METHODOLOGIES TO BECOME A REGISTERED ARCHITECT IN CANADA

(FINAL SUBMISSION)

COURSE: MANAGEMENT SEQUENCE

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EXECUTIVE SUMMARY

Various opportunities exist for a candidate wishing to pursue a career as a Registered Architect in Canada.

The two basic streams are post-secondary study at an accredited university, or completion of an apprenticeship-type program through the RAIC Syllabus. Both streams offer flexibility related to the pursuit of your studies while providing the basic education necessary to begin the process of registration.

The process of registration itself is consistent regardless of which educational stream one completes. A combination of work experience (three years) and written exams are required to complete the experience part of the process.

Once the education, experience and examination components are complete, the architectural association of the province you reside in will afford you the opportunity to submit your credentials in application for registration. Some associations require completion of an oral examination during the registration process.

The process appears linear however there are opportunities to travel, move between institutions and work in varied circumstances as a person moves along the path towards registration.

TERMS OF REFERENCE

The scope of this report is intended to provide the reader with a clear understanding of the methods available to pursue registration as an Architect in Canada. It is intended that the reader will be able to make an informed decision relative to their pursuit of a career as a Registered Architect, and also the path through which they hope to achieve that goal.

This report is limited to the information publicly available regarding accredited universities. Additional information specific to a faculty of your choice should be sought out prior to making a final decision.

Appended to this report is an informational pamphlet created by the author. This informational pamphlet has been widely distributed through the author's participation at 'Career Seminars' in various Saskatchewan High Schools over the past fifteen years. This pamphlet contains a summary of information relative to the pursuit of a career in architecture, as well as a discussion of possible alternative career paths and technical institution options.

REPORT METHODOLOGY

This report was completed through the process of research and information gathering from a wide variety of sources, including:

- Canadian post-secondary institutions accredited to provide Architectural Studies.

- RAIC Syllabus Program of Studies

- Saskatchewan Association of Architects (SAA)

- Royal Architectural Institute of Canada (RAIC)

- Canadian Architectural Certification Board (CACB)

- National Council of Architectural Registration Boards (NCARB)

- Additional information related to differences between provincial Associations, sourced from various provincial Associations.

The research has been compiled into a format that would follow the process of an individual as they carry out post-secondary studies, working towards an Architectural Degree. This process path is also explained post-graduation regarding required experience and examinations that all graduates must complete.

