

# CAREER INFORMATION



**Canadian Institute of  
Quantity Surveyors**

**Institut canadien des  
économistes en construction**

Student Guide to Becoming a Qualified Professional Quantity Surveyor (PQS) and Construction Estimator Certified (CEC)



## What's in it for me?

For a recent graduate, finding that first job can be very difficult. For those wishing to change jobs, this means that you will have to send out numerous resumes and will literally have to “pound the pavement”. Joining a professional association like the Canadian Institute of Quantity Surveyors (CIQS) can make this task much easier, it gives you the opportunity to network with your peers as well as potential employers. It is a known fact that most job vacancies are not advertised in the daily media but are actually filled from recommendations from within the company - such recommendations come from your peers. Joining and participating in the CIQS will be your advertisement to your peers and to potential employers.

There are many other benefits; some can be direct and obvious:

- A valuable and recognized Professional Designation (PQS/ECA or CEC/ECC),
- Construction Economist Journal (Conecon),
- Frequent Newsletters,
- Annual General Meeting,
- Local Chapter Meetings and Social Events,
- Discounted purchase of Publications,
- Member rate access to Seminars,
- Inclusion of personal Résumés in our “Members Only” Job Bank,
- Access to employer advertised openings,
- Affinity programs that include car and home insurance discounts,
- Career and Educational Mentoring and Guidance.

Other benefits can be evident but intangible:

- Peer recognition as an educated, skilled and ethical professional,
- Personal networking and problem solving among members who well understand your industry and working environment,
- A written Ethics and Code of Conduct for all members with its associated Disciplinary Procedure,
- Draw advantage from the Institute's ongoing industry promotional activities,
- Compliance with consulting and individual membership requirements now being requested by several client agencies including Federal and Provincial departments,
- Opportunities for personal development through involvement in these promotional activities,
- A qualification that is transferable throughout Canada and to other countries,
- A qualification recognized by other Canadian industry organizations (e.g. Canadian Construction Association Gold Seal Estimator),
- A qualification recognized by many Overseas Institutions including the members of the Pacific Association of Quantity Surveyors,
- Other future Professional Associations, both local and overseas, that will be recognized through reciprocity agreements,
- An ongoing, and challenging Continuing Professional Development program



## **Your first step**

For many students, choosing a career can be overwhelming, confusing, difficult and time-consuming given the wide variety of academic programs offered by the many educational institutions in Canada. The aim of this brochure is to help make that process easier by providing you with adequate information on the Quantity Surveying and Estimating profession.

What is Quantity Surveying and Estimating? The Quantity Surveying and Estimating profession is primarily concerned with the financial management of construction projects. Quantity Surveyors are the leading professionals with the specialist skills and knowledge relating to cost estimating, cost management, construction techniques, procurement processes and contractual matters relating to construction projects.

## **Who we are**

The Canadian Institute of Quantity Surveyors (CIQS) is the national professional body representing the Quantity Surveying and Construction Estimating profession in Canada. There are six (6) regional chapters – British Columbia (representing members in British Columbia and the Yukon), Newfoundland and Labrador, Maritimes (representing members in Nova Scotia, New Brunswick and Prince Edward Island), Ontario (representing members in Ontario and Part of Nunavut), Prairies & Northwest Territories (representing members in Alberta, Saskatchewan, Manitoba, North West Territories & Part of Nunavut), and Quebec.

Certified members of the CIQS are awarded the designations of Professional Quantity Surveyor (PQS)/Économistes en Construction Agréé (ECA) and Construction Estimator Certified (CEC)/Estimateur en Construction Certifié (ECC).

Internationally, the CIQS is a member of the Pacific Association of Quantity Surveyors ([www.paqs.net](http://www.paqs.net)).

