

# Canadian Architectural Certification Board

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BEFA Online Application System – Self-Assessment Guide

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## Introduction

The Broadly Experienced Foreign Architect (BEFA) program streamlines the process for foreign architects to become certified for licensure in Canada.

The program was developed in partnership with Architecture Canada, the provincial and territorial regulators, and the Canadian Architectural Certification Board (CACB). It is a bilingual Canadian-wide program. Funding for its development was provided by Human Resources and Skills Development Canada.

The BEFA program assesses the competency of foreign architects against pan-Canadian standards of practice.

## Self-assessment process

As soon as your eligibility has been confirmed by the BEFA coordinator and your assessment payment has been processed, you are ready to begin the second phase of the BEFA certification process.

In this phase, you are required to assess your competence, based on your knowledge and experience, against Canadian standards, in the following 12 competency areas:

- 1.0 Programming
- 2.0 Site and environmental analysis
- 3.0 Schematic design
- 4.0 Engineering systems – structural, mechanical, electrical, civil
- 5.0 Building cost analysis
- 6.0 Code research
- 7.0 Design development
- 8.0 Construction documents
- 9.0 Bidding and contract negotiation
- 10.0 Construction phase – office and site
- 11.0 Management of the project
- 12.0 Professionalism and professional practice

## Definitions of Competencies and Indicators

### ***1.0 Programming***

Programming is the process of understanding and setting forth in writing the owner's requirements for a given project. Steps in this process include: establishing goals, considering a budget, collecting, organizing and analyzing data, identifying and developing approaches, and determining particular needs. Sometimes owners employ the architect to assist them in preparing a functional program. The project will also be affected by public officials involved in health, welfare, and safety; future tenants; and the people who will work in the built environment. Their input at the programming stage is essential to maintain an orderly and successful design process.

Typical activities include the following:

- Seek and participate in learning opportunities with clients, such as conferences, presentations, and facility tours, to increase awareness in advances in relevant facility type design and operations. Document learning for future reference and implementation.
- Establish space requirements, including determining sizes of spaces, the activities they will accommodate, their technical requirements, and relationships between them.

- Evaluate and summarize data and functional requirements obtained from all sources.
- Research current literature pertaining to architectural programming.

### **2.0 Site and Environmental Analysis**

Site analysis includes land planning, urban design, and consideration of environmental factors — often obtained from reports/assessments by subject matter experts. Land planning and urban design are concerned with relationships to surrounding areas and involve consideration of the physical, economic, and social impact of proposed land use on the environment, ecology, traffic, and population patterns. Environmental analysis takes into consideration such things as geotechnical conditions, seismic, climate, water, air, and other processes or phenomena.

Typical activities include the following:

- Analyze alternative sites to assess the feasibility of their use for a proposed project.
- Analyze specific land use and location for a project.
- Formulate the most appropriate land use strategy to achieve a desired environmental impact.
- Research site restrictions such as zoning, easements, utilities, etc.
- Participate in public hearings about land use issues and prepare reports for future reference.

### **3.0 Schematic Design**

From the owner-approved program and proposed budget, the architect develops alternative conceptual solutions to satisfy functional, site, technical and aesthetic requirements and deal with the full range of constraints ranging from regulatory to environmental. Schemes are presented until one is selected.

Typical activities include the following:

- Develop and prepare preliminary design concepts to determine the spatial relationships that best satisfy the owner's program.
- Develop and coordinate program requirements with consultants.
- Evaluate massing, site location & orientation, response to environmental factors & regulatory requirements.
- Prepare presentation drawings and models.
- Analyze and select engineering systems.
- Participate in design review and approval meetings with clients, user groups, Authorities Having Jurisdiction, and the community.

### **4.0 Engineering Systems Coordination**

The architect is usually responsible for the selection and coordination of all building systems, including the engineering systems. These traditionally have included structural, mechanical and electrical systems as well as special requirements, such as telecommunications and computer applications. Responsibility for design does not require the architect to engage in engineering but rather to coordinate the necessary engineering expertise and to integrate their designs and recommendations into the architectural designs/plans.

Typical activities include the following:

- Evaluate construction methods and performance of different engineering systems.
- Understand safety requirements and the selection process for engineering systems.
- Participate in research, analysis and selection of engineering systems during the schematic design and development phases.

- Coordinate engineering systems provided by consultants into the construction documents produced by the architect.
- Review consultants' drawings for conceptual understanding of systems, space requirements and possible conflicts or interference of structure, ductwork, plumbing lines, electrical fixtures, etc.
- Obtain and study manufacturers' literature for engineering systems and components.
- Become familiar with relevant codes and regulatory standards applicable to various engineering systems.

### **5.0 Building Cost Analysis**

This activity involves estimation and evaluation of the probable construction costs using a range of possible measures. They influence decisions involving basic design, selection of building products and systems and construction scheduling. Long-term maintenance, as well as sustainability of material and system selection, are additional factors that bear on development of the project.

Typical activities include the following:

- Calculate the area, and volume of a project and its characteristic components.
- Make a simplified quantity takeoff of selected materials and prepare comparative cost analyses.
- Prepare cost estimates of the project.
- Review various references and texts utilized in cost estimating.
- Prepare cost analyses for current, similar projects, using a variety of indices.