A brief discussion is contained within this report related to post-registration educational requirements, known as "Mandatory Continuing Education" (MCE) programs. This program is also referred to as "Continuing Edcuation" (Con. Ed.) by several provincial associations. The methodology and education of a practitioner continues after initial registration is achieved, thus this methodology is briefly discussed.
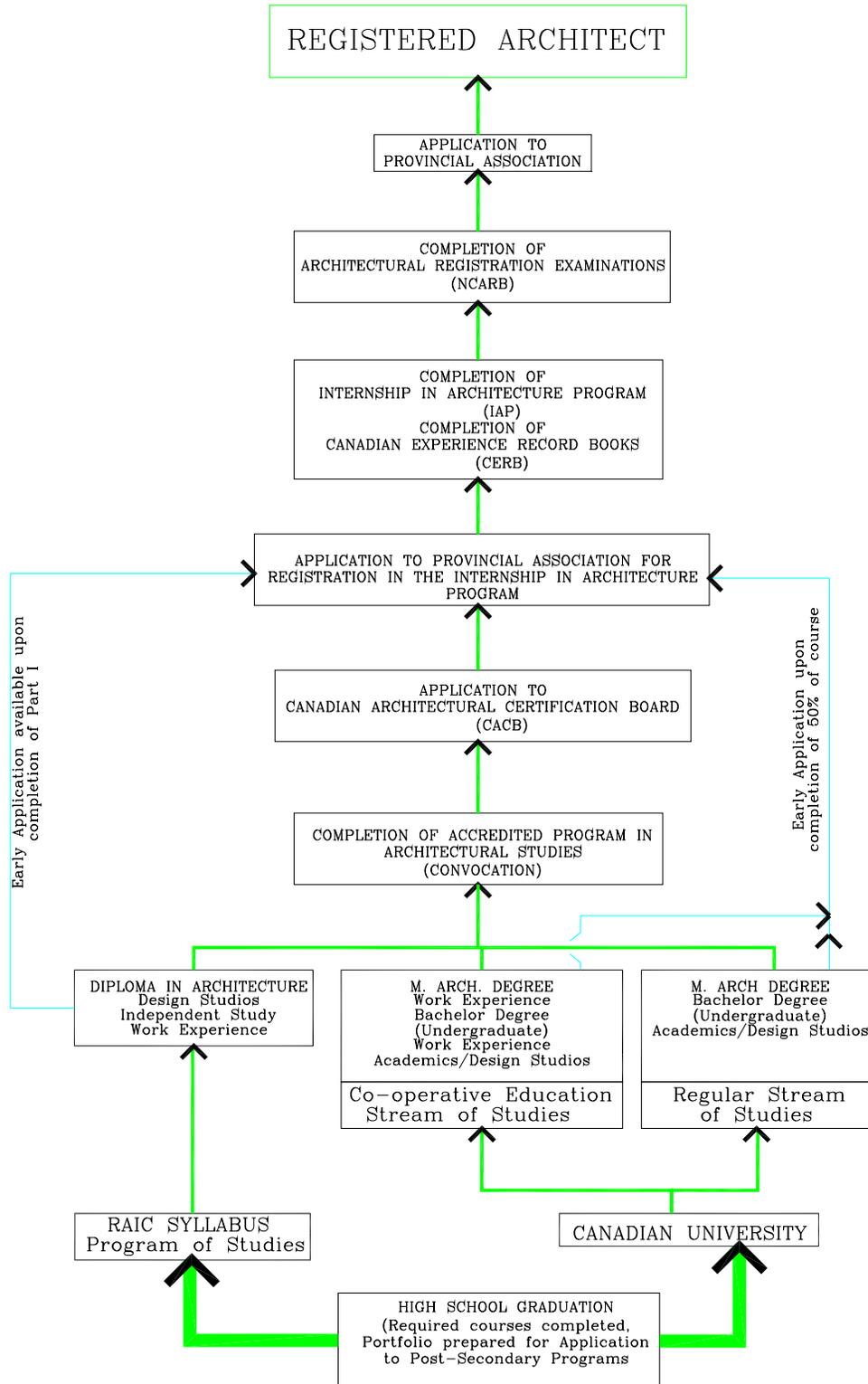
INTRODUCTION

The practice of Architecture involves the art of design combined with the science of construction, situated on a foundation of business sense to operate a practice. A Registered Architect is required to be a multi-disciplined person in order to manage each distinct aspect of the profession to create a thriving practice.

The methodology towards achieving the goal of becoming a Registered Architect in Canada provides the participant with the means to develop their skills in each of the three critical functions – Art (design), Science (construction) and Business (management). It is not enough to be able to vision and sketch, for one must be skilled with the means to create the reality of the vision/sketches. These skills must be repeated with each successive project, thus sustaining an ongoing practice.

The process related to architectural registration is a combination of regulated education and monitored experience. The completion of a post-secondary program is merely one step (albeit a very big step) in the process. As architecture is a practice of skill sets, the experience component of the process provides the candidate with the necessary hands-on duties in order to learn both management and construction skills.

The profession of architectural practice can be an extremely satisfying and rewarding career. It is noted however that participants in the process must be willing to engage their passions and desires in order to extract all that is available to them as they move along the path. This methodology is not always easy to maintain but each participant will receive a level of learning and experience equitable to the effort and passion that they provide. This profession is truly one wherein you get back what you put out.

GRAPHIC REPRESENTATION OF THE PROCESS

REGISTERED ARCHITECT

APPLICATION TO
PROVINCIAL ASSOCIATION

COMPLETION OF
ARCHITECTURAL REGISTRATION EXAMINATIONS
(NCARB)

COMPLETION OF
INTERNSHIP IN ARCHITECTURE PROGRAM
(IAP)
COMPLETION OF
CANADIAN EXPERIENCE RECORD BOOKS
(CERB)

APPLICATION TO PROVINCIAL ASSOCIATION FOR
REGISTRATION IN THE INTERNSHIP IN ARCHITECTURE
PROGRAM

APPLICATION TO
CANADIAN ARCHITECTURAL CERTIFICATION BOARD
(CACB)