Currently the CIQS has memoranda of understanding with:

- The Appraisal Institute of Canada ([www.aicanada.ca](http://www.aicanada.ca)),
- The Canadian Construction Association ([www.cca-acc.com](http://www.cca-acc.com)), and
- The Royal Institution of Chartered Surveyors Americas ([www.ricsamericas.org](http://www.ricsamericas.org)),

Internationally, reciprocity agreements have been signed with:

- The Australian Institute of Quantity Surveyors ([www.aiqs.com.au](http://www.aiqs.com.au))
- The Hong Kong Institute of Surveyors ([www.hkis.org.hk](http://www.hkis.org.hk))
- The Building Surveyors Institute of Japan ([www.bsij.or.jp](http://www.bsij.or.jp))
- Royal Institution of Surveyors Malaysia ([www.rism.org.my](http://www.rism.org.my))
- The New Zealand Institute of Quantity Surveyors ([www.nziqs.co.nz](http://www.nziqs.co.nz))
- The Singapore Institute of Surveyors and valuers ([www.sisv.org.sg](http://www.sisv.org.sg))
- The Association of South African Quantity surveyors ([www.asaqs.co.za](http://www.asaqs.co.za))
- The Jamaican Institute of Quantity Surveyors ([www.jiqs.com](http://www.jiqs.com))
- The Nigerian Institute of Quantity Surveyors ([www.nigs.org.ng](http://www.nigs.org.ng))

Through these signed memoranda and reciprocity agreements, qualified members of the CIQS are recognized (with some restrictions) by the other Institutions and vice versa. The CIQS also signed the PAQS Accreditation Scheme in August 2009. All accredited universities & colleges by PAQS are recognized as equivalent academic qualification by all member national associations that sign the PAQS Accreditation Scheme.



## **Our work**

The duties of a Professional Quantity Surveyor (PQS) / Économistes en Construction Agréé (ECA) include, but are not limited to the following:

- preparing and pricing quantity take-offs including analytic estimating for various types and forms of construction;
- preparing bills of quantities;
- identifying, prequalifying, evaluating, analyzing and selecting contractors and other supplied services and products;
- reviewing relevant project documentation, tender and contract documents;
- preparing tender/proposal evaluation criteria;
- preparing, pricing and submitting tenders/proposals;
- reviewing, evaluating, analyzing, negotiating and recommending for award tender/proposal submissions;
- developing, preparing, pricing and negotiating changes/claims;
- managing, administering and coordinating construction projects/contracts;
- assisting and supporting negotiation with construction project stakeholders;
- assessing applications for payment and verifying and supporting the process of payment certification;
- reviewing construction progress schedules;
- preparing, forecasting and reporting construction costs;
- preparing cash flows;
- preparing and maintaining unit price reference databases;
- preparing economic feasibility studies from information provided by construction stakeholders;
- preparing life cycle cost analysis and development proformas for construction stakeholders;
- identifying, evaluating, analyzing and managing risk;
- preparing and reviewing reserve fund study cost analysis;
- preparing and reviewing replacement and loss cost analysis;
- providing advice on construction cost control and planning to construction stakeholders;
- preparing tender packages consisting of bills of quantities, specifications, scopes of work and relevant project documentation;
- preparing and monitoring construction progress schedules;
- establishing and implementing the cost control process;
- providing project monitoring services and loan monitoring services;
- providing independent certification services and payment certification services;
- providing earned value analysis;
- evaluating changes and finalizing contract amount at close-out;
- collaborating in value management strategies;
- supporting the process of the resolution of contract disputes; and
- providing expert assessments, reports and testimony;

The duties of a Construction Estimator Certified (CEC)/Estimateur en Construction Certifié (ECC) include, but are not limited to the following:

- preparing and pricing quantity take-offs including analytic estimating for various types and forms of construction;
- preparing bills of quantities;
- identifying, prequalifying, evaluating, analyzing and selecting contractors and other supplied services



and products;