### **6.0 Code Research**

Federal, provincial, municipal, and other local regulatory authorities issue regulations and policies governing and affecting aspects of building design, and construction. Building codes, for example, often require complex analysis and design decisions of an architect. Familiarity with such regulations and demonstrated ability to deal with such requirements in design and construction is a necessary part of every architect's skill set.

Typical activities include the following:

- Search and document codes, regulations, etc. that pertain to the project.
- Understand procedures necessary to obtain relief or variances from particular requirements as they relate to a project.
- Calculate certain variables (i.e. numbers and size of exits, stair dimensions, public toilet rooms, ramps) to satisfy code requirements.
- Determine a project's building area as well as maximum floor areas for compliance with the building code or other related ordinances.

### **7.0 Design Development**

This phase involves development of the approved schematic design, to a greater level of spatial and technical detail, incorporating results of site and environmental analysis, code and cost implications, and building systems selection, and describing the size and character of the project — including selection of materials and specifics of engineering systems.

Typical activities include the following:

- Prepare detailed design development drawings from schematic design documents.
- Develop outline specifications for materials, finishes, fixed equipment, fixtures, along with updated anticipated construction cost and schedule.

- Coordinate engineering systems proposed for the project.
- Attend design review and approval meetings with clients, user groups, Authorities Having Jurisdiction, etc.

### **8.0 Construction Documents**

Documentation for the construction, contract management, and handover of an architectural project will include, but is not limited to, architectural drawings, specifications, and schedules, which must conform to relevant codes and industry standards. The drawings describe in graphic form all of the essentials of the work to be done: location, size, arrangement, and details of the project; its systems; and materials, in compliance with applicable codes. The specifications describe in detail the materials, hardware, and equipment indicated in the drawings and include information on detailed descriptions of the product or material, conditions of installation, and standards to be met. The compliance of documentation, supplied by consultants, with codes and regulations is to be confirmed. The consistency of all project documentation (in the selection and disposition of building elements, components, finishes, and fittings) with design objectives and budgetary constraints must be demonstrated.

Typical activities include the following:

- Prepare detailed drawings, demonstrating technical skills in drawing accuracy, completeness and clarity.
- Coordinate all documents produced by the architect and the consultants.
- Assemble the finished construction documents.
- Review construction specifications, purpose and format.
- Review and analyze bidding forms, insurance and bonding requirements, lien provisions, supplementary and special conditions.
- Evaluate data for products to be specified, including information regarding availability, cost, code acceptability and manufacturers' reliability.
- Cross-check products and materials called for in the specifications for consistency with corresponding terminology and descriptions on the working drawings.
- Check drawings prepared by others for pertinence and accuracy of dimensions, notes, abbreviations and indications.
- Check consultants' drawings with architectural drawings and other consultants' drawings for possible conflicts and interference of plumbing lines, ductwork, electrical fixtures, etc.
- Undertake the final project review for compliance with applicable codes, regulations, etc

### **9.0 Bidding and Contract Negotiations**

This process involves establishing and administering bidding procedures, issuing addenda, evaluating proposed alternatives, reviewing the qualifications of bidders, analyzing bids or negotiated proposals, reviewing the effect of cost considerations on budgeted and actual tender costs, and making recommendations for the selection of the contractor(s). The construction contract and related documents are the formal conditions that bind the parties together during the construction phase.

Typical activities include the following:

- Review the bidding/award process stages of previous projects.
- Assist in the pre-qualification of bidders, if required.
- Receive, analyze, and evaluate bids, including any alternative or unit prices.
- Establish what information and submittals are required prior to issuance of the Letter of Intent.
- Evaluate product considerations in preparing addenda.

- Meet with contractors and material suppliers to approve alternates or equals, and issue relevant addenda.
- Prepare and negotiate construction contracts, including the conditions of the contract for construction, in order to clarify the roles of the architect, contractor, owner, bonding company, and insurer in the administration of the construction phase.
- Review the contract for compatibility with client-architect agreements.

### **10.0 Construction Phase**

During the construction phase an architect typically handles the following matters: processing contractors' applications for payment, preparing change orders, reviewing shop drawings and samples, and adjudicating disputes. The architect's primary function is to conduct field reviews in order to determine if the contractor's work generally conforms to the requirements of the contract documents. To evaluate the quality of material and workmanship, the architect must be thoroughly familiar with all of the provisions of the construction contract as well the drawing and specifications.

Typical activities include the following:

- Assemble Building Permit Application documentation for the client.
- Communicate with the Authority Having Jurisdiction to seek resolution of Building Permit issues.
- Process applications for payment and prepare architectural certificates for payment for construction claims.
- Review shop drawings, evaluate samples submitted, and maintain records of all submittals.
- Evaluate requests for changes, interpret documents, and prepare change orders.
- Resolve disputes/conflicts arising from the contract documents.
- Visit the job site and participate in observation of the work in place and material stored, and prepare field reports of such routine field reviews.
- Attend job site construction meetings and assist in recording and documenting all actions taken and agreed to at such meetings.
- Participate in the substantial completion review and assist in the deficiency list verification
- Participate in the final occupancy field review with the owner and other involved parties

### **11.0 Project Management**

The Project Management process includes the creation, maintenance and monitoring of systems to achieve timely, efficient and cost effective delivery of the architectural project. Project Management may include establishment of project teams, the development of client and project team agreements, the identification and implementation of appropriate contractual administration and compliance monitoring regimes, and project record keeping.

