



## Survey Law Education: New Content & Delivery for Students

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As land surveyors, we are quick to acknowledge “dirt surveying” as more than just our roots; it lies at the core of cadastral surveying which is enjoyed as our only statutory franchise. This is aligned with the mandate to protect the public interest and is held out as the basic reason for research, evaluation of evidence, and the continued ability to create competency in this area for new candidates for admission to the profession and as Continuing Professional Development for existing members.

In April 2012, the first cycle for delivery of the traditional courses in Survey Law were completed in a new format and context. These are the courses that form part of the core syllabus for licensure by AOLS, but have also been completely redesigned. In this article, I will summarize these changes in content, as well as the new approaches taken in the delivery of the learning experience.

For the past three years, AOLS was a beneficiary of the program administered by Ontario’s Ministry of Citizenship and Immigration called “Pathways”.<sup>1</sup> Along with other professions in Ontario, new immigrants are entering the province with professional licences and degrees from other jurisdictions. In fact, their professional accomplishments elsewhere have been a large part of the reason why new immigrants are welcomed to Canada; but those accomplishments do not automatically translate into admission to the professions. Programs such as Pathways were developed to facilitate the professions in Ontario to develop programs that would allow internationally educated persons to acquire the necessary competencies to gain admission to the provincially established professions. For land surveyors licensed or educated elsewhere, this meant creating a Survey Law program that was designed to be respectful of

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<sup>1</sup> Details about Pathways for land surveyors in Ontario can be found at:  
[http://www.ontarioimmigration.ca/en/working/OI\\_HOW\\_WORK\\_LANDSURVEYOR.html](http://www.ontarioimmigration.ca/en/working/OI_HOW_WORK_LANDSURVEYOR.html)

The following appears at the cited page:

This program helps internationally educated land surveyors get licensed and find employment in their field. The Association of Ontario Land Surveyors has developed many assessment, learning and support systems and is looking to improve upon them through usage. By developing and piloting a new licensing process, this program is helping internationally trained land surveyors get licensed and find employment in their field.

candidates' prior education, accommodated the reality of their full time jobs, family and financial constraints, and all the while ensuring that upon completion, candidates understood the topics of boundary law as they prevailed in Ontario.

Against this backdrop, course development began with the focus on an introductory offering called, "Introduction to Canadian Common Law for Land Surveyors". The notion that Survey Law is just a series of rules or statutes that need to be memorized is completely dispelled during the experience of this course. The application of common law, how it evolves as a dynamic body of principles through the courts, and the importance of the legal process itself are communicated to learners. In addition, participants have a chance to become familiar with web based delivery of course materials, assignments, and guided additional reading. For some, this is in itself a challenge because many were expecting a textbook, a chalk board, and a "top down" hierarchy of teacher to student. Instead, students were encouraged to work in groups and the process of solving problems as a team enhanced individual skills necessary for working on a survey crew or in a multidisciplinary environment. It is important to also bear in mind that many of the learners taking this course who had come to Canada and had acquired experience and skills in surveying elsewhere, were in fact already competent with much of the technology of surveying, data collection, and data presentation. However, the ability to function in a professional environment in Canada was also limited as a result of the challenge of "sector specific" language. Readers might well assume that the vocabulary used in professional land surveying in Ontario, as well as in associated geomatics disciplines is relatively universal and readily understood. Not so. In fact, part of the learning process for many students was the challenge of acquiring an English language competency in the field of surveying.

Despite this fact, about half of the individuals involved in the introductory course were persons who had graduated from a Canadian university and were therefore not challenged by either language or the cultural strangeness of learning in a collaborative environment. The initial "push back" was one of dissatisfaction: "You are the instructor and I am the student, so why don't you just tell us what we need to know?" This captured the difficulty which many have with learning the law as a process, rather than as a "rule book".

