary Public to make a photocopy of your document and sign and stamp it as a "true copy of the original". Alternatively, you may bring your original document to the APEGBC office and we can make a certified copy for you at no cost. Please do not send your original birth certificate to APEGBC.

#### **Practice Declaration Form – Required for all applicants**

You must submit a completed Practice Declaration Form.

#### **Transcripts – Required for all applicants, except for Inter-Association Mobility applicants**

A transcript is a document that lists all of the courses that you took and the grades that you received at your university/college/or other academic institute. A transcript also usually states the name of your degree or diploma and the date on which it was granted.

*Transcripts - Continued on Next Page*



## IMPORTANT DOCUMENTS REQUIRED FOR SUBMISSION - Continued...

### **Transcripts - Continued... – Required for all applicants, except for Inter-Association Mobility applicants**

You must ask your academic institute to send your transcripts directly to APEGBC. If your academic institute is not able to send us your transcripts, you must write a letter to APEGBC explaining your situation. The letter should state how you have tried to get the transcripts and request that certified copies of the original transcripts already in your possession be accepted. Most universities in the world will send transcripts or other proof of graduation directly to APEGBC.

If you are an EIT or GIT with APEGBC, APEGBC will already have your undergraduate transcript and you do not need to have it re-sent. However, if you have earned additional degrees since becoming enrolled as an EIT or as a GIT and wish to have them recognized, you must ask your university to send APEGBC these transcripts.

### **Specific Discipline Requirements – Required for some P.Eng. applicants**

If you are applying for registration in Naval Architectural Engineering, Marine Engineering, Computer Engineering, Software Engineering, Structural Engineering, Environmental Engineering, or Integrated Engineering, please see the [website](#) for specific discipline requirements.

### **Work Experience Details – Required for P.Eng., P.Geo., and Non-Resident Licensee applicants, Inter-Association Mobility applicants are not required to submit work details.**

This is a summary of your engineering or geoscience work experience. It should be in typewritten/word-processed format on standard-sized paper (8.5 x 11 inches) and organized for clarity of reading. Your experience must be presented in chronological order and provide the following information for each position/employer:

- dates of engagement, name employer, your position and the name and position of your professional supervisor;
- a description of the work for which you were responsible, including a description of typical project(s) in which you were involved and your role in each project;
- methods, resources, standards and codes upon which you relied to carry out the work;
- supervision you provided (if any);
- other details as applicable that clearly demonstrate to APEGBC's reviewers the nature and level of your engineering or geoscience experience.

Any gaps or overlaps in time periods should be explained. APEGBC will be looking for evidence of a progression of experience and responsibility throughout your career. Publications and any additional training that you have received, such as courses or seminars, should be listed on a separate page.

As a guideline, a typical experience summary will be in the order of ten pages, single-spaced.

Please refer to page 17 for further information on the experience requirements.



## IMPORTANT DOCUMENTS REQUIRED FOR SUBMISSION - Continued...

EITs and GITs who have used the Online Experience Reporting system do not need to submit work experience details in hard copy format.

**Self-Assessment Checklist and Syllabus**– Required for all geoscience applicants not applying under the Inter-Association Mobility Agreement, AND required for engineering applicants who do not have an engineering Bachelor's level degree or who have a non-accredited or international engineering undergraduate degree plus a post-graduate (Masters or Ph.D.) engineering degree

Self-assessment checklists can be obtained from the APEGBC website for [engineering](#) and for [geoscience](#)

Select the self-assessment checklist that matches your discipline. For each course on your transcript, find the APEGBC course that most closely matches your course. Write the name and number of your course in the box next to the APEGBC course.

Graduates of BC geoscience programs should refer to the [Geoscience Course Equivalent List](#) when completing their self-assessment checklist.

### **Course Descriptions** – Required for applicants completing the Self-Assessment Checklist

The Self-Assessment is to be accompanied by course descriptions and course outlines from the institution, or in the words of the applicant, detailing how the course addresses the syllabus topic. These are to be in English, or official translations into English are to be provided. This can be sent to us directly from your university with your official transcripts. Alternatively, you can submit a certified copy of course descriptions already in your possession.

### **References** – Required for P.Eng., P.Geo., and Non-Resident Licensee applicants, except for Inter-Association Mobility applicants

On the application form, you will be asked to nominate a minimum of four referees who have first-hand knowledge of your engineering or geoscience work. Canadian experience must be verified by Canadian professionals; international experience must be verified by international referees.