Typical activities include the following:

- Assign project management responsibilities and the project manager's role in the acquisition process.
- Develop a project work plan including identification of goals, client requirements, responsibilities, as well as development of a schedule and the project record.
- Review the work plan against all project related contractual agreements
- Develop team communication methods and frequency and maintain project files.
- Review design documentation standards and understand expected levels of documentation at each phase of the project.
- Prepare project status assessments including schedule and scope variances and actions required to maintain project budget control.

- Review the project management file for close-out activities such as contractual fulfillments, final fee for services, invoicing and modifications (e.g. change orders).
- Attend post occupancy evaluation trips to completed project sites

### **12.0 Professionalism and Professional Practice**

Members of self-governing professions in Canada are granted exclusive rights of title and/or practice in return for commitments to meet professional obligations. These obligations include protection of the public interest first and foremost – above expectation of reward or gain. They also include commitments to maintain one's level of knowledge and learning throughout one's career and to act in accordance with prescribed codes of conduct. Every practitioner is expected to know the requirements of being a member of a self-governing profession and to understand the special obligations that attach to their professional status.

Typical activities include the following:

- Understand the Act and Bylaws of the Association\*
- Attend educational classes as required by the Association
- Attend annual meetings and informational sessions arranged by the Association
- Understand the structure of an office and the requirements of record keeping and financial responsibilities
- Understand the contracts used by Architects and the level of architectural services and fees

\*Various regulatory documents (including Acts and Bylaws) can typically be found on each Association's website.

## Template Downloads

### Project Resume Template

Completion of the Project Resume template is mandatory. It is an opportunity for you to highlight, in point form, the projects you have been personally involved in and to indicate which skills and area(s) of competency were necessary to successfully fulfill your particular role in the project(s).

This template acts as a useful reference tool for the assessment panel as it provides a complete overview of your career in architecture.

Upon completion of the Project Resume template, you will upload it back into the system and then you will be given access to download the 12 competency templates.

### Templates

For each competency area, there is a template -- or a form -- that you must download from the BEFA website (<https://befaonline.cacb.ca/webpages/befastart.aspx>), complete, and then upload and attach to your application.

After your self-assessment fee is paid and processed, and after you have logged back into the BEFA application, you will be given access to the web page from where you can download the templates.

**To download and save the templates to your computer** follow these steps:

1. Click the Download button to the right of the template name.
2. A small dialogue box will open, asking you whether you want to open or save the template.
3. Click the Save button.
4. You will be prompted to browse to where you want to save the template (Figure 1).
5. Click the Save button.
6. Repeat steps 1 – 5 for each template until you have downloaded them all.

**CACB CCCA** **BEFA Broadly Experienced FOREIGN ARCHITECTS PROGRAM**

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### Download Assessment Document Template

To download the self-assessment templates, click the Download button beside the first one. In the dialogue box that opens, click the Save button to copy the template to your your computer.

Repeat these steps until you have downloaded all the templates.

**Document Title**

- BEFA Self Assessment Guide
- Template 1 - Programming
- Template 2 - Site and environment
- Template 3 - Schematic Design
- Template 4 - Engineering services
- Template 5 - Building cost
- Template 6 - Code research
- Template 7 - Design Development
- Template 8 - Construction documents
- Template 9 - Bidding and contract negotiation
- Template 10 - Construction phase -- Office and Site
- Template 11 - Project Management
- Template 12 - Professionalism and Professional Practice

**File Download**  
Do you want to open or save this file?  
Name: Template\_1\_-\_Programming\_locked-down.docx  
Type: Microsoft Word Document  
From: 207.164.180.195  
Open Save Cancel

While files from the Internet can be useful, some files can potentially harm your computer. If you do not trust the source, do not open or save this file. [What's the risk?](#)

< GO BACK GO NEXT >

Figure 1 – Download Assessment Document Template

## Completing the Templates

Each template has three sections: a measurable outcome matrix, a supporting documentation table, and a narrative section.

### Measurable Outcomes Matrix

In the upper-right corner of this matrix, there are seven (7) levels of competency that are defined as follows:

#### 0. No Knowledge

1. **Remember:** recalling, retrieving relevant knowledge from long-term memory; remembering facts and information through memorization in approximately the form in which they were learned.  
*For example, you know and are able to name, cite, describe, define (but only if recall is involved), etc.*
2. **Understand:** the meaning of, explaining in own words, interpreting information  
*For example, you can explain, summarize, describe/define (if not based solely on recall), interpret, give examples of, etc.*
3. **Apply:** carrying out, implementing a task, using information previously learned in new situations; using data, methods, and principles previously learned to solve a problem or carry out a task  
*For example, you can use your knowledge and experience in new situations to solve, calculate, apply rules, laws, and methods, etc.*
4. **Analyze:** breaking material or concepts into parts, determining how the parts relate to each other or to an overall structure or purpose; researching elements of a process, problem, organization, system and the relations between/among them  
*For example, you are able to compare, contrast, explain why, classify, differentiate, select, etc.*
5. **Evaluate:** appraising, assessing a plan or process based on specific standards and criteria for a given purpose; making judgements based on criteria and standards  
*For example, you can judge, recommend, critique, defend, appraise, propose, justify, etc.*
6. **Create:** putting elements together to form a coherent or functional whole; reorganizes elements into a new pattern or structure  
*For example, you are able to create, develop, produce, plan, modify, construct, etc.*

Each competency is subdivided into components and subcomponents that outline in more detail the knowledge and skill required in the areas of practice (see Appendix A).

