

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.

It should be noted that the Quebec Association has two professional membership categories; the licensed land surveyor and the geomatics professional. The Ontario Association 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 Association of Canada Lands Surveyors, 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 four organizations in Canada that evaluate an individual's academic achievements and advise them of further requirements if any. In the case of the Quebec and Ontario Associations, academic requirements are evaluated directly by each Association. In the case of the other nine Associations there are two Boards of Examiners that have been delegated to administer the evaluations. The bodies responsible for academic evaluations, generally referred to in this document as the Boards of Examiners, are:

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- For the Association in the Province of Quebec, the Ordre des arpenteurs-géomètres du Québec (OAGQ) Board of Examiners.
- For the Association in the province of Ontario, the Academic and Experience Requirements Committee (AERC) of the Association of Ontario Land Surveyors (AOLS).
- For the Associations in the Provinces of British Columbia, Alberta, Saskatchewan, Manitoba and the Association of Canada Lands Surveyors (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.
- For the Associations in the Provinces of New Brunswick, Nova Scotia, Prince Edward Island and Newfoundland and Labrador, the Atlantic Provinces Board of Examiners for Land Surveyors (APBELS). Upon completion of the academic requirements APBELS 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.

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/>
Luc St. Pierre, Executive Director
- 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
William D. Buck, Registrar
Web: <http://www.aols.org/aboutus/edu.asp>
- Canadian Board of Examiners for Professional Surveyors
900 Dynes Rd., Suite 100E, Ottawa ON K2C 3L6
Tel: 613-274-7115 Fax: 613-723-5558
J-C Tétreault, Registrar, Email: registrar@cbeps-cceag.ca
Web: <http://www.cbeps-cceag.ca/>
- Atlantic Provinces Board of Examiners for Land Surveyors
c/o Association of New Brunswick Land Surveyors
212 Queen St. Suite 408
Fredericton, NB E3B 1A8
Tel: 506-458-8266 Fax: 506-458-8267
Louise McSheffrey, Executive Director
Web: <http://www.anbls.nb.ca/>

Each of these organizations defines the specific academic requirements for licensure in their jurisdiction and there are some variations. As of April 2007, the CBEPS and APBELS have adopted a Joint Board's Syllabus that describes the subject areas that must be covered in order to satisfy the academic requirements of their member associations. This Joint Board's Syllabus is based on the common core syllabus that adopted in June 2001. This syllabus is outlined in detail in Section III of this document.

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 and APBELS the evaluation will be related directly to the Joint Board's Syllabus. In order to have their academic achievements evaluated and individual should contact the Board 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. In Canada, programs at two universities have been accredited by the Canadian Council of Land Surveyors (CCLS). They are the University of New Brunswick in Fredericton, NB and the University of Calgary in Calgary, AB. Graduates of these programs, *who have taken the prescribed courses*, may be admitted to Association professional examinations without further testing. In Quebec, graduates from University of Laval geomatics degree program may be admitted directly to the Quebec Association's licensing process. In Ontario, Ryerson University geomatics engineering degree program with the cadastral option is the most direct route to completing the academic requirements for a cadastral license in Ontario.

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

Each of the four 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. Graduate from high school, enrol in and complete a recognized or CCLS accredited university program in Geomatics and make application to the relevant body for evaluation of academic achievements. Note: Graduation from an accredited program does not guarantee that all academic requirements of all jurisdictions have been fulfilled. It is very important for a student interested in becoming a professional surveyor to check with the relevant Board of Examiners before finalizing their courses.
2. Graduate from high school, enrol in and complete a technical institution or college level program in Geomatics and make application to the relevant Board of Examiners for evaluation of academic achievements. An evaluation by APBELS or CBEPS will indicate which of the items in Schedules I and II of the Joint Boards' Syllabus have to be completed to fulfill the academic requirements. An evaluation

by the Ontario AERC will indicate which subject areas need to be covered. An individual can then complete these items by taking further courses or writing syllabus examinations. (See below for more information on these options.)

3. Persons having academic preparation other than the above may apply for an individual evaluation of their academic qualifications and preparedness. Again, the evaluation will indicate which of the items in Schedules I and II of the Joint Boards' Syllabus have to be completed, or which subject areas need to be covered, 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. Persons having limited training in Geomatics may find they will have to cover most of the syllabus items which can be an arduous and difficult undertaking. It may be advisable to enrol in a specific geomatics course as described in routes 1 and 2 above.

There are two options for an individual to obtain the academic credit necessary to cover individual syllabus items or subject areas that are indicated as outstanding in their evaluation. One is through a self-study examination process and one is by taking a course and applying for an exemption.

Syllabus Examinations

CBEPS administers bi-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 the subject area outlined for each syllabus item. In order to gain full benefit of the examination process, there is a specific order in which examinations should be attempted, and certain prerequisite knowledge that should be acquired before writing each examination. 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, including recommended textbooks and references, are included in section III of this document. Learning outcomes and study guides are included in section IV.

Through a memorandum of understanding between APBELS, CBEPS and AOLS, the syllabus examinations are recognized by these three organizations. Specific information about the examinations, such as fees, schedules, locations, applications etc, can be found on the CBEPS web site at <http://cbeps-cceag.ca/cms/>.

Support for the examination process is available from CBEPS including access to copies of past examinations and a candidate web forum where peer networking can be accessed. Some surveyors associations provide mentoring programs and other networks for student members.

Exemptions and Equivalencies

Exemptions for specific syllabus items can be granted to an individual who has taken courses for which "equivalencies" have been granted. The term "equivalency" in this document means that a certain specified course or series of courses at certain technical

institutes and colleges in Canada have been recognized by one or more of the Boards of Examiners as being equivalent to one or more of the items in Schedules I and II of the Joint Boards' syllabus. Post secondary institutions offering geomatics courses can apply to have a course or combination of courses recognized as equivalent to a syllabus item. Currently recognized courses are listed in section II of this document.

Also, persons who have attended schools where equivalencies have not been established, may be granted exemptions from writing syllabus items by providing adequate evidence that the course or courses is the equivalent of the particular syllabus item. 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.
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.