- reviewing relevant project documentation, tender and contract documents;
- preparing tender/proposal evaluation criteria;
- preparing, pricing and submitting tenders/proposals;
- reviewing, evaluating, analyzing, negotiating and recommending for award tender/proposal submissions;
- developing, preparing, pricing and negotiating changes/claims;
- managing, administering and coordinating construction projects/contracts;
- assisting and supporting negotiation with construction project stakeholders;
- assessing applications for payment and verifying and supporting the process of payment certification;
- reviewing construction progress schedules;
- preparing, forecasting and reporting construction costs;
- preparing cash flows; and
- preparing and maintaining unit price reference databases;

### **Becoming a member**

The first step in getting certified is to join the CIQS as a Full Time Student member. Student membership is **free** and it comes with many benefits, some of which are listed on page 2. For example, as a Student member you will receive at no cost, our quarterly publication – The Construction Economist, and you are eligible for a substantial discount on our textbooks.

Joining the Institute is quite simple – go to our Website ([www.ciqs.org](http://www.ciqs.org)) and complete the online application, or you may contact your local chapter. The complete list of addresses for the CIQS and its Regional chapters is attached at the end of this brochure.



## **Membership Classifications**

The various categories of membership are:

### **Professional Quantity Surveyor (PQS)/Économistes en Construction Agréé (ECA):**

Members belonging to this category include:

- (a) a member who has successfully completed the TPE for the PQS/ECA designation as defined by the Institute, or
- (b) a member who is qualified as a FRICS or MRICS with the Royal Institution of Chartered Surveyors (RICS) whose primary professional discipline is quantity surveying as noted in the Education Policy Guidance Note #B9.

Qualified members in this category may use the designatory letters “PQS” and the title “Professional Quantity Surveyor” or the French equivalent of “ECA” and the title “Économiste en Construction Agréé”.

### **Construction Estimator Certified (CEC)/Estimateur en Construction Certifié (ECC):**

Members belonging to this category include:

- (a) a member who has successfully completed the TPE for the CEC/ECC designation as defined by the Institute, or
- (b) a member who has the required mechanical or electrical requirements , or
- (c) a member who has been admitted to sit the Direct Final Examination for PQS/ECA, or
- (d) a member who has been admitted to sit the Mature Candidate Examination for PQS/ECA, or
- (e) a member who has equivalent professional qualification but has not completed the TPE requirements for PQS/ECA, or
- (f) a member who is a qualified as AssocRICS with the Royal Institution of Chartered Surveyors (RICS) whose primary professional discipline is Quantity Surveying.
- (g) a member who is a Canadian Construction Association (CCA) Gold Seal Certified Estimator (GSC).

Qualified members in this category may use the designatory letters “CEC” and the title “Construction Estimator Certified” or the French equivalent of “ECC” and the title “Estimateur en Construction Certifié”.

### **Associate:**

Individuals belonging to this category include:

- (a) an individual who has not completed the TPE for either the Professional Quantity Surveyor (PQS)/Économistes en Construction Agréé (ECA) or Construction Estimator Certified (CEC)/Estimateur en Construction Certifié (ECC), or
- (b) an individual who has attained the equivalent of PQS/ECA through recognized overseas professional associations, but has not completed the relevant TPE requirements, or
- (c) an individual who has been admitted to sit the direct final examinations for CEC/ECC, or
- (d) an individual who is studying towards passing the Institute’s examinations and who is not a full-time student, or



- (e) a person that is gainfully or self-employed in or associated with the construction industry whose membership in the Institute would be of value to the Institute.

**Student - Full time:**

A member registered as a full time student in a full time approved program of studies

**Others:**

Other membership categories that may be implemented at the discretion of the CIQS or its regional chapters are: Fellow, Retired and Honourary Life Members.

**Getting Certified**

The process of certification is similar to the internship process in other professions. To achieve the PQS/ECA or the CEC/ECC status, all applicants must successfully complete the requisite Test of Professional Experience (TPE) requirements for the respective membership category.