Combined, your referees should cover as much of your experience as possible. A minimum of four years must be covered. Credit may not be given for experience that cannot be validated by referees.

You must send a blank reference form and a copy of your work experience details to each of your referees. Your referees must send their completed reference form directly to APEGBC by mail, email or by fax.



## IMPORTANT DOCUMENTS REQUIRED FOR SUBMISSION - Continued...

### **Confirmation Request Form – Required for Inter-Association Mobility applicants**

This [form](#) must be filled out by all Associations/Ordre of which you are, or have ever been, a member. Please fill out the top portion of the form and fax or mail it to the appropriate Associations/Ordre. They will complete the form and return it directly to APEGBC.

### **Intent to Practice Letter – Required for Non-Resident Licensee applicants**

You must submit a short letter detailing your intentions to practice engineering or geoscience in BC. Required details include the company you will be working for, your supervisor's contact information, the project(s) you will be involved in, and a summary of your job description.

### **Professional Practice Examination and Law and Ethics Requirement – Required for P.Eng., P.Geo., Non-Resident Licensee and Limited Licensee applicants**

Please remember that you must also complete the Professional Practice Examination and Law & Ethics requirements. Please see page 18 for more information.

## APPLICATION FEES

Please refer to the FEE SCHEDULE for the most recent fees:

<http://www.apeg.bc.ca/reg/fees.html>.

Fees are subject to change without notice.

Listed below are the fees required before gaining your membership.

What	When	Who
<b>Application Fee</b>	Stage 1 – with application form	Most applicants
	Stage 1 – with application form	Inter-Association Mobility applicants
	Stage 1 – with application form	Member-in-Training applicants applying within 12 months after receiving an acceptable graduate degree in engineering or geoscience
	Stage 3 – with application form for professional registration	EIT's and GIT's holding active status with APEGBC and who have never before paid an application fee for EIT/GIT status
<b>Academic Examination Fee</b>	Stage 2 – when applying to write the examinations	Applicants who have been assigned examinations following the academic review
<b>Professional Practice Examination</b>	Stage 3 – when applying to write the examination	Applicants for Professional Member, Non-Resident Licensee and Limited Licensee with completed application for registration or licence and submitted detailed summary of at least 24 mos. of post-bachelors work experience
<b>Professional Practice Examination Study Kit</b>	Stage 3 – when applying to write the examination	Optional: Applicants for Professional Member, Non-Resident Licensee and Limited Licensee
<b>Law &amp; Ethics Requirement</b>	Stage 3 – when registering for the seminar	Applicants for Professional Member, Non-Resident Licensee and Limited Licensee
	Stage 3 – when purchasing the CD-ROM Set	Applicants for Professional Member, Non-Resident Licensee and Limited Licensee

Listed below are the fees required after gaining your membership.

What	When	Who
<b>Licensing Fee</b>	After registration	Newly-registered Professional Members, newly-licensed Non-Resident Licensees and newly-licensed Limited Licensees
<b>Secondary Liability Insurance Fee</b>	After registration	Newly-registered Professional Members, newly-registered Members-in-Training, newly-licensed Non-Resident Licensees and newly-licensed Limited Licensees
<b>Professional Member Annual Fee</b>	Pro-rated, paid after registration	Newly-registered Professional Members
<b>Member-in-Training Annual Fee</b>	Pro-rated, paid after registration	Newly-enrolled Members-in-Training
<b>Non-Resident Licensee Annual Fee</b>	Pro-rated, paid after registration	Newly-licensed Non-Resident Licensees
<b>Limited Licensee Annual Fee</b>	Pro-rated, paid after registration	Newly-licensed Limited Licensees

## Part 3: THE REQUIREMENTS

### STAGE 2: ACADEMIC REQUIREMENTS

APEGBC reviews each application to ensure that the applicant has met APEGBC's academic requirements. For Canadian-trained engineering applicants, this normally means that you have a bachelor's degree in engineering from an accredited Canadian university program.

Because an accreditation system does not exist for Canadian geoscience programs, all geoscience applicants with less than 7 years of experience will have their academic background assessed and compared to the APEGBC geoscience syllabi.

If you do not have an undergraduate degree in engineering from an accredited Canadian university program your academic background will be further assessed. You may be asked to take examinations on a qualifying or confirmatory basis.