The required competency level for each component is indicated by the shaded “R”.

Using these definitions as a guide, you need to determine which level accurately describes your knowledge and skill, based on the experience outlined. Enter your level into the box that is highlighted in yellow (see Figure 2).

Please review the definitions carefully and frequently, as you work through your self-assessment. The level which you assess for yourself should accurately reflect your own personal knowledge and skills, based on the experience which you are outlining. If the level which you assess for yourself is below what is required

for a particular component, it does not necessarily mean that you will not be successful in the BEFA process. In addition, not all levels are appropriate for each component (for example, architects do not “create” building codes, so a level 6 would not be appropriate for that component).

Repeat this process for all components within all competencies.

### Programming

Measurable Outcomes		Blooms Level of Comprehension						Self-Assessment
		No Knowledge 0	Remember 1	Understand 2	Apply 3	Analyze 4	Evaluate 5	
<b>1</b>	<b>Programming</b>							
	<b>1.1 Preparation of an architectural program</b>				<b>R</b>			
	1.1.1 Assemble and organize components and information related to an architectural functional program							
	1.1.2 Apply the components and information required to prepare an architectural functional program for a client							
	My self-assessment for preparation of an architectural program							<b>L</b>
	<b>1.2 Incorporate principles of sustainable development within an architectural program</b>				<b>R</b>			
	1.2.1 Identify design issues to maximize the benefits of existing environmental conditions							
	1.2.2 Apply the principles of sustainable development							
	My self-assessment for incorporating principles of sustainable development within an architectural program							<b>L</b>
	<b>1.3 Evaluate the architectural program</b>					<b>R</b>		
	1.3.1 Evaluate the feasibility of the program with respect to project constraints and opportunities							
	1.3.2 Evaluate the responsiveness of program to site components							
	1.3.3 Evaluate the cost and budget implications of the program							
	1.3.4 Evaluate the program against stated client objectives							
	My self-assessment for evaluating the architectural program							<b>L</b>

Figure 2 – Measurable outcomes based competencies matrix

## Supporting Documentation Table and Your Portfolio

You will need to submit a portfolio to support your self-assessment in each competency; and you will also need to provide a written explanation that justifies the competency level that you assessed yourself as having.

The portfolio that you build to support your self-assessment will need to be uploaded to the BEFA application. We recommend that, as you complete the templates, you organize your portfolio at the same time.

Your portfolio must include projects that you were directly involved in, while in an architectural practice (within the past 10 years). It is important to be clear about your role in a particular project and the examples you select relate directly to the competencies and that they **directly address all components that are included in each particular competency area**. For example, for the first competency -- Programming -- your portfolio will need to include examples to demonstrate your knowledge and experience in relation to your abilities to:

- 1.1 Prepare an architectural functional program
- 1.2 Incorporate principles of sustainable development within an architectural program
- 1.3 Evaluate the architectural program

Your examples must also provide evidence of specific experience rather than broad practice areas, and each example must clearly indicate the scope, size, and complexity of projects.

Your portfolio may include documents, drawings, images, etc. You have the option to include several documents to support a competency and/or you can use one document as an example to support several competencies. **Progress sketches and notes can be very useful in demonstrating involvement and / or knowledge.**

Note that all documents must be saved in PDF, DOC, or DOCX format. Also, the maximum size for each uploaded document is **5 megabytes (Mb)**. Each document in your portfolio requires a unique file name that includes a document identification number, the project name, year, and document name; it should follow the format below:

- 001-ABCSchool-2007-ArchitecturalDrawings
- 002-ArchDegree-2000-CourseDescriptions

File names with the following symbols will not be accepted: #, % and &

In the Supporting Documents portion of the template (Figure 3), place your cursor in the yellow text area and enter:

- the document identification number
- the document name
- the page on which your supporting information can be found, relative to that component (if applicable)
- the paragraph (section) and/or drawing that refers directly to the component of that competency (if applicable)

Supporting Documents				
Give each document a unique document Id# and a unique name that follows this format: Doc Id#-Project Name-Year-Document Name				
For each competency, specify the page number and section where your supporting reference is found.				
Competency	Doc. Id#	Reference document	Page	Section
<b>Programming</b>				
1.1	Preparation of an architectural program	[ ]	[ ]	[ ]
1.2	Incorporate principles of sustainable development within an architectural program	[ ]	[ ]	[ ]
1.3	Evaluate the architectural program	[ ]	[ ]	[ ]
Explain and provide justification to support the competency level you have assigned yourself.				
[ ]				

Figure 3 – Supporting documents table and Narrative explanation

### Narrative Section

Next, complete the Narrative section of the template. This is where you need to provide a written explanation that details how your experience supports the self-assessment of your knowledge and skill. Note that a justification is required for each self-assessed component. Note also that, in your explanation, you must reference your supporting material (i.e., your portfolio). Remember that you need to explain how your knowledge and experience applies to every one of the subcomponents or elements listed in each area.