COMPLETION OF ACCREDITED PROGRAM IN
ARCHITECTURAL STUDIES
(CONVOCATION)

Early Application available upon
completion of Part I

Early Application upon
completion of 50% of course

DIPLOMA IN ARCHITECTURE
Design Studios
Independent Study
Work Experience

M. ARCH. DEGREE
Work Experience
Bachelor Degree
(Undergraduate)
Work Experience
Academics/Design Studios

Co-operative Education
Stream of Studies

M. ARCH DEGREE
Bachelor Degree
(Undergraduate)
Academics/Design Studios

Regular Stream
of Studies

RAIC SYLLABUS
Program of Studies

CANADIAN UNIVERSITY

HIGH SCHOOL GRADUATION
(Required courses completed,
Portfolio prepared for Application
to Post-Secondary Programs

REPORT TEXT: **BECOMING A REGISTERED ARCHITECT IN CANADA**

The process of becoming a Registered Architect in Canada follows a three-part program (the three E's) –

1.   Education

2.   Experience

3.   Examination

1-A   Education – High School

This process actually begins in High School wherein a student deciding to pursue a career in Architecture should begin to lay the framework for his/her education.

Universities differ on their actual requirements for admission. It is critical that a student confirm the admission requirements with several institutions. It is also recommended that students visit the institutions that interest them, in order to make an informed decision regarding their future. The opportunity to meet with educators and current students of Architecture should be pursued prior to making a final selection for application.

Figure 1: Interior Stairwell, Dalhousie University

Courses recommended for study in High School vary according to the University. Once again, it is important to check with University facilities to gain their recommendations.

As a general rule, a prospective student of Architecture should allow for a wide variety of course studies in High School. The architectural education process is multi-faceted in order to successfully prepare the student for work upon graduation. The variety of High School courses recommended include:

- Arts: English (Grammar), Music & Fine Arts (Drawing, Sculpture), Photography
- Sciences: Chemistry, Physics, Biology, Geometry, Mathematics, Computer Sciences
- Practical: Shop / Construction

It is also a good practice to participate in extra-curricular activities such as Drama, Debate, and Student Councils. These activities will provide the basis for public participation and presentations – skills necessary for client and public interaction during your career.

Application to post-secondary institutions typically occurs in the late winter (January-February) to early spring. It is the responsibility of the applicant to confirm the actual dates and application articles required.

Students applying for admission to Architecture studies will be required to submit a portfolio of works for review, along with their application. This portfolio presents the student's capabilities and interests in several formats, as prescribed by each university. (Be sure to check!) It was noted earlier that registration for university usually coincides with the end of Semester One of Grade 12. Therefore, the student wishing to apply must either start assembling a portfolio in Grade 11 and early Grade 12, or arrange their first semester classes of Grade 12 to provide the necessary articles required. The process of assembling a portfolio takes preparation and careful consideration, so adequate time must be allowed prior to application deadlines.

Once the portfolio is assembled and submitted with an application, the student accepted into an architectural program of studies is ready to embark on a demanding yet thrilling journey.

Figure 2:School of Architecture (Detail), Dalhousie University

1-B   Education – University

The post-secondary educational system offers two methods through which to complete studies in Architecture. This report refers to these two methods as either 'Regular Stream' or 'Co-operative' programs.

Regular Stream Programs

Regular stream programs at universities operate in a "standard" full term, semester-type system. This system is the method common to most studies in Canadian universities.

There are many differences and qualifiers existing between Canadian universities offering regular stream programs.   Some universities require completion of a separate undergraduate degree prior to admission, some require completion of a minimum of two years post-secondary studies and some will admit students direct from high school.   The requirements should be confirmed by the applicant.   The universities in Canada offering regular stream programs include:

- Carleton University (Ottawa)

- McGill University (Montreal)

- University of Manitoba (Winnipeg)

- University of British Columbia (Vancouver)

- University of Toronto (Toronto)

- University of Calgary (Calgary)

Figure 3: School of Architecture, University of Manitoba

The common format of all these institutions is that the student participates in regular semester classes (with limited electives). These academic classes include instruction in:

- History

- Behavioral psychology

- Socio-cultural studies

- Programming

- Building sciences

- Construction

- Regulations

- Safety

- Structures

- Electrical and mechanical services

- Quantity surveying

- Environmental assessment.

