



Canadian Board of Examiners for professional Surveyors
Conseil canadien des examinateurs pour les arpenteurs-géomètres

GUIDE
TO
BECOMING A
PROFESSIONAL
SURVEYOR IN CANADA

Requirements, Standards and Processes

November 2019

FOREWORD

The purpose of this document is to provide complete information on the processes and procedures involved in becoming a licensed professional surveyor in Canada.

The document is divided into three sections as follows:

Section I – The structure of professional cadastral surveying in Canada, the organizations involved, how to apply, and the academic requirements necessary for acceptance.

Section II – The Core and Elective Subjects in the Syllabus.

Section III – Definitions of the terms used in this document and by the professional associations and board of examiners related to the qualification and licensing process.

Section I

GENERAL INFORMATION

Regulation of the Profession of Surveying

Professional cadastral surveying in Canada is regulated by individual statutes in the ten Canadian provinces and by the Canada Lands Surveys Act for Canada Lands. In general, Canada Lands consist of the Northern Territories, Indian Reserves, National Parks and Canada's Offshore areas.

In order to practice cadastral surveying at the professional level in Canada, an individual must be commissioned and/or licensed by the provincial surveying association in the province where one wishes to practice, and in the case of Canada Lands, by the Association of Canada Lands Surveyors (ACLS).

It should be noted that the Quebec association (Ordre des arpenteurs-géomètres du Québec, or OAGQ) has two professional membership categories: the licensed land surveyor and the geomatics professional. The Ontario association (Association of Ontario Land Surveyors, or AOLS) has professional membership for cadastral surveyors as well as for geographic information managers, geodetic, hydrographic, and photogrammetric professionals. The information in this document pertains only to the professional land or cadastral surveyors and not to the other professional disciplines in Quebec and Ontario.

Professional Requirements

Each Association has its own process and criteria for evaluating, examining and licensing candidates. Nevertheless, there are many common elements to the licensing process of each association. All associations require that a candidate have or obtain the equivalent of a university degree in geomatics engineering. Each association also has experience requirements. In the provinces, after having satisfied all, or in some cases most, of the academic requirements, a candidate must work under the supervision of a licensed surveyor for a prescribed period in a process known as "articling". In the case of the ACLS, candidates for licensure must be able to submit an affidavit verifying the completion of experience and practical training under the direct supervision of a licensed professional surveyor. Each association also has professional examinations which must be successfully completed prior to licensing.

Academic Requirements and Evaluation of Individuals

As noted above, in order to be licensed/commissioned by an association, a person must complete academic and other requirements. There are three organizations in Canada that evaluate an individual's academic achievements and advise them of further requirements if any. In the case of the OAGQ and AOLS, academic requirements are evaluated directly by each association. In the case of the other nine associations there

is one board of examiners delegated to administer the evaluations. The bodies responsible for academic evaluations, generally referred to in this document as the Boards of Examiners, are:

- For the province of Quebec, the Ordre des arpenteurs-géomètres du Québec (OAGQ) Board of Examiners.
- For the province of Ontario, the Academic and Experience Requirements Committee (AERC) of the Association of Ontario Land Surveyors (AOLS).
- For the rest of Canada, and the ACLS, the Canadian Board of Examiners for Professional Surveyors (CBEPS). Upon completion of the academic requirements CBEPS will issue a Certificate of Completion of Academic Requirements which candidates will provide to the association in the province in which they intend to practice or to the ACLS.

Following is contact information for the above Boards of Examiners:

- Ordre des arpenteurs-géomètres du Québec
Iberville Quatre,
2954 Boulevard Laurier, bureau 350
Quebec (Quebec) G1V 4T2
Tel: (418) 656-0730, Fax: (418) 656-6352
Web: <http://www.oagq.qc.ca/>
- Association of Ontario Land Surveyors
1043 McNicoll Avenue
Toronto ON M1W 3W6
Tel: 416-491-9020 Toll Free: 1-800-268-0718 Fax: 416-491-2576
Web: <http://www.aols.org/>
- Canadian Board of Examiners for Professional Surveyors
900 Dynes Rd., Suite 100E, Ottawa ON K2C 3L6
Tel: 613-274-7115 Fax: 613-723-5558
Email: registrar@cbeps-cceag.ca
Web: <http://www.cbeps-cceag.ca/>

Each of these organizations defines the specific academic requirements for licensure in their jurisdiction and there are some variations.

As noted above, each of these organizations will also evaluate an individual's academic achievements and advise them of further requirements if any. In the case of CBEPS the evaluation will be related directly to the National Syllabus. In order to have their academic achievements evaluated and individual should contact the Board of Examiners for the jurisdiction where they wish to practice.

Routes to Satisfying the Academic Requirements

The recommended route to satisfy academic requirements is through a university degree program in Geomatics.