**The Test of Professional Experience**

The Test of Professional Experience (TPE) is designed to ensure that members have gained the required minimum level of practical experience in addition to the academic requirements before the CIQS grants the designations of Professional Quantity Surveyor (PQS) or Économiste en Construction Agréé (ECA) and Construction Estimator Certified (CEC)/Estimateur en Construction Certifié (ECC).

The TPE program comprises of four (4) parts:

Part (a) The required academic, professional or trade qualifications requisite for the designation applied for,

Part (b) A structured training period of a minimum of 2 years and the submission of diaries to record approved industry experience based on Section 6.2 – Areas of Approved Experience on Page 6,

Part (c) Practice problem which comprises two sections:

(a) a study of the CIQS By-Laws, CIQS Rules & Regulations and the CIQS Code of Ethics, and

(b) a project, and

Part (d) A Professional Interview.

**TPE Part (a) - Education**

The academic requirements for the PQS/ECA and CEC/ECC membership levels in the CIQS are based on the syllabi as defined by the CIQS. There are currently three (3) divisions – Architectural, Mechanical and Electrical. Currently, the Architectural Division has 25 subjects, the Mechanical Division has 26 subjects and the Electrical Division has 27 subjects. The subjects are further divided into three (3) levels - Level 100, 200 and 300. College and university programs, both national and international, that meet the full requirements of the CIQS are classified as “Fully Accredited” and graduates from these programs are granted full exemption from the CIQS subjects. Programs that do not meet the full requirements are classified as “Approved” and graduates from these programs are required to pass the outstanding subjects required for the CEC/ECC and the PQS/ECA designations.

Any program that is not on the list of “Fully Accredited” programs will be assessed upon application to the Institute.



## **TPE Part (b) – Structured Training Period**

Members must complete a minimum of 2 years of approved industry experience based on the membership pathway for which they qualify. In addition, all members must record and submit work diaries for the minimum number of working hours of approved industry experience for the qualified membership category they hope to obtain.

The work diaries are subjected to the following rules:

- Individuals must apply to the Institute for permission to start their diaries.
- An individual cannot start his/her daily diaries until all the conditions of his/her membership pathway are met.
- The start date for diaries is that as stated in the letter of approval from the Institute.
- Credit for work done in the past is not automatic. Individuals seeking credit for past industry experience must apply to the Institute for approval. The Institute will assess whether such past industry experience is valid and will determine the amount of credit, if any, to be awarded.
- Daily diaries must be submitted on a quarterly basis until the required minimum number working hours of approved industry experience is achieved. This means that an individual may be required to submit diaries beyond the hours stated if the required amount of approved working experience is not met.
- The CIQS has determined areas of approved experience that each individual must complete before they are deemed qualified.
- The areas of approved experience are divided into two sections – Section 6.2.1 (Core) and Section 6.2.2 (Optional). See below.
- Individuals are required to complete daily diaries for a set minimum of working hours on the Areas of Approved Experience based on the qualified membership level they are applying for.

The Areas of Approved Experience are:

### **Section 6.2.1 Core Requirements**

- 6.2.1.1 - Budgeting including Preparing and Using Historical Cost Data
- 6.2.1.2 - Quantity Take-off
- 6.2.1.3 - Contract Documents Review & Preparation of Bid Packages
- 6.2.1.4 - Site Visits, Evaluating Site Conditions including Location
- 6.2.1.5 - Estimating and/or Negotiating Change Orders
- 6.2.1.6 - Pricing Analysis including Preparation of Progress Cash Flow Charts
- 6.2.1.7 - Preparing, Monitoring and Finalizing Progress Claims