The academic classes are combined with Studio projects (Design Studios) which enable the student to develop creativity and self0reliance towards judging and making responsible decisions in design.

The classes lead to completion of an Undergraduate Degree after 3 to 4 years. The classification of this Undergraduate Degree varies from:

- Bachelor of Architectural Studies (Carleton);

- Bachelor of Environmental Design Studies (Manitoba);

- Bachelor of Architecture Studies (Toronto)

The completion of an Undergraduate Degree program allows the student, after review of their portfolio with faculty, to proceed to the Graduate Studies Program at each particular university.

Figure 4: Undergraduate Studios, Dalhousie University

The Graduate Studies programs offer more flexibility for the students to pursue investigation and study of specific architectural theories.   These programs also require completion of a set curriculum of classes, along with the individual studies. Graduate Study programs typically require 1-1/2 to 2 years to complete, depending on the university.

Students enrolled in the Graduate studies portion of their education are often offered the opportunity to travel abroad, completing one semester or course at another institution. This opportunity presents the student with a new perspective on Architectural design related to culture, local and environment. This opportunity can enhance the student's understanding as well as open their eyes to the vast potential of design opportunities available.

Students in the regular stream program are also eligible to register in the Internship in Architecture Program (IAP) upon completion of a minimum 50% of the course load. This opportunity will lessen the future experience requirement in terms of logged hours that the student must achieve post-graduation. The actual registration process and maximum allowable recorded hours falls to the jurisdiction of the provincial regulating body. It is recommended that students pursue this opportunity as it serves to benefit them as they move through the process.

The culmination of a Graduate Degree of studies is the Thesis process. Through this process, the student working with chosen mentors pursues a specific avenue of Architecture studies. These studies may be design-oriented, technical in nature, or theoretical, depending on the student's approved topic. Upon successful defense of the Thesis, a student graduates with a Master's Degree in Architecture (M. Arch.).

Co-operative Programs

The format for Co-operative university programs follows the same process as that described for the regular stream of studies. The component added in for a Co-op program is guided office/architectural experience, occurring as a required component of studies.

A Co-op program offers the student the opportunity to gain work/hands-on experience in a realistic setting, while pursuing their educational studies. Co-op work terms typically span 14 weeks (Work Term I) and 28 weeks (Work Term II), integrated into continuing calendar of studies.

Figure 5: School of Architecture, University of Waterloo

Co-op programs offer the opportunity for students to work abroad, typically during the second work term. This opportunity provides additional learning experiences through visitation, observation and participation of alternate or differing cultures. This experience is often invaluable in the development of architectural knowledge and expression, thus furthering the student's experience and education in much the same way as regular stream students have the opportunity to study abroad during their education process.

The downside to a Co-op program is that student activities (work term or school term) are scheduled on a yearly calendar. This schedule sometimes requires attendance at school during what would normally be considered "the summer months", an activity uncommon and unfamiliar to students accustomed to regular stream programs or High School settings.

Co-op programs offer the same benefit of potential early registration and credit of work experience in the Internship in Architecture Program. Students who have completed the Undergraduate component of their education may register for the Intern Architect Program (IAP), thereby getting necessary work experience logged prior to fully completing the educational process.

There are differences between universities that offer the Co-operative Education program, articles that should be confirmed prior to application by the student. The universities that offer Co-op programs include:

- Carleton University (Ottawa)

- Dalhousie University (Halifax)

- University of Waterloo (Waterloo)

Figure 6: School of Architecture, Carleton University

The final educational component of a Co-op program is the Architecture Thesis, following the same format as described for the regular stream program. Upon successful completion and defense of the Thesis, the student graduates with a Master's Degree in Architecture (M. Arch.).

1-C   Education – RAIC Syllabus Program

The RAIC Syllabus program is known as "the accessible alternate to University". The Syllabus (as it is commonly referred to) is an apprenticeship-format program that combines work experience, educational studies and design studios/examinations in a program of architectural education. This program is open to students directly out of High School, however its duration of 10 to 12 years (average) is often daunting to undertake.

