Becoming a Professional Engineer

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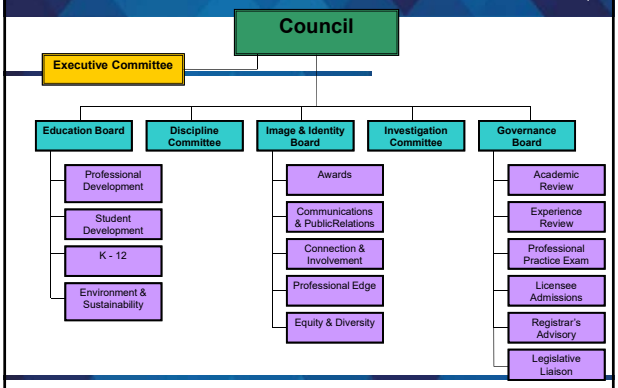
Agenda / Overview

- Who is APEGS ?
- Why is there licensing of engineers ?
- How to become registered
- Q & A

APEGS Organization

- Approximately 14,400 members
  - ~ 9,500 P.Eng.
  - ~ 2,600 Engineer-in-Training
  - ~ 700 P.Geo.
  - ~ 200 Geoscientist-in-Training
  - ~ 150 Eng & Geo Licensees
  - ~ 20 Temporary Licensees
  - ~ 1,200 Life Members
  - ~ 1,300 Certificate of Authorization (corporate)
- Non-profit organization
- Financed by member fees



Why is there licensing of engineers?

- Role of Society
- Self regulation
- Engineering is a profession
- *The Engineering and Geoscience Professions Act* (the Act)

Role of society

- Society has given the professions the privilege and authority of self regulation
- Professionals, are in the best position to determine who can practice

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Self Regulation

- As part of this "social contract", the recognized professions in Canada are self-regulating under provincial / territorial legislation
- Members of the profession regulate themselves by ensuring:
  - only qualified people are licensed
  - all those practicing are licensed

Ensuring public safety

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Engineering Profession

- A profession is a calling requiring specialized knowledge and long academic preparation
- Professions assign their highest obligation to society above all others
- In cases of conflicting responsibilities / interests, public safety, health and welfare is paramount

Ensuring public safety

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The Act

- Objects of APEGS (section 5 paraphrased):
  1. Ensure proficiency and competency of members in order to safeguard the public
  2. Regulate the practice in accordance with the Act and Bylaws
  3. Promote and improve the proficiency and competency of members
  4. Foster the practice… in a manner that is in the public interest

Ensuring public safety

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The Act

Definition of the practice of engineering - section 2(m):

- Any act of planning, designing, composing, measuring, evaluating, inspecting, advising, reporting, directing or supervising, or managing any of the foregoing; that
  - requires the application of eng'g principles
  - concerns the safeguarding of life, health, property, economic interests, the public interest or the environment.

Ensuring public safety

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The Act

Protection of title (Section 26):

- No other person other than a professional engineer shall use the title:
  - Professional Engineer
  - Engineer
  - Consulting Engineer
  - P.Eng.

  …either alone or in combination with any other word, title, designation… to imply that he or she is a professional engineer

Ensuring public safety

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The Act

Protection of title (Section 26):

- Title that engineer-in-training can use:
  - "Engineer-in-Training" written out in full
  - Can be used along with a title containing the title "Engineer" (such as Project Engineer) as long as the Engineer-in-Training title is also included.
  - "EIT" is not a publicly recognized acronym.
- Check proper use of title allowed in other provinces

Ensuring public safety

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The Act

Further protection of title (Section 26):

- No sole proprietorship, partnership, association of persons or corporation shall use the word or phrase:
  - engineer, engineering
  - P.Eng.
  - consulting engineer…

  …either alone or in combination with any other word, title, designation… to imply that the corp., etc or any of its members are professional engineers

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The Act

Authority for scope of practice (Section 27):

- No person who is not a member shall hold himself or herself out as being a member
- No person who is not a licensed professional engineer shall engage in the practice of professional engineering

- This means that even if you are not using the protected titles, you still need to be registered (or supervised by a registered professional) in order to practice engineering.