### **Section 6.2.2 Optional Requirements**

- 6.2.2.1 - Feasibility Studies
- 6.2.2.2 - Reserve Fund Studies/Costs
- 6.2.2.3 - Life Cycle Costing Studies
- 6.2.2.4 - Receiving & Analysis of Tenders, Recommendations & Awarding Trades/Sub-Trades
- 6.2.2.5 - Pricing Building Elements including Materials, Labour and Equipment
- 6.2.2.6 - Cost Control
- 6.2.2.7 - Preparing Bills of Quantities/Schedule of Quantities and Material Schedules
- 6.2.2.8 - Monitoring Construction Costs against Budget
- 6.2.2.9 - Preparing Construction Claims
- 6.2.2.10 - Administering Contracts including Making Progress Payments



- 6.2.2.11 - Preparing and Monitoring Construction Schedule
- 6.2.2.12 - Finalize Actual Construction Cost Data
- 6.2.2.13 - Database
- 6.2.2.14 - Review of Reports
- 6.2.2.15 - Review of Revenue
- 6.2.2.16 - Independent Certification
- 6.2.2.17 - CPD Credits

The Diary Requirements will depend on the candidate's academic, professional or trade qualifications and length of approved industry experience. The Diary Requirements fall into three (3) categories – Class D1, Class D2 and Class D3. The Diary Requirements Categories are:

TPE APPROVED WORKING EXPERIENCE DAILY DIARY REQUIREMENTS									
Section 6.2 - Areas of Required Experience	Class D1 Diary Requirements			Class D2 Diary Requirements			Class D3 Diary Requirements		
	Minimum Sub-Sections Required	Minimum Working Hours Per Sub-Section	Total	Minimum Sub-Sections Required	Minimum Working Hours Per Sub-Section	Total	Minimum Sub-Sections Required	Minimum Working Hours Per Sub-Section	Total
<b>Sub-Section 6.2.1 - Core Requirements</b>									
6.2.1.1	Minimum of any 3 Sub-Sections	40	720	Minimum of any 5 Sub-Sections	40	720	Minimum of any 5 Sub-Sections	80	1,440
6.2.1.2									
6.2.1.3									
6.2.1.4									
6.2.1.5									
6.2.1.6									
6.2.1.7									
<b>Sub-Section 6.2.2 - Additional Optional Requirements</b>									
6.2.2.1	At Least 3 Sub-Sections	24	180	At Least 5 sub-sections	24	180	At Least 5 sub-sections	40	360
6.2.2.2									
6.2.2.3									
6.2.2.4									
6.2.2.5									
6.2.2.6									
6.2.2.7									
6.2.2.8									
6.2.2.9									
6.2.2.10									
6.2.2.11									
6.2.2.12									
6.2.2.13									
6.2.2.14									
6.2.2.15									
6.2.2.16									
6.2.2.17									
<b>Total</b>			<b>900</b>			<b>900</b>			<b>1,800</b>



### **TPE Part (c) – Practice Problem**

The general rules governing the TPE Part (c) – Practice Problem are:

- (1) Candidates attempting the CEC/ECC designation are exempted from TPE Part (c),
- (2) Candidates are only eligible to attempt the Practice Problem when they have successfully completed Parts (a) and (b) of the TPE,
- (3) The practice problem comprises two sections – (a) A study of the CIQS By-Laws, CIQS Rules & Regulations and CIQS Code of Ethics, and (b) A project,
- (4) At least 50% of the Practice Problem shall deal with by-laws, rules and regulations, and professional ethics,
- (5) Candidates will answer the problem in their working environment and will be allowed to use all reference material and other resources normally available to them,
- (6) After completion of the practice problem, candidates may, at the discretion of CIQS, the administering body, be required to attend an interview,
- (7) The practice problem will be offered on an as-needed basis,
- (8) The passing grade is 60% in each section.