- Graduates of the University of New Brunswick in Fredericton NB, and the University of Calgary in Calgary AB, *who have taken the prescribed courses*, can be issued a CBEPS Certificate of Completion and be admitted to ACLS and provincial professional examinations without further testing.
- Graduates of York University's Lassonde School of Engineering Bachelor of Engineering (BEng) in Geomatics Engineering Degree Program shall be exempted from writing all examinations except for subjects C10 - Land Use Planning & Economics of Land Surveying and C12 - Hydrographic Surveying.
- In Quebec, graduates from University of Laval geomatics degree program may be admitted directly to the OAGQ licensing process.

Other routes are available that include combinations of post-secondary education at the university, technical institute or college level, and National Syllabus examinations.

Each of the organizations listed above will evaluate applicants on their individual merits and make recommendations on a route to complete academic requirements in their jurisdiction.

Routes to complete the academic requirements include:

1. Enrol in and complete an accredited university program in Geomatics and apply to become a candidate with the relevant Board. Note: graduation from an accredited program does not guarantee all academic requirements of all jurisdictions have been fulfilled. Check with the relevant Board of Examiners before finalizing courses.
2. Enrol in and complete a technical institution or college level program in Geomatics and apply to become a candidate with the relevant Board. An evaluation by the Board Registrar will indicate which of the items in the Syllabus have to be completed to fulfill the academic requirements. An individual can then complete these items by taking further courses or writing syllabus examinations.
3. Persons having other forms of academic preparation at least equivalent to a 2-year geomatics program at a technical institute or college may apply for an individual evaluation of their academic qualifications and preparedness. Again, the evaluation will indicate which of the items in the Syllabus have to be completed, to fulfill the academic requirements. The number of outstanding syllabus items or subject areas indicated in the evaluation will depend upon the institute attended, the courses taken and in some cases the marks achieved.

Syllabus Examinations

CBEPS administers semi-annual examinations that cover each syllabus item. Syllabus examinations are set to a university academic level and are intended to test for a university equivalent level of knowledge in that subject area.

A significant level of written, graphic and oral communication skills, computer literacy, study skills, and background knowledge of plane surveying, pre-calculus mathematics, statistics, physics, and earth sciences, are required to be successful in the examinations.

The syllabus item descriptions are included in Section II of this document. Learning outcomes, study guides, recommended textbooks and references for each subject are available on the CBEPS website at <http://cbeps-cceag.ca>, as well as specific information about the examinations, such as fees, schedules, locations, and applications.

Support for the examination process is available from CBEPS including access to copies of past examinations, and webinars. Some surveyors associations provide mentoring programs and other networks for student members.

Exemptions and Equivalencies

The term “equivalency” here means that certain courses at specific Canadian technical institutes have been recognized as being equivalent to one or more of the core and elective subjects in the syllabus.

As such, graduates of those geomatics-related programs may be exempted from having to write some of the examinations if they have achieved an acceptable mark in the specified courses. In some cases a candidate can obtain an exemption by taking those courses alone, instead of graduating from the institute’s program.

Currently recognized courses and accredited institutions are listed on the CBEPS website at <http://cbeps-cceag.ca/candidates/exemptions>

Applying for an Exemption

Those who have attended schools where equivalencies have not been established, may be granted exemptions from certain examinations by providing adequate evidence that the courses taken are the equivalent of the particular syllabus item.

A candidate would need to supply course descriptions, reading lists, and any other information regarding the courses that might help the Board make a thorough review of the material.

As with the syllabus examinations, the process of granting exemptions measures the course content and the grade an individual achieved to a university academic level and is intended to indicate a university equivalent level of knowledge in the subject area.

The First Steps for a Professional Surveyor Candidate

An individual considering professional surveying as a career should begin by:

1. Contacting the Board of Examiners in their home jurisdiction to have their current academic achievements evaluated and/or get advice on how the post-secondary program that they are considering will provide the required academic qualifications.
2. Contacting the post secondary institution they are considering and ask about equivalencies granted to courses in its geomatics program, and consult the CBEPS website at <http://cbeps-cceag.ca/candidates/exemptions> to see the exemptions in effect.
3. Contacting the surveyors association in their jurisdiction for information about a student membership and the process of articling and/or experience requirements once the academic requirements are achieved. Also ask about recognized post-secondary institutions in that jurisdiction, career information materials, employment postings, and mentoring or student networking programs.

Applying as a Candidate

Individuals intending on obtaining a Certificate of Completion through CBEPS need to start the process by first becoming a candidate.

1. Download the Candidate Application Form from the CBEPS website, complete it and send it to the Board via mail, fax or email, along with the application fee.
2. Contact your educational institute to have them send a copy of your final transcript to CBEPS for evaluation.
3. Upon completion of the application process, candidates will receive an email from the registrar listing which (if any) exemptions have been granted.