In the introductory course, there was also emphasis placed on understanding what was represented in a case report. Now that cases are readily available through [CanLII](#) as an open source portal for case law from all of Canada, the difficulty in managing copyright issues was made easier. Cases were identified that were particularly helpful in gaining insight to what is meant by "jurisdiction" and the differences between judicial review, appeal, and what happens in proceedings before tribunals. Most of this material had very little to do with boundary law *per se*; however, it had everything to do with the evaluation of evidence, the determination of facts, and the application of legal principles to create a defensible opinion about the location of a legal boundary.

Upon completion of the introductory course, learners had a better understanding of the Canadian rule of law and how it was relevant to the professional life of an Ontario Land Surveyor — but also the distance learning, web-based resources of this course. The stage has been set for the learning of boundary law principles to begin in earnest.

The subject of survey law or boundary law as it is divided into two courses is artificial. Together they form the equivalent of two courses, each of which approximates one semester credit in a higher year undergraduate degree program or about 36 hours of “teaching contact time” for each course. At this point, one may well wonder why Survey Law deserves so much time and why boundary topics occupy such a large effort for candidates. Some readers may recall their own experience of being exposed to an inordinate amount of readings and the frustration of being unable to get the kind of straight answer and clarity that came with many math and science problems. Of course, I touch on the different aspects of professional surveying that make it both a science and an art.

The design of the two courses began with a review of the content found in many programs in geomatics engineering and cadastral studies in Canada, as well as other common law jurisdictions. An approach similar to “zero based budgeting” was adopted in which, rather than mimic the syllabus of an existing course, attention was turned to the question of “competencies”.<sup>2</sup> In other words, what are the competencies that are necessary for an Ontario Land Surveyor to have and know before being considered qualified to practice cadastral surveying in Ontario? Not surprisingly, many of the competencies that emerged were ones that were process oriented, rather than just rote learning of a substantive rule. For example, the competency list included the ability to write a survey report, the elements of which were not just an ability to write and an ability to say what was done. This competency meant that a graduate also needed to have the ability to explain how a conclusion was reached and to elaborate on the rationale that aligned itself with principles of boundary law. Accordingly, the elements of the course focussed on instilling an understanding of how courts evaluated evidence and reached a conclusion because the survey report could potentially be part of the evidence available to a judicial decision maker.

Course content that might have existed 20 years ago has also evolved — some to the point of now being obsolete. Other topics that did not appear before are now seen as critical to the education of the cadastral land surveyor in Ontario. For example, the ability to research and understand the presence or legal status of easements has become a complex problem. The electronic land registration system’s block maps do not show minor easements, and legislation has been modified so as to require the registration of a notice of claim in order to preserve certain easement interests. The courts of Ontario have become increasingly creative in validating the legal existence of easements through equity that are enjoyed on the ground, but have

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<sup>2</sup> A competency is a combination of skills, knowledge, and the ability to apply understanding and insight to problem solving.

somehow legally “disappeared”. This is a significant topic and part of content relevant to the practitioner in Ontario today.

Another good example is the understanding that is necessary to operate within Ontario’s land registration system. It has evolved with increasing simplicity for transactions, but the boundary and parcel fabric on the ground has become increasingly complex. With adverse possession not allowed in Land Titles, but grandfathering of prior possessory rights before conversion, the relevance of possession, retracement, and land registration statutes are more prominent than ever before. However, the focus is again placed on learning insight as to how the system operates, which means understanding how we got here and appreciating why it works today as it does and why it is different from other cadastre-based parcel boundary environments. This has led to the inclusion of topics which help learners understand the underlying principles of Ontario’s cadastre and thereby distinguish the relevance of decisions from the courts in other jurisdictions that deal with solutions to boundary problems, but rely on different paradigms.