If you are assigned examinations, APEGBC will send you a schedule of examination dates, a list of the material to be tested on each examination and an application form to write the examinations. You will obtain the textbooks and study for the examinations on your own.

It may be possible to be granted a reduction in, or exemption from, examinations. The most common causes for reduction or exemption are:

- you have an undergraduate engineering degree recognized by an engineering

accreditation body that has a Mutual Recognition Agreement with APEGBC (EAC of ABET-USA; Engineering Council-UK, IEAust-Australia, IPENZ-New Zealand and IEI-Ireland for graduates since 1989; HKIE-Hong Kong for graduates since 1995; ECSA-South Africa for graduates since 1999; JABEE – Japan for graduates since 2005; IES – Singapore for graduates since 2006; IEET – Chinese Taipei for graduates since 2007; ABEEK – Korea for graduates since 2007; and CTI – France); or

- you have an undergraduate engineering degree and an approved postgraduate engineering degree, in the same discipline as that of your undergraduate engineering degree; or
- you have an undergraduate engineering degree and at least seven years of engineering experience or you have graduated from an ECSA-accredited program (South Africa) prior to 1999. The decision to grant a reduction or an exemption is based on the results of a one-hour interview held at the APEGBC office.

If you are applying for registration in Marine Engineering, Naval Architectural Engineering, Computer Engineering, Software Engineering, Structural Engineering, Environmental Engineering, or Integrated Engineering, please see our website for specific requirements.

### STAGE 3-A: EXPERIENCE REQUIREMENTS

To become registered as a Professional Engineer or Professional Geoscientist or to obtain a Non-Resident License, you must demonstrate that you have a minimum of four years of satisfactory engineering or geoscience work experience. At least one of

these years must be gained in a Canadian Environment. Normally, work experience in a Canadian Environment is gained in Canada, under the supervision of a Canadian Professional Engineer or Professional Geoscientist.



## STAGE 3-A: EXPERIENCE REQUIREMENTS - Continued...

Acceptable engineering work experience must include the application of theory and should provide exposure to, or experience in, the following broad areas: practical experience, management, communication, and the social implications of engineering.

Acceptable geoscience work experience must include the application of knowledge of geoscience principles and practice, and should provide exposure to management, communication and the social implications of geoscience.

Up to a maximum of one year of pre-graduation or co-op experience may be accepted if it is supervised by an appropriate

professional and if it otherwise satisfies all of APEGBC's experience criteria. Applicants with post-graduate degrees may be given credit for engineering or geoscience experience gained as part of their post-graduate studies.

Please refer to [Part 5: Appendices](#) for further details about satisfactory work experience.

If you are applying for registration in Marine Engineering, Naval Architectural Engineering, Computer Engineering, Software Engineering, Structural Engineering, Environmental Engineering, or Integrated Engineering, please see our website for specific requirements.

## STAGE 3-B-1: PROFESSIONAL PRACTICE EXAMINATION

Before being granted registration as a Professional Engineer, Professional Geoscientist, Non-Resident Licensee or Limited Licensee, you must pass the Professional Practice Examination. The Professional Practice Examination is a 3-hour examination consisting of a 2-hour multiple-choice section and a 1-hour essay question. The examination tests your knowledge of Canadian professional practice, law and ethics, as it relates to engineering and geoscience.

The Professional Practice Examination can be attempted after the applicant has submitted a completed application for registration or licence, paid the required application fee and submitted a detailed summary of at least 24 self-assessed months of post-bachelors engineering or geoscience experience. You will be given information on study materials upon request and if and when you are asked to apply for the examination.

You may not have to take the Professional Practice Examination if:

- You have passed a similar examination in another Canadian Association/Ordre; or
- You are currently, and have been for at least five years, a Professional Member registered with another Canadian Association/Ordre.

## STAGE 3-B-2: LAW & ETHICS REQUIREMENT

The Law and Ethics Seminar teaches law, occupational health and safety, and professional practice and ethics for engineers and geoscientists.

All applicants for registration as a Professional Engineer, Professional

Geoscientist, Non-Resident Licensee or Limited Licensee must do **one** of the following:

- Attend the two-day seminar; or
- Purchase and view the CD-ROM Set and submit a declaration that you have done so.

## STAGE 3-B-2: LAW & ETHICS SEMINAR REQUIREMENT - Continued...

APEGBC will provide further information and will ask you to satisfy this requirement after receiving your application for registration.