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The Act

As it pertains to Engineers-in-Training:

- Are full, licensed members with the rights and responsibilities to:
  - Vote for Council
  - Serve on certain Committees
  - Run for Council (member-in-training position)
  - Vote at Annual / Special meetings of the Association
  - Seal engineering work

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The Act

Provides the authority for the creation of Bylaws:

- Regulatory Bylaws
  - Code of Ethics (section 20)
- Administrative Bylaws

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Structure of the Profession

- Engineering is regulated on a provincial / territorial basis
- "Engineers Canada" is the federation of the provincial and territorial engineering Associations
  - Accreditation Board (CEAB)
  - Qualifications Board (CEQB)

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Canadian Mobility

- Agreement on Internal Trade
  - Removes all labour mobility barriers
- Once become a professional engineer in one province, apply directly as such in other provinces

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International Mobility

- Academic level agreements (18 countries):
  - Australia, Canada, Chinese Taipei, France, Hong Kong China, India, Ireland, Japan, Korea, Malaysia, New Zealand, Russia, Singapore, South Africa, Sri Lanka, Turkey, United Kingdom, USA
- Professional level agreements (6 countries):
  - Australia, Canada, Hong Kong, Ireland, Mexico, USA (Texas only)

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Becoming a Professional Engineer

HOW?

- Education
- Experience
- Experience Reporting
- Professional Practice Exam
- References
- Good Character

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Education

- "Bachelor level university program of study in engineering recognized by Council"
- Submit engineer-in-training application (it's not automatic when you graduate)
- Confirmation of graduation
  - Sent directly to APEGS from the university
- Proof of ID
  - form + copy of picture ID signed by Guarantor

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Experience Required

- Pass 34 competencies

  and have
- 4 years of experience

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Competency Assessment

- Create online account **after** you are registered as engineer-in-training
- ***Attend** an experience reporting orientation **after** registered as engineer-in-training to get all details
- To see further detail now, go to:
  - www.apegs.ca
  - Apply, Work Experience Reporting

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Competency Assessment

- Action required when you start doing engineering work:
  - Familiarize yourself with the competencies, the type of info required for each, and the online system
  - Keep track of the details you'll potentially need in order to use experience in a competency example
    - Pre-grad experience examples can be used but it's less likely than your later experience

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Competency Categories

Cat. #	Category name	# of compe-tencies	Min. avg rating
1	Technical competence	10	3
2	Communication	3	3
3	Project and financial management	5	2
4	Team effectiveness	2	3
5	Professional accountability	6	3
6	Social, economic, environmental and sustainability	5	2
7	Personal Continuing Professional Development	3	3

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Competency Assessment - highlights

- Pass each competency once plus pass the Category average
- Minimum 4 validators, at least 2 of which are P.Eng., P.Geo. or equivalent (normally the supervisor)
  - Some may have only the general reference types of questions, not necessarily specific competencies to rate
- Rating scale 0 – 5
  - Rate yourself, validator rates you, Assessor rates you
  - Min. rating required is 1*, plus pass the Category average
    *except the 8 "Canadian environment competencies", required rating is the Category average

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Competency samples

#1.4 – Apply engineering knowledge to design solutions.

#1.5 – Be able to understand solution techniques and independently verify results.

#2.3 – Reading and comprehension.

#3.1 – Awareness of project management principles.

#4.1 – Work respectfully and with other disciplines / people.

#5.4 – Demonstrate awareness of professional accountability.

#6.3 – Understand the role of regulatory bodies on the practice of engineering.

#7.3 – Develop a professional development plan to address gaps in knowledge and maintain currency in field of practice.

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Years of Experience Required

- 4 years of "acceptable" work experience, can include:
- Pre-grad experience* – max 12 mos (only from after half done degree)
  - Acceptable technologist experience* prior to Bachelor's can be included in the 12 mos

  * close professional oversight required
- M.Sc. (thesis-based only) – max 12 mos
- PhD – max 24 mos (but 24 mos max. grad studies)
- Teaching Assistant, Research Assistant, teaching eng'g

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Experience Assessment

- Experience Review Committee meets 9 times per year
- 2 Assessors per submission

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Professional Practice Exam

- All members-in-training eligible at any time
- 3 hour, closed book exam on Canadian law and ethics
- Questions are a combination of True/False, short answer, multiple choice, long answer, one essay
- 65% passing mark
- Two sittings per year – Regina and Saskatoon both times (alternate locations can be arranged)

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Professional Practice Exam

- Law and Ethics Seminar
  - 2 days long, approx. 6 weeks before the exam
  - In Saskatoon mid-April, in Regina late September
  - Excellent seminar which helps prepare you for professional practice

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Professional Application

- Once all requirements are completed, **submit** the professional member application in your APEGS online profile (APEGS Central)
  - References from at least 3 P.Eng. or P.Geo. (professional validators from competency assessment included)
  - One of the references must be from a previous P.Eng. or P.Geo. supervisor

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Professional Development

- All members include members-in-training are required to participate in the Continuing Professional Development (CPD) program
  - Annual reporting of professional development points in online profile ("APEGS Central", separate from experience reporting system)

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Contact

- All registration info under "Apply" on web site
- Presentation: see Public, University Students

Phone: 306-525-9547 or
1-800-500-9547
Website: www.apegs.ca
E-mail: apegs@apegs.ca

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Questions

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