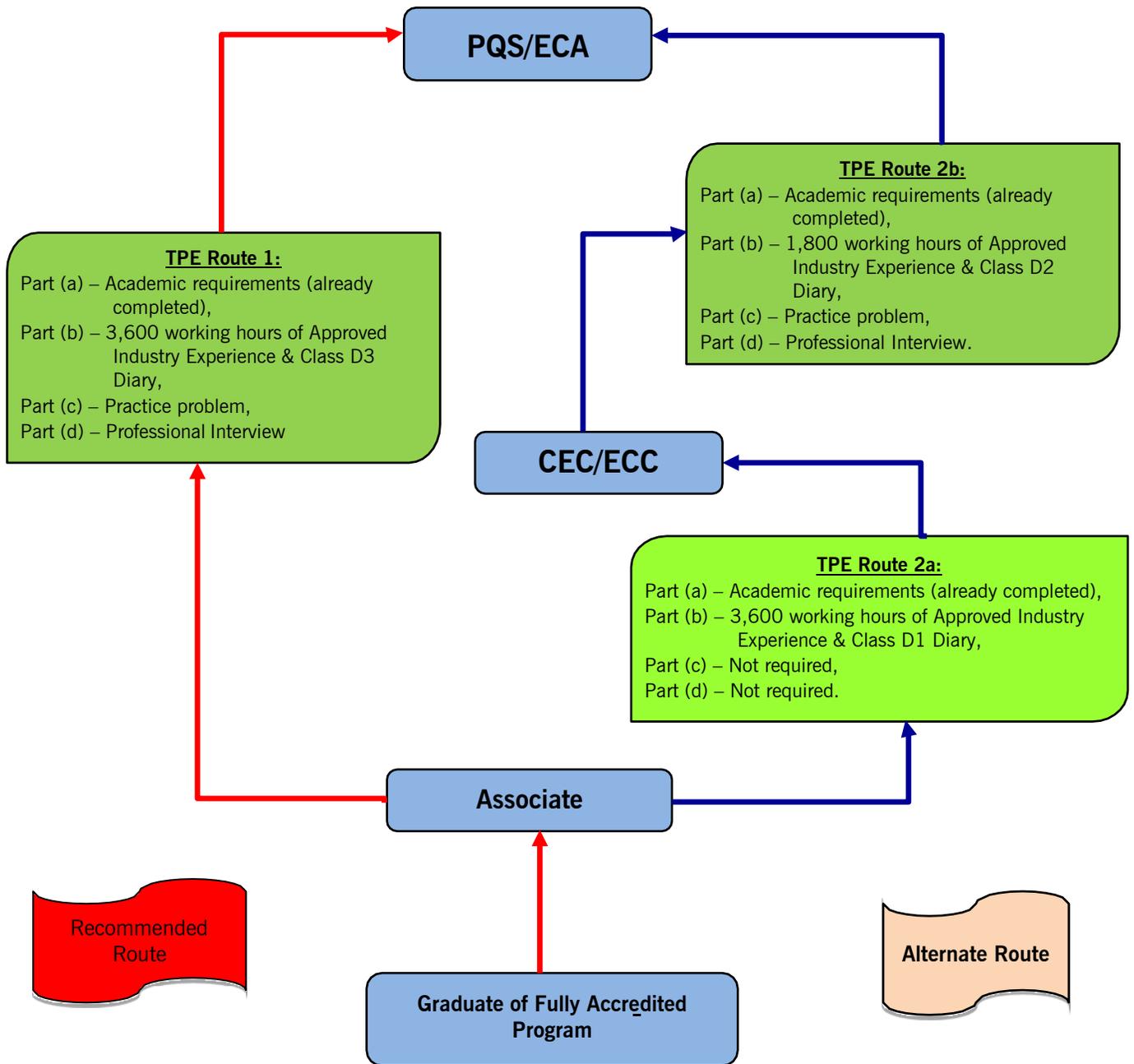
### **TPE Part (d) – Professional Interview**

The general rules governing the TPE Part (d) – Professional Interview are:

- (1) Candidates attempting the CEC/ECC designation are exempted from TPE Part (d),
- (2) Candidates are only eligible to attempt the Professional Interview when they have successfully completed Parts (a), (b) and (c) of the TPE,
- (3) The professional Interview will be of approximately 60 minutes duration.
- (4) The objective of the Professional Interview is to assess the candidate's knowledge of quantity surveying and his/her suitability as a Professional Quantity Surveyor (PQS) designation holder of the Institute.