You do not have to take or view the seminar if:

- You have passed a Professional Practice Examination in another Canadian Association/Ordre and are currently a Professional Member registered with another Canadian Association/Ordre; or
- You are currently, and have been for at least five years, a Professional Member registered with another Canadian Association/Ordre; or
- You have taken a seminar of similar breadth and depth as part of your registration with another Canadian Association/Ordre.

## STAGE 4: CHARACTER REQUIREMENTS

In order to become a Professional Member, Non-Resident Licensee or Limited Licensee of APEGBC, you must be of good character and reputation. Good character connotes moral and ethical strength and includes integrity, candor, honesty and trustworthiness.

All APEGBC members are held accountable to a *Code of Ethics* that governs the way an individual practices his or her profession. APEGBC will review the information provided in your application to ensure that you meet these standards.



## Part 4: SUPPLEMENTARY INFORMATION

### CONTACT REGISTRATION STAFF

<b>Office Hours:</b>	8:30 a.m. to 5:00 p.m., Monday to Friday. The office is closed on public holidays.
<b>Registration Support Desk Hours:</b>	8.30 am to 4.30 pm, Monday to Friday
<b>Office Location:</b>	Suite 200 - 4010 Regent Street Burnaby, BC Canada V5C 6N2 Map: <a href="http://www.apeg.bc.ca/images/localmap.gif">http://www.apeg.bc.ca/images/localmap.gif</a>
<b>Public Transit:</b>	The office is a ten-minute walk from Gilmore SkyTrain Station. Exit the SkyTrain Station and walk south down Gilmore; when Gilmore splits into two, stay to the right; turn right onto Regent Street.
<b>Telephone #:</b>	604-430-8035 ext 4856 or 604-412-4856
<b>Toll-Free #:</b>	1-888-430-8035
<b>Fax #:</b>	604-430-8085
<b>Website:</b>	<a href="http://www.apeg.bc.ca">www.apeg.bc.ca</a>
<b>E-mail:</b>	<a href="mailto:register@apeg.bc.ca">register@apeg.bc.ca</a> .

## Part 5: APPENDICES

### SATISFACTORY ENGINEERING EXPERIENCE GUIDELINES

Work experience is an essential element in determining whether or not an individual is acceptable for professional registration/licensure. The responsibility for providing the proper environment, opportunities, range and progression of activities necessary to meet the work experience requirements rests with the employers of applicants, and the individuals who provide supervision during the internship period. Acceptable engineering work experience must include the application of theory and should provide exposure to, or experience in the following broad areas: practical experience, management, communication, and the social implications of engineering. Assessment of the acceptability of the work experience is based on the extent to which the applicant's experience includes these areas, each of which is outlined in the following sections.

#### **1) Application of Theory**

The skilful application of theory is the hallmark of quality engineering work, and an applicant's experience shall include meaningful participation in one or more of the following:

##### **a) Analysis**

For example: scope and operating conditions, feasibility assessment, safety and environmental issues, technology assessment, and economic assessment, etc.;

##### **b) Design and Synthesis**

For example: functionality or product specification, component selection, integration of components and subsystems into larger systems, reliability and maintenance factors, human and environmental aspects, and the societal implications of the product or process, etc;

##### **c) Testing Methods**

For example: devising testing methodology and techniques, functional specification verification, and new product or technology commissioning and assessment, etc.; and,

##### **d) Implementation Methods**

For example: technology application, engineering cost studies, optimization techniques, process flow and time studies, quality assurance implementation, cost/benefit analysis, safety and environmental issues and recommendations, and maintenance and replacement evaluation, etc.

#### **2) Practical Experience**

Practical experience allows applicants to understand the practical limitations of real systems. Practical experience should include:

**a)** site visits to existing engineering works, with opportunities to see equipment and systems in both operational and maintenance circumstances;



- b) application of equipment as part of the larger system, including, for example, the merits of reliability, the role of computer software, and understanding the end product or engineering work in relationship to the equipment;
- c) opportunities to experience and understand the limitations of practical engineering and related human systems in achieving desired goals, including limitations of production methods, manufacturing tolerances, performance minima, maintenance philosophies, etc. and,
- d) opportunities to experience the significance of time in the engineering process, including workflow, scheduling, equipment wear-out and replacement schedule

### **3) Management of Engineering**

Management of engineering works includes the supervision of staff, project management, general exposure to an engineering business environment, and the management of technology. Engineering management includes:

- a) planning, from conception through to implementation. This includes: needs assessment, concept development, assessment of resources required, and assessment of impacts, including societal and project implementation;
- b) scheduling, from establishing interactions and constraints, developing activity or task schedules, and allocation of resources, through to the assessment of delay impacts and beyond to broader aspects, such as interactions with other projects and the marketplace;
- c) budgeting, including the development of preliminary and detailed budgets, identifying labour, materials and overhead, risk analysis, life-cycle analysis, and tracking;
- d) supervision, including leadership, professional conduct, organization of human resources, team building, and management of technology;
- e) project control, including co-ordination of work phases, tracking and monitoring costs and progress, and implementing changes to reflect actual progress and needs; and,
- f) risk-analysis related to operating equipment and system performance, product performance evaluation, and evaluation of societal and environmental impacts.

### **4) Communication Skills**

Developing and practicing communication skills is an essential experience requirement. This applies to all areas of the work environment including communication with superiors, colleagues, regulators, clients, and the public.

Applicants should have regular and progressive opportunities to participate in:

- a) preparation of written work, including day-to-day correspondence, record-keeping, and report writing;
- b) making oral reports or presentations to colleagues, supervisors, senior management, and an exposure to, or participation in, reports to clients and regulators; and,
- c) making public presentations.

### **5) Social Implications of Engineering**



The overriding objective of the “social implications of engineering” requirement is to provide experiences which increase awareness of an engineer's professional responsibility to guard against conditions dangerous or threatening to life, limb, property, or the environment, and to call any such conditions to the attention of those responsible.

The social implications of engineering are an important aspect of the practice of engineering. The work environment should provide opportunities for applicants to heighten their awareness of the potential consequences of engineering work. This should include:

- a) a recognition of the value and benefits of the engineering work to the public;
- b) an understanding of the safeguards required to protect the public and methods of mitigating adverse impacts;
- c) an understanding of the relationship between the engineering activity and the public;
- d) a demonstrated interest and involvement in the broader social implications of engineering;
- e) an appreciation of the role of regulatory bodies on the practice of engineering; and,
- f) an understanding of the provincial health and safety of the workplace legislation.

## **6) Sustainability**

The Association of Professional Engineers and Geoscientists of British Columbia is committed to integrating sustainability principles and practices into engineering and geoscience professions in the province of B.C.

All applicants, Engineers-in-Training, Geoscientist-in-Training and members are expected to:

- a. Maintain a basic awareness of the principles of sustainability. The Association's web site contains several sources of information on this subject.
- b. Be aware of any specific sustainability clauses that have been added to practice guidelines that apply to their area.
- c. To the extent possible, recognizing their position of influence, consider how sustainability principles could be applied and promoted in their specific work.
- d. Support opportunities to form partnerships with others, such as government and public bodies, educational institutions and other professional associations, to expand the global networks that seek to embed sustainability concepts in society as a whole.

## **7) Sponsorship**

Referees provide confirmation of the candidate's experience. References are required from practicing professional engineers familiar with details of the candidate's work during the internship. Present and past direct supervisors are the most suitable referees. If a candidate claims experience from several positions, extra references may be required.

All candidates are required to nominate four or more Canadian and/or US referees. All should be professional engineers with first-hand knowledge of the candidate's work. At least two of the referees should have directly supervised the candidate and at least one professional engineer familiar with the candidate's work from outside his or her company should be nominated if



possible. If experience outside Canada/United States must be verified, additional referees are required. A separate letter is required to explain if the candidate cannot nominate the required referees. Professional engineers with indirect knowledge of the candidate's work may be nominated if absolutely necessary. Please refer to the reference forms for more information.

## 8) Requirement for Experience in a Canadian Environment

Within the four-year minimum satisfactory engineering work experience requirement, all applicants are required to gain at least one year of satisfactory engineering work experience in a Canadian Environment, under the direct supervision of a Canadian Professional Engineer from the discipline of engineering demonstrated in the experience. Where appropriate, the direct supervision of an engineer licensed by a State Board in the United States will be accepted.

This is to ensure that applicants have demonstrated that they have had experience of a satisfactory depth and breadth; and that they are conversant with the applicable Canadian engineering laws, practices, standards, customs, codes, conditions and climates.

In exceptional circumstances, a candidate with less than one year of satisfactory engineering experience in a Canadian Environment may be deemed, at the discretion of Council, to have satisfied the requirement. Each case will be assessed on its own merits.