The explanations must be prepared by you personally. The quality of your written communication skills is not the focus of the assessment, it is your personal knowledge and skills relative to the practice of architecture. The Panel needs to get a clear sense of what your personal knowledge and understanding is relative to each competency area (not what someone else, who perhaps writes or speaks better English or French, might know or understand).

To enter your text into the Narrative section, place your cursor in the yellow text area and begin typing.

## Submission

Whenever you have completed a template and assembled your supporting material, we suggest that you begin uploading your information to your online application..

Go to the BEFA application and log in (<https://befaonline.cacb.ca/webpages/befastart.aspx>)

1. Click the Go Next button to open the Upload Assessment Documents screen.

The screenshot shows the BEFA Broadly Experienced Foreign Architects Program interface. At the top left is the CACB CCCA logo. To its right is the program name 'BEFA Broadly Experienced FOREIGN ARCHITECTS PROGRAM'. Below this is a navigation bar with links: 'Reset Password | Change Profile Info | Forgot Password | Contact BEFA Coordinator | Privacy Policy | Self Assessment Guide'. The main heading is 'Upload Assessment Documents'. Below the heading is a paragraph of instructions: 'To attach your completed templates and supporting documents, click the **Browse** button. Next, locate the documents on your hard drive, select them, and then click the **OK** button. The location of your files will display in the field next to the Browse button. Click the **Upload** button to attach the documents to your application. Note that you will have to repeat these steps for each document to be uploaded.' Below this is a list of 12 assessment sections, each with a corresponding button: 'Programming – Upload Templates and Supporting Documents' (Section 1), 'Site and Environmental Analysis – Upload Templates and Supporting Documents' (Section 2), 'Schematic Design – Upload Templates and Supporting Documents' (Section 3), 'Engineering systems - Structural, Mechanical, Electrical, Civil – Upload Templates and Supporting Documents' (Section 4), 'Building Cost Analysis – Upload Templates and Supporting Documents' (Section 5), 'Code research - National and Local Building Codes– Upload Templates and Supporting Documents' (Section 6), 'Design Development – Upload Templates and Supporting Documents' (Section 7), 'Construction Documents – Upload Templates and Supporting Documents' (Section 8), 'Bidding and Contract Negotiation – Upload Templates and Supporting Documents' (Section 9), 'Construction Phase – Office and Site – Upload Templates and Supporting Documents' (Section 10), 'Project management – Upload Templates and Supporting Documents' (Section 11), and 'Professionalism and professional practice – Upload Templates and Supporting Documents' (Section 12). At the bottom left is a '< GO BACK' button and at the bottom right is a 'GO NEXT >' button.

2. Click the numbered button which corresponds to the completed template that you want to upload.
3. Then click the Browse button. A file explorer window will open.

4. Find the first document on your computer and click OK.
5. The path to your document will display in the field beside the Browse button.
6. If this is the correct document, click the Upload button.
7. Your document will be uploaded to the BEFA Application and its name, size, date created (i.e., date it was uploaded) will display in a table.
8. Repeat Steps 2 – 5 for each document in your portfolio. Note that while you may reference a document in more than one template, it should not be given a different name or uploaded more than once onto this site.
9. If you have uploaded the wrong document, click the Delete hyperlink beside to remove it.

You do not have to upload all of your information at one time; you can return to this site multiple times, to upload more documentation at a later date.

When you have completed all 12 templates and have uploaded all supporting material in your portfolio to the BEFA site, click the **Go Next** button to proceed to the confirmation screen.

You will be asked to confirm that you have submitted all your information and that you are ready to submit your self-assessment package. You will also be asked to declare that you have personally prepared the submission (relative to all descriptions or explanations) and that you have been involved in all of the work as outlined and represented in your submission. When you click the "Confirm Submission" button, your access to the application's upload and download tools will be disabled and your package will be sent to the BEFA coordinator and the Assessment Panel.

## Submission review

The BEFA coordinator will first review your submission. This review may take four or more weeks to verify that the documents you have submitted are complete.

When your submission has passed the BEFA coordinator's review, it will be forwarded to the Assessment Panel.

You may receive preliminary feedback from the panel and its members may:

- Ask for more information
- Ask you to re-submit portions of your self-assessment
- Require you to obtain additional work experience in Canada in a particular competency before proceeding further with your application
- Recommend that you withdraw your application

If the panel accepts your self-assessment submission, you will be invited to an interview.

## Interview

Interviews will be scheduled twice a year by CACB in four regions of Canada.

The purpose of the interview is to discuss your submission in more detail, so that the Assessment Panel can obtain clarification where necessary of the experience and knowledge which you have and obtain a better understanding of the extent of your familiarity with certain areas of practice and /or the regulations concerning practice in Canada.

After you pay the interview fee, you will be notified of the tentative date and location of your interview. Confirmation will be provided to you at least three weeks prior to the date of the interview.

The interviews will be conducted by the Assessment Panel. After the interview takes place, the panel will make a decision (the panel members may provide you with verbal feedback at the end of the interview) and the CACB will communicate the decision to you in a timely fashion.