The Syllabus program is self-directed by the student with regard to the duration of their involvement. A set curriculum of courses is divided into three parts:

Part 1 -   Introduction to Architecture

- average duration is 2-1/2 to 3 years

Part 2 -   Skill Development, Knowledge Acquisition, and Understanding

- average duration is 2-1/2 to 3 years

Part 3 -   Synthesis and Application

- average duration is 5 to 6 years

The Syllabus program has work experience as a direct requirement of the educational process. The work experience, under the direct supervision/mentoring of a Registered Architect, is required as follows:

Part 1 -   Introduction to Architecture

- Experience   Recommended, not required

Part 2 -   Skill Development, Knowledge Acquisition, and Understanding

- Experience: 1340 logged hours

Part 3 -   Synthesis and Application

- Experience: 4000 logged hours

A benefit to this part of the program is that the experience gained may form a portion of the required experience of the Intern Architect Program, once approved by the provincial architectural association. The actual amount of recognized experience varies according to the provincial architectural associations.

The Syllabus program operates on a semester system similar to university regular-stream systems, suspending study during January and June of each calendar year.

In this program, the student is responsible to develop time management skills and self-motivation in order to keep their educational process moving along. The program consists of three concurrent components:

1.   <u>Academic Courses</u>: a total of 24 individual courses including Theory, History, Technology, and Management curriculum.   The student is required to pursue self-study, complete assignments, and write exams for each course.
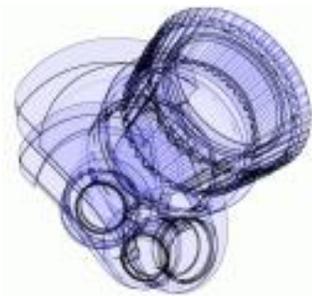

2.   <u>Design Studio Workshops</u>: a total of 8 levels plus a final Thesis. The student works with a Local Studio Coordinator and Volunteer Monitors to complete assigned design studio problems. The level of complexity for the design studios increases as the student progresses through the program.   The final design studio is the Thesis, similar to that completed by students of university programs.

3.   <u>Work Experience</u>: a total of 5,340 logged hours. The work experience combines with the academic and design courses to "round out" the student's education.

Upon completion of the three components noted, and successful defense of the architectural Thesis, the student graduates with a Diploma of Architecture (Dipl. Arch.). This diploma is recognized by the CACB as meeting the requirements of certification, allowing the graduate to register with their provincial association in the Internship in Architecture Program.

Education Summary:

The three options to pursuing an education in Architecture allow a diversity of experience and education, depending on the particular path chosen. The opportunity to travel either for education or work exists in all three programs. Upon completion of any of the three streams of education, the graduate proceeds to the next steps of Certification and Internship.
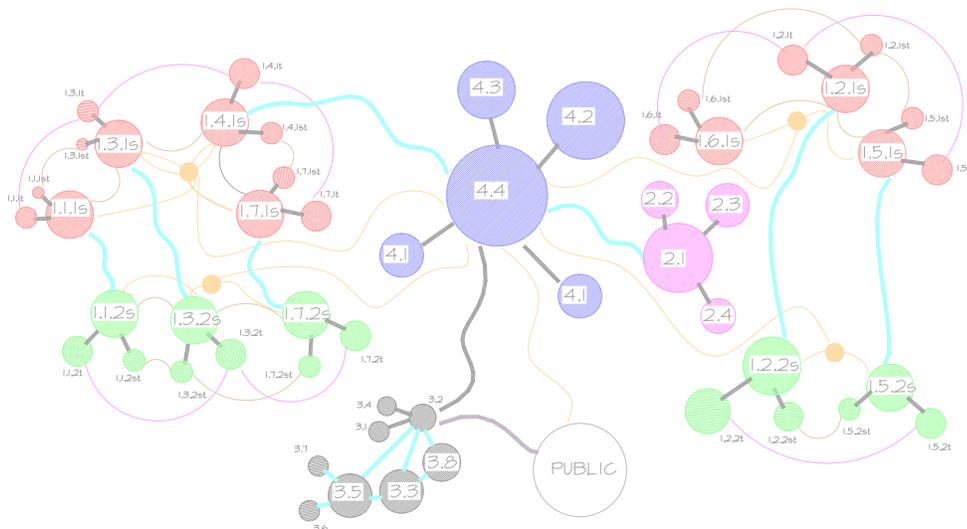
THE CANADIAN ARCHITECTURAL CERTIFICATION BOARD (CACB)

The next step for a graduate architect is to have their academic qualifications certified by the CACB. This certification is completed through application of credentials to the CACB for approval. Graduates of university programs which have been accredited by the CACB will qualify based on their achievements. Graduates of the RAIC Syllabus program are also recognized by the CACB.