All applicants **must** demonstrate that their Canadian Environment experience:

- 1) is supported by the undergraduate and/or postgraduate academic formation of the applicant;
- 2) is supported by a minimum of two Canadian and/or U.S. Professional Engineer referees/references from the discipline of engineering demonstrated in the experience, and who have detailed knowledge of the work of the applicant; or supporting referees/references that is at Council's discretion to accept as equivalent;
- 3) is broad-based and at the level of complexity and responsibility that demonstrates that the applicant is ready to accept the full professional responsibility held by registered professional engineers, and has reached the level of professional maturity needed to judge when he/she is out of his/her area of competence. This includes the application of engineering principles at a satisfactory level.



## SATISFACTORY GEOSCIENCE EXPERIENCE GUIDELINES

Work experience is an essential element in determining whether or not an individual is acceptable for professional registration/licensing. The responsibility for providing the proper environment, opportunities, range and progression of activities necessary to meet the work experience requirements rests with the employers of applicants, and the individuals who provide supervision during the internship period.

The following criteria are designed to provide guidance to candidates, employers and supervisors with respect to the level of experience expected of an applicant applying for professional registration or licensure.

To be accepted, a candidate's experience must include active and responsible participation in several aspects of geoscience:

- i. geoscience training and familiarization.
- ii. technical geoscience experience.
- iii. development of geologic concepts: preparation of reports concerning deposits of rocks, minerals or other naturally-occurring earth materials.
- iv. investigation of physical and chemical characteristics of geological materials, and their formation, interactions and significance in the environments in which they are found
- v. mapping and systematic geoscience evaluation (with specific reference to bedrock, unconsolidated earth materials and or snow, ice, groundwater, surface water and constituents thereof);
- vi. acquisition of sufficient field and other applied knowledge to gain a thorough appreciation of natural variability of geological materials and the constraints imposed by data collection and interpretation; and
- v. identification of geologic hazards and risk to the public and the environment.

Acceptable geoscience work experience must include the application of the knowledge of geoscience principles and practice and should provide exposure to and / or experience in the broad areas of management, communication, and the social implications. Assessment of the acceptability of the work experience is based on the extent to which the applicant's experience includes these areas, each of which is outlined in the following sections.

### **1) Application of the Knowledge of Geoscience Principle and Practice**

The skilful application of geoscience knowledge is essential to earning a professional registration or licensure. Candidates and Geoscientists-in-Training (GIT) must be able to apply the technical training learned through the study of geoscience projects, so that optimal solutions are developed and implemented. It is important that the geoscience experience expose the candidate/GIT to a variety of technical projects that require more than routine analysis for solution. This requires the candidate/GIT to build on his or her geoscience training by seeking out further knowledge. The candidate/GIT is expected to seek further knowledge on a regular



basis to remain current of technological advances in his or her field of specialty throughout the candidate's/GIT's career.

## 2) Management

Candidates/GIT's must be able to document reasonable progression toward increasing management involvement and responsibility over time.

Management covers a wide area of a geoscientist's work, and includes more than just the supervision of staff. In the complex array of responsibilities facing modern managers, it is essential they understand the concepts of project management. Management experience has become an essential part of training.

The following components of management experience should be taken as a representative framework:

- a. Planning:
  - Concept development;
  - Identification of requirements;
  - Assessing the resources required.
- b. Scheduling:
  - Developing activity / task schedules;
  - Determining interactions and constraints;
  - Allocation of resources;
  - Assessing the impact of delays;
  - Interaction with other projects;
  - Interaction with the market place.
- c. Budgeting:
  - Development of conceptual budget;
  - Development of detailed budget, including estimates of labour, material and overhead;
  - Risk assessment of cost escalation potential;
  - Review of budget in light of changes.
- d. Supervision:
  - Leadership and professional conduct;
  - Organization of manpower;
  - Team building;
  - Management of technology.
- e. Project Control:
  - Understanding elements of the project as it relates to the total project;
  - Coordinating the phases of project work;
  - Monitoring of expenditure and schedules and taking appropriate action;
  - Quality control;
  - Data management;
  - Performance measurement.
- f. Risk Assessment:
  - Operating equipment and system performance;
  - Confidence limits on interpretations;
  - Social and environmental impacts.