The Assessment Panel may decide that your application:

- Does not demonstrate sufficient competency and BEFA certification will be denied; or
- Does not demonstrate compliance with the competency standard in a certain area(s) and some remedial action is required; or
- Does demonstrate compliance with the competency standard and BEFA Certification will be granted

If you are successful, you will be granted a BEFA certificate. When BEFA Certification is issued by CACB, it will serve as a recommendation for recognition as an equivalent to successful completion of the Canadian Education, Experience, and Examination Standards that are in place for licensure by a provincial or territorial licencing body.

With the BEFA Certificate, you can apply for licensure to the Provincial/Territorial Association you have chosen to register with.

## Appendix A: Competencies

Below is a detailed list of the 12 competency areas, their components and sub-components, as well as the required competency level.

### 1.0 Programming

#### **1.1 Preparation of an architectural program**

Apply:

- Assemble and organize components of an architectural program
- Apply the processes required to prepare an architectural program for a client

#### **1.2 Incorporate principles of sustainable development within an architecture program**

Apply:

- Identify design issues to maximize the benefits of existing environmental conditions
- Apply the principles of sustainable development

#### **1.3 Evaluate the architectural program**

Evaluate:

- Evaluate the feasibility of the program with respect to project constraints and opportunities
- Evaluate the responsiveness of program to site components
- Evaluate the cost and budget implications of the program
- Evaluate the program against stated client objectives

## **2.0 Site and environmental analysis**

### **2.1 *Propose solutions to the siting of a building and its environment***

Evaluate:

- Propose grading and storm water management
- Evaluate the siting of a building in relation to energy consumption
- Evaluate the siting of a building in relation to sustainability
- Propose solutions for the siting of a building in relation to access and circulation
- Evaluate the siting of a building in relation to data derived from engineering, geotechnical, and environmental reports, land surveys, and land title searches

## 3.0 Schematic design

### 3.1 *Define schematic design principles and approaches*

Understand:

- Understand the history of architecture globally and locally
- Understand the theory of architecture – historical and current
- Understand the evolution of aesthetic design
- Understand the evolution of environmental theory and practice

### 3.2 *Analyze the design principles and solutions in relation to context*

Analyze:

- Explain social consequences both positive and negative
- Explain contextual/environmental influences

### 3.3 *Evaluate aesthetics of design solutions*

Evaluate:

- Propose massing and form
- Propose proportions and scale
- Evaluate materials selection criteria
- Evaluate aesthetic rigour and coherence

### 3.4 *Utilize conceptual and representational skills to imagine and communicate design concepts and solutions*

Apply:

- Prepare three-dimensional visualization
- Prepare graphic representations to illustrate the design concept and solutions
- Prepare a physical model to validate the design concept and solutions

### 3.5 *Assess technical aspects of the schematic design solutions*

Evaluate:

- Assess information required for schematic design given specific conditions
- Assess the impact of factors such as human behaviour, historic precedent, and design theory in schematic design
- Assess engineering services required for the schematic design of a given project – program, clients, and context
- Prepare documentation required for the client's approval
- Evaluate the building code implications for schematic design
- Assess the impact of university accessibility as it applies to building and site design
- Assess the principles of sustainable design as they relate to schematic design
- Assess the scheduling implications for construction

### **3.6 *Produce schematic design solutions for the project***

Create:

- Create a schematic design solution in accordance with building codes, specialist codes, zoning, and other regulatory requirements
- Develop design concepts that integrate programming requirements derived from spatial relationships
- Create a schematic design solution that integrate the engineering/consultant inputs
- Create a range of design solutions in relation to site and environmental analysis
- Create a building site solution given a specific site, selected physical factors, and design criteria
- Evaluate alternatives

## 4.0 Engineering systems – structural, mechanical, electrical, civil

### 4.1 *Describe the structural systems and their influence on design*

Understand:

- Explain the general structural principles of building design approach
- Outline the code and regulatory requirements related to the structure
- Illustrate the implications of design decisions on the selection of systems, materials, technology, and construction details
- Describe the influence of site and environmental characteristics on the selection, design, and construction of structural systems
- Explain the impact of sprinkler systems on structural design
- Illustrate the principles of primary and lateral forces and their effect on the building design

### 4.2 *Understand the mechanical systems (active and passive) and their influence on sustainability and design*

Understand:

- Summarize all factors affecting selection of mechanical systems
- Explain code requirements relevant to active and passive systems
- Describe the environmental characteristics of the selection of mechanical systems
- Understand the sustainability of environmental control systems
- Understand the environmental impact of mechanical system design
- Explain the influence of the mechanical system on the overall design

### 4.3 *Describe the electrical systems (lighting, electricity supply and distribution, fire alarm systems, security and communication systems) and their influence on sustainability and design*

Understand:

- Rationalize the selection of lighting systems and their influence on design
- Explain the influence of power supply and distribution system on design
- Explain the influence of fire alarm, security, and communications systems on design
- Rationalize the selection of power and lighting systems as they relate to sustainable design
- Describe the impact of the choice of lighting and power systems on the environment

### 4.4 *Describe civil engineering systems (water management – supply, drainage, infrastructure) and their influence on sustainability and design*

Understand:

- Explain the impact of the civil engineering system on sustainability and site and building design
- Explain the interface with municipal systems and approval processes, service agreements, etc.