Upon approval of their application, the graduate must then apply to their provincial association of Architects to be accepted into the Internship in Architecture Program (IAP).

THE INTERNSHIP IN ARCHITECTURE PROGRAM

The Internship in Architecture Program comprises the experience component required for architects continuing the path to final registration. This program (IAP) provides graduates with the opportunity to further their knowledge and experience within the profession.
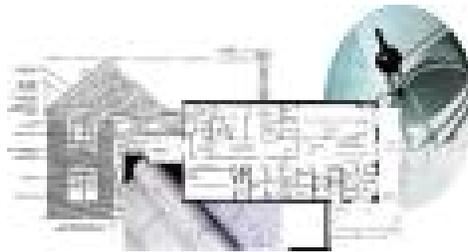
The IAP involves three key persons in completion of the program:

1.   <u>The Intern Architect</u> – responsible to follow the course laid out towards gaining the relevant experience, and completing the logged hours required for the Canadian Experience Record Books (CERB).

2.   <u>The Employer/Principal</u> – an individual directly responsible for the ongoing employment, training and skill development of the Intern. It is recommended that this person be a Registered Architect, however discretionary situations may be approved by the provincial association, allowing other professionals (Engineers, Constructors, Landscape Architects, etc.) to act in this capacity.

3.   <u>The Mentor</u> – a Registered Architect who is separate from the firm employing the Intern. The mentor serves as the Intern's professional advisor during this period, providing advice and constructive criticism, offering direction in experience, assessing experience, and providing insight and knowledge on the requirements of practice as a Registered Architect. This person, along with the Employer, is responsible to sign the declaration forms as a component of the CERB.

The Internship in Architecture Program involves the completion of log books, recording the various duties and experience gained by the Intern. The duration of this program is a minimum of three years. As noted in the Education component of this report, Interns may be granted recognition of all or part of their experience gained while completing their formal education.   This recognition is dependent on the governing rules of each provincial association.

Figure 7: Site Inspections are part of required experience

The Canadian Experience Record Books (CERB) is the log system accepted in Canada for recording the experience of an Intern Architect. A minimum amount of 5,600 logged hours is required in order to complete the books. This amount of time is divided into five categories:

- Category A: Design and Construction Documents

  - 2,800 hours required

- Category B: Construction Administration

  - 560 hours required

- Category C: Management

  - 280 hours required

- Category D: Related Activities (Optional)

  - 80 hours permitted

- Category E: Discretionary Activities

  - 1,880 hours permitted

The CERB records must be regularly documented by the Intern, reviewed and approved by the Employer and Mentor, and subsequently submitted to the respective provincial association for approval and retention. These records must be submitted upon completion of each 900 to 1,000 hours of experience (a period of approximately six months). This process requires Interns to remain diligent in their records, monitoring their own progress and ensuring their submissions are accurate and made in a timely manner.

Figure 8: Example of CERB Formats

It should be noted that Interns are gainfully employed during this period, enhancing their skills and knowledge of the profession as they near completion of the three-year duration.

Continuing education requirements may also be applied to the Interns, depending on the governing regulations of the provincial association. Interns may be required to complete and log their Mandatory Continuing Education (MCE) courses in an approved manner with the provincial association in order to maintain their status in the IAP.

Upon successful completion of the Internship in Architecture program, the Intern has the opportunity to complete the final stage of the educational registration process – the Architect Registration Examinations.

THE ARCHITECT REGISTRATION EXAMINATIONS

The Intern Architect, having completed the required experience as noted by the CERB records, is now eligible to write the Architect Registration Examinations.

The Architect Registration Examinations (ARE) are administered by the National Council of Architectural Registration Board (NCARB). Every provincial association requires an Intern to pass all nine divisions of the examinations in order to be eligible for registration.

The ARE assess the Intern's knowledge, skills, and abilities as required to capably practice in the field of architecture. These examinations focus on testing the Intern on services that affect the public health, safety and welfare; thereby ensuring that a high standard of knowledge and experience has been gained by the Intern during the educational and experience process.