### 3) Communication Skills

During the training period, candidates should be required to communicate effectively with superiors, co-workers, government regulators, clients and the general public. They should become proficient in the written and oral presentation of geoscience from daily record-keeping to major reports. Applicants should have regular and progressive opportunities to participate in:

- a. preparation of written work, including day-to-day correspondence, record-keeping, and report writing;
- b. making oral reports or presentations to colleagues, supervisors, senior management;
- c. preparation of reports to clients and regulators; and
- d. making public presentations.

### 4) Social Implications of Geoscience

The practice of geoscience has significant impact on the public, through its influence on such factors as the environment, safety, industrial development, finance and education. Candidates should become aware of the geoscientist's role in society and the social impact of projects in which they are involved. They should understand the role of the geoscientist from these points of view-and his or her ability to influence these social components. The objective is also to foster an awareness of the geoscientist's professional responsibility to guard against conditions which threaten life, property or the environment and to call such conditions to the attention of those responsible.

Awareness of social responsibility should include an understanding of the:

- a. safeguards in place to protect the public and mitigate adverse impacts;
- b. quality assurance measures involved with the production of geoscience products;
- c. value of geoscience works to the public;
- d. interface between the geoscience organization and the public when communicating the impacts and benefits of geoscience works;
- e. wider social implications of geoscience, gained through attendance at public meetings, or seminars sponsored by the GIT's organization;
- f. role of regulatory bodies on the practice of geoscience;
- g. provincial health and safety of the workplace legislation; and
- h. importance of the social component in sustainability.

### 5) Sustainability

The Association of Professional Engineers and Geoscientists of British Columbia is committed to integrating sustainability principles and practices into engineering and geoscience professions in the province of B.C. All applicants, Engineers-in-Training, Geoscientist-in-Training and members are expected to:

- a) Maintain a basic awareness of the principles of sustainability. The Association's web site contains several sources of information on this subject.
- b) Be aware of any specific sustainability clauses that have been added to practice guidelines that apply to their area.



c) To the extent possible, recognizing their position of influence, consider how sustainability principles could be applied and promoted in their specific work.

d) Support opportunities to form partnerships with others, such as government and public bodies, educational institutions and other professional associations, to expand the global networks that seek to embed sustainability concepts in society as a whole.

## 6) Sponsorship

Referees provide confirmation of the candidate's experience. References are required from practicing professional geoscientists familiar with details of the candidate's work during the internship. Present and past direct supervisors are the most suitable referees. If a candidate claims experience from several positions, extra references may be required.

All candidates are required to nominate four or more Canadian and/or US referees. All should be professional geoscientists with first-hand knowledge of the candidate's work. At least two of the referees should have directly supervised the candidate and at least one professional geoscientist familiar with the candidate's work from outside his or her company should be nominated if possible. If experience outside Canada/United States must be verified, additional referees are required. A separate letter is required to explain if the candidate cannot nominate the required referees. Professional geoscientists with indirect knowledge of the candidate's work may be nominated if absolutely necessary. Please refer to the reference forms for more information.

## 7) Requirement for Experience in a Canadian Environment

Within the four-year minimum satisfactory geoscience work experience requirement, all applicants are required to gain at least one year of satisfactory geoscience work experience in a Canadian Environment\*, under the direct supervision of a Canadian Professional Geoscientist from the discipline of geoscience demonstrated in the experience. Where appropriate, Council in its discretion may accept as equivalent the direct supervision of other supporting referees/references.

This is to ensure that applicants have demonstrated that they have had experience of a satisfactory depth and breadth; and that they are conversant with the applicable laws, practices, standards, customs, codes, conditions and climates specific to the practice of professional geoscience in Canada.

In exceptional circumstances, a candidate with less than one year of satisfactory geoscience experience in a Canadian Environment may be deemed, at the discretion of Council, to have satisfied the requirement. Each case will be assessed on its own merits.

All applicants **must** demonstrate that their Canadian Environment experience:

- 1) is supported by the undergraduate and/or postgraduate academic formation of the applicant;
- 2) is supported by a minimum of two Canadian Professional Geoscientist referees/references from the discipline of geoscience demonstrated in the experience, and who have detailed knowledge of the work of the applicant; or supporting referees/references that is at Council's discretion to accept as equivalent;
- 3) is broad-based and at the level of complexity and responsibility that demonstrates that the applicant is ready to accept the full professional responsibility held by registered professional geoscientists, and has reached the level of professional maturity needed to judge when he/she



is out of his/her area of competence. This includes the application of geoscientific principles at a satisfactory level, adhering to APEGBC's Satisfactory Geoscience Experience requirement.