### 4.5 *Analyze the choice of engineering system options*

Analyze:

- Analyze the advantages and limitations of structural systems
- Analyze the advantages and limitation of the mechanical systems
- Analyze the impact of structural, mechanical, and lighting systems on the building and site

## 5.0 Building cost analysis

### 5.1 *Understand factors influencing cost*

Understand:

- Understand factors influencing project budget and financing
- Summarize cost implications of alternative design decisions
- Illustrate the cost implications of scheduling of construction

### 5.2 *Understand methods of estimating costs (range of options)*

Understand:

- Understand methods of estimating costs at preliminary stages of a project (schematic design)
- Understand method of estimating costs at implementation stages of a project (design development/contract documents)

### 5.3 *Apply estimating to a project*

Apply:

- Organize resources available to do a cost estimate
- Apply costing to different building types and/or delivery methods
- Apply preferred methods of cost estimation within given solutions (unit price, life cycle costing, elemental costing, etc.)

### 5.4 *Develop cost planning/cost methodology*

Create:

- Develop client's budget in conjunction with the program and the conditions for completing the project
- Produce recommendations made for the client following a value analysis

## 6.0 Code research – national and local building codes

### 6.1 *Understand the scope and application of national and local building codes to the design construction and occupancy of a building*

Understand:

- Understand which parts of the code(s) apply to specific building projects
- Understand the use of reference standards included within the code
- Understand the use of Division B Appendices with the codes and/or its local equivalent

### 6.2 *Apply code requirements to design development documents*

Apply:

- Apply building classification and construction requirements for a proposed building
- Apply building fire safety requirements for a proposed building
- Apply floor area safety requirement for a proposed building
- Apply barrier-free requirements for a proposed building

### 6.3 *Apply code requirements to construction documents*

Apply:

- Apply requirements for fire safety
- Apply requirements for sound separations
- Apply requirements for safety in floor areas
- Apply requirements for exits
- Apply requirements for health
- Apply requirements for barrier-free design

### 6.4 *Demonstrate awareness of alternative solution provisions in national and local building codes*

Remember:

- Have an awareness of code objectives and their application
- Have an awareness of proper application of an alternative solution in a building design
- Have an awareness of functional statements associated with a code requirement
- Have an awareness of documents and information required to file an alternative design solution

## 7.0 Design development

### 7.1 *Assess aspects influencing design development*

Evaluate:

- Assess information required for design development given specific conditions
- Assess building construction system choices made for a particular design
- Assess material choices made for a particular design
- Propose engineering services required for the design development of a given project (program, clients, context)
- Develop schedules and outline specifications for materials, finishes, fixed equipment, and fixtures
- Assess issues related to indoor air quality and energy conservation, and compare alternative systems relating to these issues

### 7.2 *Assess engineering systems and regulatory factors*

Evaluate:

- Assess the implications of the mechanical, electrical, and structural systems on design
- Assess the implications of building codes on design

### 7.3 *Develop a solution which responds to the aspects influencing the design*

Create:

- Develop detailed design solutions in response to project criteria

### 7.4 *Evaluate alternatives in finalizing a detailed solution*

Evaluate:

- Evaluate aesthetic assumptions as they apply to detailed solutions
- Evaluation emotional, psychological, and spatial implications of the detailed solution
- Evaluate final form and function
- Evaluate solutions against contextual, social, environmental, and other criteria/constraints

### 7.5 *Evaluate detailed solutions with regard to client/user group program needs*

Evaluate:

- Evaluate spatial implications of detailed solutions
- Evaluate spatial inter-relationships of detailed solutions

### 7.6 *Develop design documentation (for review and approval of the proposed solution)*

Create:

- Develop appropriate documentation for client approval
- Develop appropriate documentation for authorities' approvals
- Produce communication methodologies with clients and user groups

## 8.0 Construction documents

### 8.1 *Understand components of construction documents*

Understand:

- Explain the components of project manual (building requirements, contract forms, contract conditions, and specifications)
- Explain components of working drawings
- Explain hierarchy of importance among the various components of construction documents

### 8.2 *Analyze engineering systems and their influence on design and documentation*

Analyze:

- Analyze the implications of proposed structural systems
- Analyze the implications of proposed mechanical systems (plumbing, heating, ventilation, air conditioning, fire protection, conveyance systems)
- Analyze the soil mechanics and its influence of foundation design

### 8.3 *Understand construction materials, their properties, and influence on design and documentation*

Understand:

- Understand appropriate use of materials for a given project
- Understand structural properties of materials (wood, metal, concrete, masonry)
- Understand the properties of different types of building framework (wood, metal, concrete, masonry)
- Understand the properties of the main types of insulating materials
- Understand the properties of the main types of air vapour and water barriers
- Understand the properties of the main types of finishing materials
- Understand the impact of materials and processes on health and environment

### 8.4 *Create material assemblies with consideration to their properties and influence on design and documentation*

Create:

- Develop acoustic assemblies using acoustic principles
- Create fire resistant building and fire stop assemblies

### 8.5 *Create building envelope (design and detailing)*

Create:

- Develop the components of a building envelope
- Design material assembly in relation to thermal resistance, moisture control, and air tightness
- Design glazing systems

## **8.6 Apply the principles of technical specifications**

Apply:

- Understand the relationship between the Master Format and the National Master Specifications (NMS)
- Select divisions of the NMS that are common or specific to each of the disciplines (architecture, structural, mechanical, electrical, etc.)
- Classify construction elements and the corresponding division of the Master Format
- Select components of a typical Master Format specification section
- Apply rules related to writing a good specification
- Select general conditions applicable to the project (bidding requirements, contract forms, contract conditions, etc.)