Applying as a Foreign-Trained Professional

Surveyors and other geomatics professionals trained outside of Canada need to refer to the FTLS section of the CBEPS Web site at <http://ftls.cbeps-cceag.ca>.

Section II

SYLLABUS ITEMS

The Syllabus consists of the following subjects. Unless they are exempted from writing a particular subject, candidates must complete all of the core subjects, and any **one of the four** elective subjects.

Core Subjects:

- C1 – Mathematics
- C2 – Least Squares Estimation & Data Analysis
- C3 – Advanced Surveying
- C4 – Coordinate Systems & Map Projections
- C5 – Geospatial Information Systems
- C6 – Geodetic Positioning
- C7 – Remote Sensing & Photogrammetry
- C8 – Cadastral Studies
- C9 – Survey Law
- C10 – Land Use Planning & Economics of Land Development
- C11 – Business Practices & the Profession
- C12 - Hydrography

Elective Subjects

- E1 – Spatial Databases & Land Information Systems
- E2 – Advanced Hydrography (not available yet)
- E3 – Environmental Management
- E4 - Advanced Remote Sensing
- E4 – Advanced Photogrammetry

Information on each of these subjects is available on the CBEPS website, which provides complete Learning Outcomes, Study Guides and copies of the exams from previous years.

Study Guides are intended to provide a resource for individuals preparing to write the CBEPS administered examinations in order to be granted an exemption from the corresponding syllabus item. Learning Outcomes are what a candidate is expected to have learned after successfully completing a syllabus item.

While the Boards of Examiners strive to keep the lists of books and web links current, it can happen that some books may no longer be available and some web links no longer active. Any candidate noting these should bring them to the attention of the organization in which they are registered.

The CBEPS website also provides an Information for Candidates Handbook, which details the procedure to apply for exams, credits, and exemptions.

Section III

TERMS RELATED TO ACADEMIC REQUIREMENTS AND EVALUATION

AERC	Academic and Experience Requirements Committee. A statutory committee of the Association of Ontario Land Surveyors charged with the evaluation of academic and experience requirements of candidates for licensure or registration as Ontario Land Surveyors.
Candidate	A term used by CBEPS referring to a candidate for a certificate of completion . In order to be accepted as a candidate , a certain level of academic achievement must be met. When used in relation to AERC or OAGQ-BE, the term refers more generally to an individual attempting to meet the academic requirements necessary to enter articles.
CBEPS	The Canadian Board of Examiners for Professional Surveyors establishes, assesses and certifies the academic qualifications of individuals who apply to become land surveyors and/or geomatics professionals in all provinces except for Quebec and Ontario, and for Canada Lands. CBEPS also manages the syllabus examinations for the above mentioned jurisdictions as well as the Association of Canada Lands Surveyors (ACLS) professional exams.
Certificate of Completion	This term is used differently by the AERC and CBEPS . The AERC uses the term to describe the completion of articles, which entitles the surveyor in training to write the final professional examinations leading to licensure. The CBEPS uses the term (full term is “certificate of completion of academic requirements for land surveyors”) to describe a candidate who has completed all academic requirements of the Board for licensure.
Equivalency	CBEPS uses this term to describe a course or combination of courses at a post-secondary institution which is deemed equivalent to the content of a specific syllabus item. A minimum mark is generally required. A date or period of time may be specified. (i.e. Course ABC-123 from College X, if completed between 1998 and 2005, with a minimum grade of 60%, is equivalent to Core Subject C1) If a candidate has successfully completed a course that has been granted equivalency , then he or she will be granted an exemption for that syllabus item. Equivalency can be recognized through a candidate requesting an exemption based on specific course or through an institution applying for equivalency for courses in their calendar.
Exemption	CBEPS uses this term to describe and exemption from writing a specific syllabus examination , which is granted to an individual candidate who is deemed to have demonstrated sufficient knowledge in that subject area.

- National Syllabus** A term used by **CBEPS** to describe the list of academic subject areas required for licensure as a land surveyor in their jurisdiction. Presently the syllabus consists of 12 Core Subjects and 4 Elective Subjects.
- OAGQ-BE** Ordre des arpenteurs-géomètres du Québec Board of Examiners. The Board of examiners for the Order responsible for the academic requirements of candidates for licensure to the Order.
- Regional Boards** A term used to describe the four Boards of Examiners which cover land surveying in Canada in the following four jurisdictions: Quebec, Ontario, the rest of Canada i.e. **OAGQ-BE**, **AERC**, and **CBEPS**.
- Responsible Examiners** Members of **CBEPS** responsible for specific **syllabus examinations**. They act as the authority on a subject matter.
- Special Examiner** An individual with specific expertise in a **syllabus** item subject area who sets a **syllabus examination** for that item and acts as a resource person.
- Syllabus Examination** An examination, set by the **CBEPS**, as a means to demonstrate competence in a **Syllabus** Item. The examinations are generally based on the recommended textbooks listed in the **Syllabus**.