Of course, the survey law learning experience in Ontario would not be complete without a treatment of the topic of water boundaries. A subject of continuing evolution, the learning experienced in the new platform for teaching uses open source materials, annotated readings, web based videos and assignments in order to establish a competency in the understanding of water boundaries. There have already been a number of requests for availability of the “textbook” used for this particular topic. However, there is no “textbook”; instead, there is a set of readings which are annotated and form a critical component of the larger learning resource. Taken in isolation, the readings would seem rather barren. However, during sessions, discussions, assignments, and self-guided questions, the annotated readings spring to life and play an important part in the overall learning resource. As a stand-alone “textbook”, the readings have limited usefulness, although they may well serve as a stepping stone for a set of reference materials that are easily updated.

In retrospect, the development of these courses was a huge undertaking. However, their development has allowed for the establishment of excellent resources in learning and an assurance of a future teaching capacity that takes lifelong learning as a given and builds on the technology and tools for education that are already familiar to most 20 year olds.

With funding from the Pathways Project, the rebuilding of the Survey Law courses has been completed, but not without further questions and challenges. The competencies that have been identified as a definition of the syllabus or curriculum has begged the question of revisiting or enhancing this catalogue as cadastral surveyors continue to adopt the resources and talents of an expanded profession. For example, with the requirement for integrated surveys and the new opportunities that are beginning to emerge with the AOLS’s Ontario Digital Cadastre Corporation, the competencies for being able to think of boundary information as part of a spatial data infrastructure is no longer a luxury — it begins to emerge as a core competency. Other examples abound.

Other questions arise for the endorsement of competency-based learning by the AOLS in other fields of surveying. Geographic Information Managers (GIMs) are developing their own competency listings. How will a future membership benefit from such a renewed approach? One would hope that Canadian university programs in geomatics will adopt the resources developed and implement competency-based learning as the ultimate touchstone for professional membership. Ironically, our Surveyors Act already holds consequences for members who are or become “incompetent”; there is no consequence if one’s transcript or framed degree is lost in a flood or a fire. This makes sense, but the ground lost in the past by emphasizing course content as might be found in a calendar description or syllabus said nothing about the resulting abilities of a student who has graduated from a program and passed the course. Competency was presumed. These might seem like radical ideas and on occasion appear in the public media as a flashpoint for discussion.<sup>3</sup> The topic seems to quickly polarize the debate between those keen to preserve the status quo and those who recognize that competency-based learning is the way of the future. This leads to the inevitable question — or the metaphorical elephant in the room — which university will actually adopt such an approach?

It may be a surprise to many readers that MIT has started to offer graduate degrees based on a competency learning platform.<sup>4</sup> Web-based, open-sourced, and available to anyone in the world, your surprise may well turn to shock upon discovering that this is possible for free. The AOLS does not have the resources of an MIT, but it does have a public interest in ensuring competence of new members and to maintain that competence as part of a lifelong learning commitment. Encouraging discussions are taking place with York University in exploring the shift to competency-based learning for geomatics professionals. But a note of caution or paranoia seems appropriate too — the AOLS has the memory of a university-based program in surveying being cancelled. Almost 13 years later, it has recovered with excellent programs to be found in Ontario and elsewhere. However, at the risk of it being lost again, a close involvement in course delivery and instructor development seems not only prudent — it is the only way in which future directions for the profession can be aligned with academic programs that ensure relevant skills and competencies which protecting the public interest demands.

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<sup>3</sup> A good example can be found in the editorial column of the Globe & Mail, written by M. Wente, *We’re ripe for a great disruption in higher education*, February 4, 2012, <http://www.theglobeandmail.com/news/opinions/margaret-wente/were-ripe-for-a-great-disruption-in-higher-education/article2325979/>

She wrote,

...the real disruption comes when you stop measuring academic accomplishment in terms of seat time and hours logged, and start measuring it by competency. As all employers know, the average BA doesn’t certify that the degree-holder actually knows anything. It merely certifies that she had the perseverance to pass the required number of courses....

<sup>4</sup> <http://mitx.mit.edu/>