## **8.7 Coordinate construction documents**

Analyze:

- Review, modify, and coordinate architectural construction documents (products, materials/assemblies) to standards and codes
- Review, modify, and coordinate architectural construction documents for compliance with project criteria (cost, timing, durability, aesthetics, performance, sustainability, and environmental conditions)
- Coordinate architectural documents with regard to sub-consultant documents (structural, electrical, mechanical, etc.)

## **9.0 Bidding and contract negotiation**

### **9.1 Summarize methods of realizing construction projects/forms of project delivery**

Understand:

- Summarize common forms of project delivery (construction management, Design-Build, P3, Design-Bid-Build, etc.)

### **9.2 Summarize major types of construction contracts: purposes and obligations**

Understand:

- Compare different types of construction contracts
- Explain the purposes of common CCDC contracts as they relate to project delivery methods
- Describe the responsibilities of parties to or referenced in a construction document (owner/client, contractor, consultant, etc.)

### **9.3 Evaluate bids submitted by contractors**

Evaluate:

- Clarify the architect's responsibility in making recommendations
- Evaluate submitted tenders
- Explain bid and performance bonds and their role in the tendering process
- Prepare the required post-tender addenda and contract award documents

### **9.4 Apply methods for awarding construction contracts**

Apply:

- Compare the responsibilities of each party involved in the tendering process
- Clarify the role of local construction associations and bid repositories in the tendering process
- Apply the process for awarding a construction contract
- Apply the stages of a standard tendering process
- Prepare documentation required for each phase of the tendering process (addenda, clarifications, etc.)

## **10.0 Construction phase – office and site**

### **10.1 Analyze the role of architects and others in administration of the construction contract (site and office)**

Analyze:

- Clarify the role and responsibilities of the architect in the administration (office and site) of the construction contract
- Select mechanisms to resolve differences in interpretation, disputes, and conflicts arising from the contract documents
- Select mechanisms to assemble evidence in preparation of arbitration or court proceedings
- Clarify contracts and professional obligations related to the observation of construction

### **10.2 Administer office tasks**

Analyze:

- Administer tasks required in the construction phase (from the initial construction meeting, through construction and close-out, until the end of the warranty period)
- Administer documentation required of the contractor prior to commencement of construction
- Select documents required to make changes to the construction contract
- Administer tasks involved in processing payment for work
- Administer tasks involved in review of shop drawings and submittals
- Administer the terms of a contract related to deficiencies, take-over procedures, commissioning, indemnification, and warranty

### **10.3 Administer site tasks**

Create:

- Administer tasks related to the construction phase on site (from the initial construction meeting, through construction and close-out, until the end of the warranty period)
- Select procedures for monitoring construction progress
- Administer tasks related to field review
- Administer tasks related to takeover procedures
- Administer tasks related to hazardous materials and toxic substances

### **10.4 Administer appropriate forms and documents**

Evaluate:

- Prepare certificates for payment
- Prepare contemplated/proposed change directives and change orders
- Prepare other relevant forms or reports (field review, final inspection, etc.)
- Evaluate claims of substantial performance/completion
- Appraise professional obligations relating to building's lien and other related legislation

## **11.0 Management of the project**

### ***11.1 Apply the principles of project management and the provision of professional services***

Apply:

- Implement a project management process
- Organize role(s) of the individuals involved in a project
- Organize the contents of a project file

### ***11.2 Develop and implement work plans***

Create:

- Create the main components of a work plan
- Organize the essential elements of effective team management (communications, objectives, etc.)
- Create a quality assurance process for a project
- Implement a work plan for a specific project

## **12.0 Professionalism and professional practice**

### ***12.1 Consider aspects of professional practice***

Evaluate:

- Evaluate management of consultants, personnel, and teams
- Evaluate fees
- Evaluate consultant service agreements
- Demonstrate contract negotiation and dispute resolution skills

### ***12.2 Understand the role of self-governing profession in contemporary Canadian society***

Understand

- Understand relevant Architects' Act, By-Laws, Code of Ethics, and related documents
- Understand the legal and professional obligations of an architect as a member of a self-governing profession such as competency and conduct requirements

### ***12.3 Understand professional practice management***

Evaluate:

- Understand the business of architecture in jurisdiction(s) of practice
- Understand finance, accounting, and legal requirements of, and for, successful professional practice
- Understand financial forecasting and planning for professional firm success
- Assess risk management, insurance, and professional business ethics
- Analyze human resource and administration plan
- Apply human resource management – fair workplace, human rights, diversity, and equity
- Apply strategic management of information technology
- Describe organizational management
- Describe office administration

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