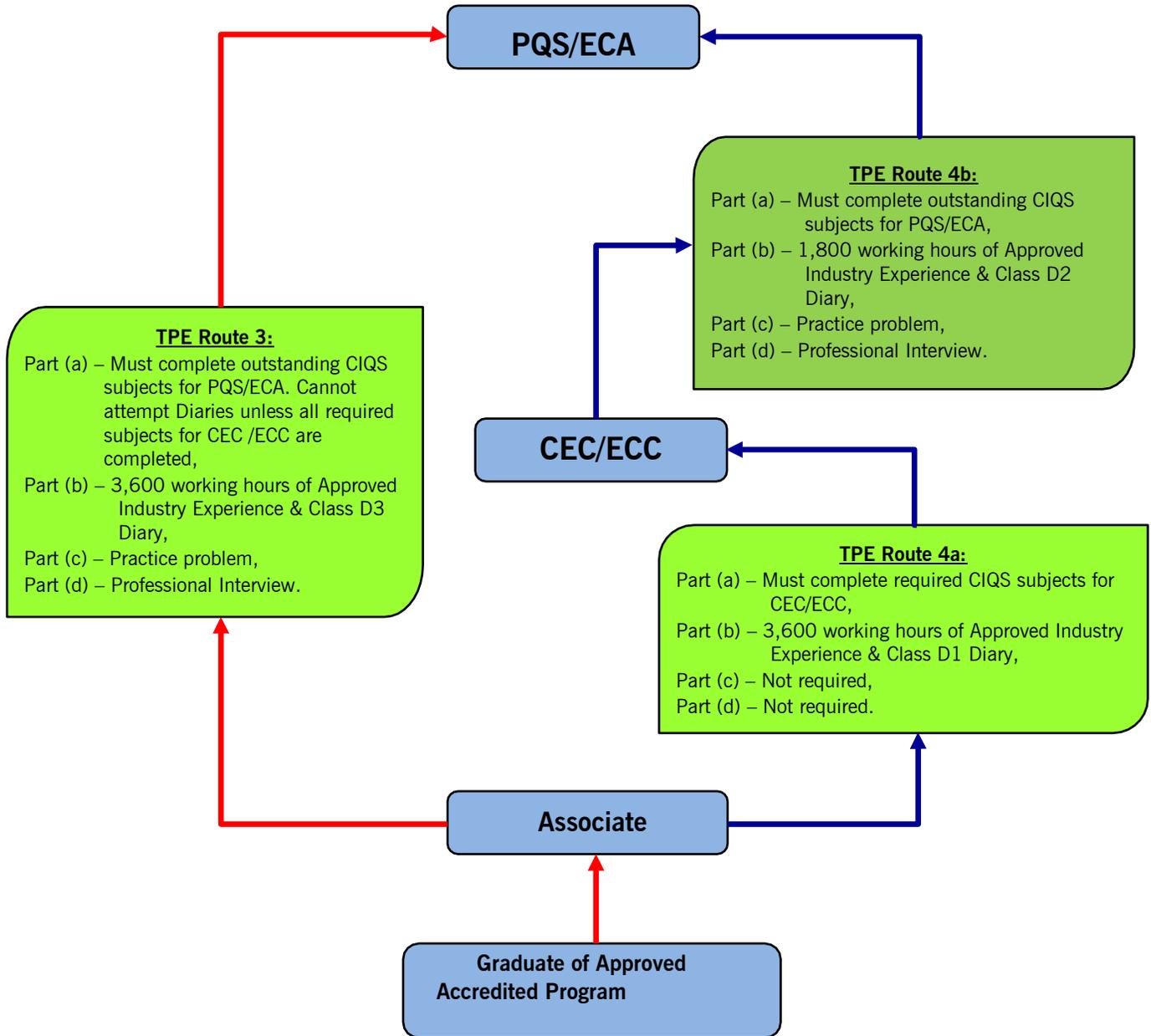
### Pathway – TPE Routes 1, 2a & 2b for Graduates of Fully Accredited Programs



- Students are encouraged to join the Institute while attending an educational institution - membership and the quarterly journal (Construction Economist) are free for all students.
- Upon graduation student members are transferred to the associate member category.
- The recommended pathway for graduates of fully accredited programs is shown in the red arrow.