The examinations are comprised of nine divisions:

1.   Pre-Design

2.   General Structures

3.   Lateral Forces

4.   Mechanical & Electrical Systems

5.   Building Design / Materials & Methods

6.   Construction Documents & Services

7.   Site Planning

8.   Building Planning

9.   Building Technology

The examinations are provided in two separate formats – multiple choice for divisions 1 through 6, and graphic design for division 7 through 9.

These examinations thoroughly test the Intern through an allowed cumulative testing time of 32-1/2 hours. It is a difficult stage to complete, however a successful Intern, having completed the education and experience components to the best of their ability, should be able to self-study and successfully complete this last stage.

Upon successful completion of all nine NCARB Architect Registration Examinations, the Intern must apply to their provincial association of Architects to receive their professional designation as a Registered Architect. Some of the provincial associations require completion of an oral examination during the registration process in order to fully ascertain the skills of the individual applying. The process is then complete.

CONTINUING EDUCATION PROGRAM

The Continuing Education Program is an ongoing educational stream required by provincial architectural associations in order to maintain professional status as a Registered Architect. This programs requires Registered Architect to continuously update their knowledge, gain new skills and potentially diversify their sphere of activities.

The program, known as 'Mandatory Continuing Education" or MCE, varies in the level of completion required for each year, depending on the provincial association. In each case, there are minimum mandatory credits required as well as a maximum number of discretionary credits allowed. Credits are cumulative per calendar year, with an allowance for carry-over to the following year.

Registered Architects are required by the provincial bylaws to engage in activities that will provide the necessary credits for each calendar year. Credit activities include attendance or participation in professional or trade seminars, self-directed activities involving research or writing, and discretionary activities of community or associative organizations. Failure to meet the minimum credits required may result in disciplinary action by the provincial association.

The MCE program ensures that Registered Architects regularly engage in activities related to either the profession or community in an ongoing basis. This program enables the profession to remain current within an industry that is constantly changing. The program also provides the Intern Architect, who may be newly registered to practice, with a lifetime of opportunity to continue learning and expanding their knowledge and skill sets.

CONCLUSION

This report illustrates the various methods through which an individual may pursue education leading to registration as an Architect in Canada.

The means and methods, time-frames, and requirements, as well as required effort may vary but the end result remains consistent for all engaging in the process.

It is an exciting opportunity, allowing persons to choose the method that best suits their individual nature. The variance in methodology reflects the variance in the practices of Registered Architects, allowing diversity in education which mimics a diversity and vibrancy in the practice of Architecture in Canada.

RECOMMENDATIONS

The recommendations of this report relate specifically to the Intern Architect component of the methodology.

Diversity in educational streams is promoted and accepted by the provincial associations, relying on the CACB completing due diligence in providing accreditation to the post-secondary programs. The unknown in the process is whether experience gained during the educational component will be recognized by respective provincial associations.

It is recommended that a national standard of acceptance be derived and agreed to by the provincial associations, under the administration of the CACB. This standard would enable students who transfer mid-stream between universities, or Syllabus students relocating to a different province, to know that their experience gained in one province will be unequivocally recognized by the other.

BIBLIOGRAPHY

Carleton University, School of Architecture Website
www.arch.carleton.ca

Dalhousie University, Faculty of Architecture and Planning Website
www.dal.ca/architecture

McGill University, School of Architecture Website
www.mcgill.ca/architecture

National Council of Architectural Registration Boards, Website Information
www.ncarb.org

Royal Architectural Institute of Canada, Website information
www.raic.org

Royal Architectural Institute of Canada Syllabus Program, Website information
www.raic-syllabus.ca

Saskatchewan Association of Architects, Website Information
www.saskarchitects.ca

University of British Columbia, School of Architecture Website
www.architecture.ubc.ca

University of Calgary, Faculty of Environmental Design Website
www.ucalgary.ca/evds/

University of Manitoba, Faculty of Architecture Website
www.umanitoba.ca/faculties/architecture/site/flash.html

University of Toronto, Faculty of Architecture Landscape and Design Website
www.ald.utoronto.ca

University of Waterloo, School of Architecture Website
www.architecture.uwaterloo.ca

APPENDIX:

A STUDENT HAND-OUT