### Pathway – TPE Routes 3, 4a & 4b for Graduates of Approved Accredited Programs



- Students are encouraged to join the Institute while attending an educational institution. Membership and the quarterly journal (Construction Economist) are free for all students.
- Upon graduation student members are transferred to the associate member category.
- Note in TPE Route 3, candidates cannot attempt their Class D3 Diary until they have completed the required subjects for CEC/ECC.



**And, we need you too:**

It is not all one sided - we need you, just as much as you need us. Our prime goal is the promotion of our profession to the construction industry and its allied professions. Your involvement in our business as a student member of the Institute will strengthen and help widen our influence, impact, and recognition. As a fully designated member you will have ample opportunity to guide and influence the Institute's growth, direction and policies. Without you we all lose. We need each other to develop the synergy so evident when like minds work together towards a common goal. Together we are more than the sum of our individual parts.

**And, our profession needs you too:**

As a fully designated Member you will greatly increase our collective impact on the widening recognition of our profession throughout Canada, and at all levels, in all spheres, of our personal employment. We can each become an ever more important and valued member of any construction team through the increasing use of our expertise gained in a profession that has yet to achieve its fullest potential - the future awaits.





Full details and information may be obtained from the CIQS or its regional chapters representing your province or territory.

### **Canadian Institute of Quantity Surveyors (CIQS)**

90 Nolan Court, Unit 19  
Markham, Ontario  
L3R 4L9  
Telephone: (905) 477-0008  
Toll Free 1-866-345-1168  
Facsimile: (905) 477-6774  
Email: [info@ciqs.org](mailto:info@ciqs.org)  
Website: [www.ciqs.org](http://www.ciqs.org)

### **Regional Chapters**

#### **CIQS – British Columbia**

(representing members in British Columbia and the Yukon)  
Email: [info@ciqs-bc.org](mailto:info@ciqs-bc.org)  
Website: [www.ciqs-bc.org](http://www.ciqs-bc.org)

#### **CIQS – Prairies and Northwest Territories**

(representing members in Alberta, Saskatchewan, Manitoba, North West Territories & Part of Nunavut)  
Email: [info@ciqs-prairies.org](mailto:info@ciqs-prairies.org)  
Website: [www.ciqs-prairies.org](http://www.ciqs-prairies.org)

#### **CIQS – Ontario**

(representing members in Ontario and Part of Nunavut)  
Email: [info@ciqs-ontario.org](mailto:info@ciqs-ontario.org)  
Website: [www.ciqs-ontario.org](http://www.ciqs-ontario.org)

#### **CIQS – Quebec**

(representing members in Quebec)  
Email: [info@icec-quebec.org](mailto:info@icec-quebec.org)  
Website: [www.icec-quebec.org](http://www.icec-quebec.org)

#### **CIQS – Maritimes**

(representing members in Nova Scotia , New Brunswick and Prince Edward Island)  
Email: [info@ciqs-maritimes.org](mailto:info@ciqs-maritimes.org)  
Website: [www.ciqs-maritimes.org](http://www.ciqs-maritimes.org)

#### **CIQS – Newfoundland and Labrador**

(representing members in Newfoundland and Labrador)  
Email: [info@ciqs-nl.org](mailto:info@ciqs-nl.org)  
Website: [www.ciqs-nl.org](http://www.ciqs-nl.org)