

**FOUNDATIONAL DOCUMENTS  
REGARDING THE ARCHITECTURE CONTINUUM**

# **Conditions for Licensure of Architects in Canada**

ROAC Presentation to CACB Validation Conference

By

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# The Canadian Education Standard for Architects

This document is endorsed by the following regulatory authorities

(*Canadian Architectural Licensing Authorities*):

- Architectural Institute of British Columbia
- Alberta Association of Architects
- Northwest Territories Association of Architects
- Saskatchewan Association of Architects
- Manitoba Association of Architects
- Ontario Association of Architects
- Ordre des architectes du Québec
- Architects' Association of New Brunswick/Association des architectes du Nouveau-Brunswick
- Nova Scotia Association of Architects
- Architects Association of Prince Edward Island
- Architects Licensing Board of Newfoundland and Labrador

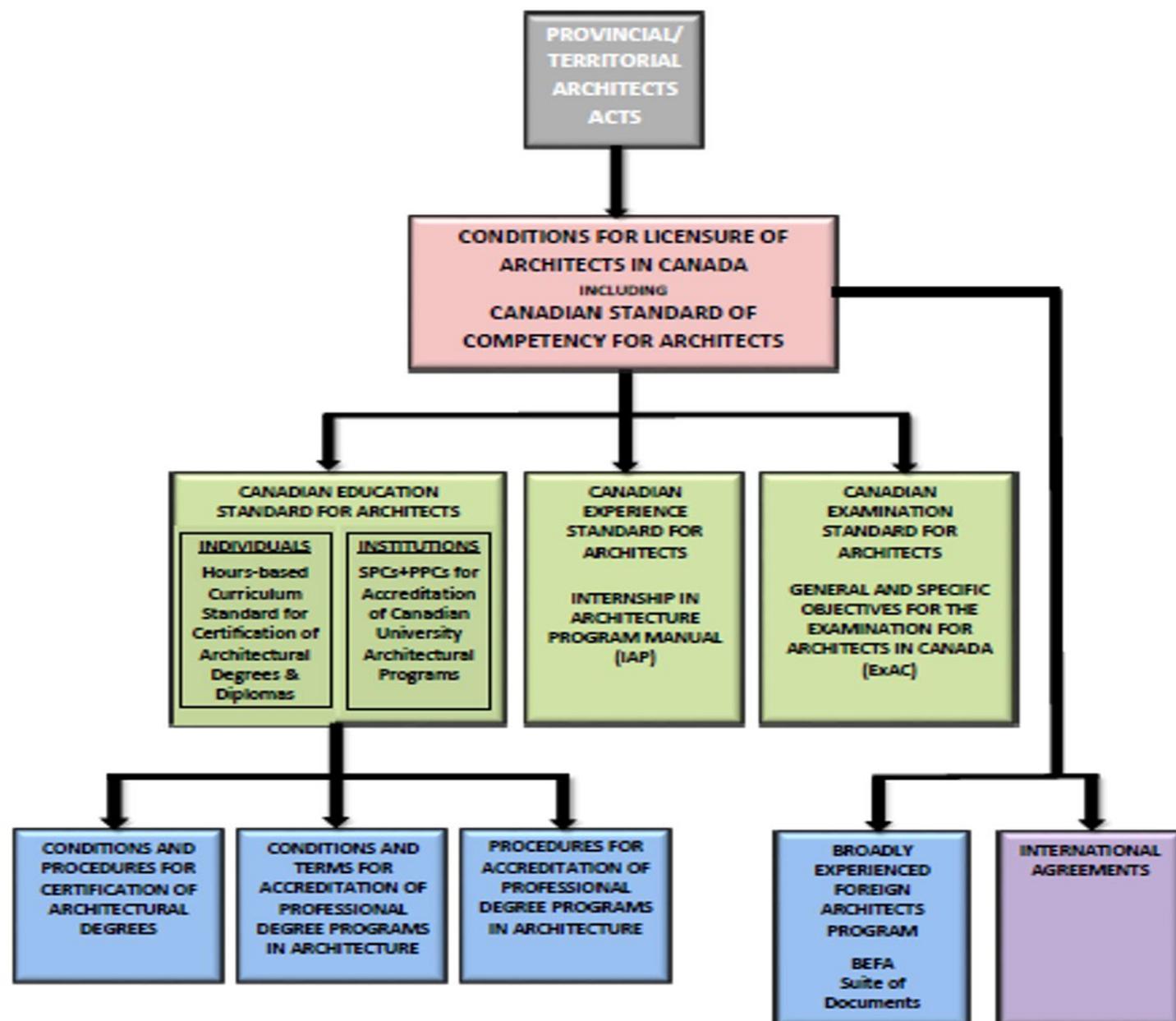
# Conditions for Licensure of Architects in Canada

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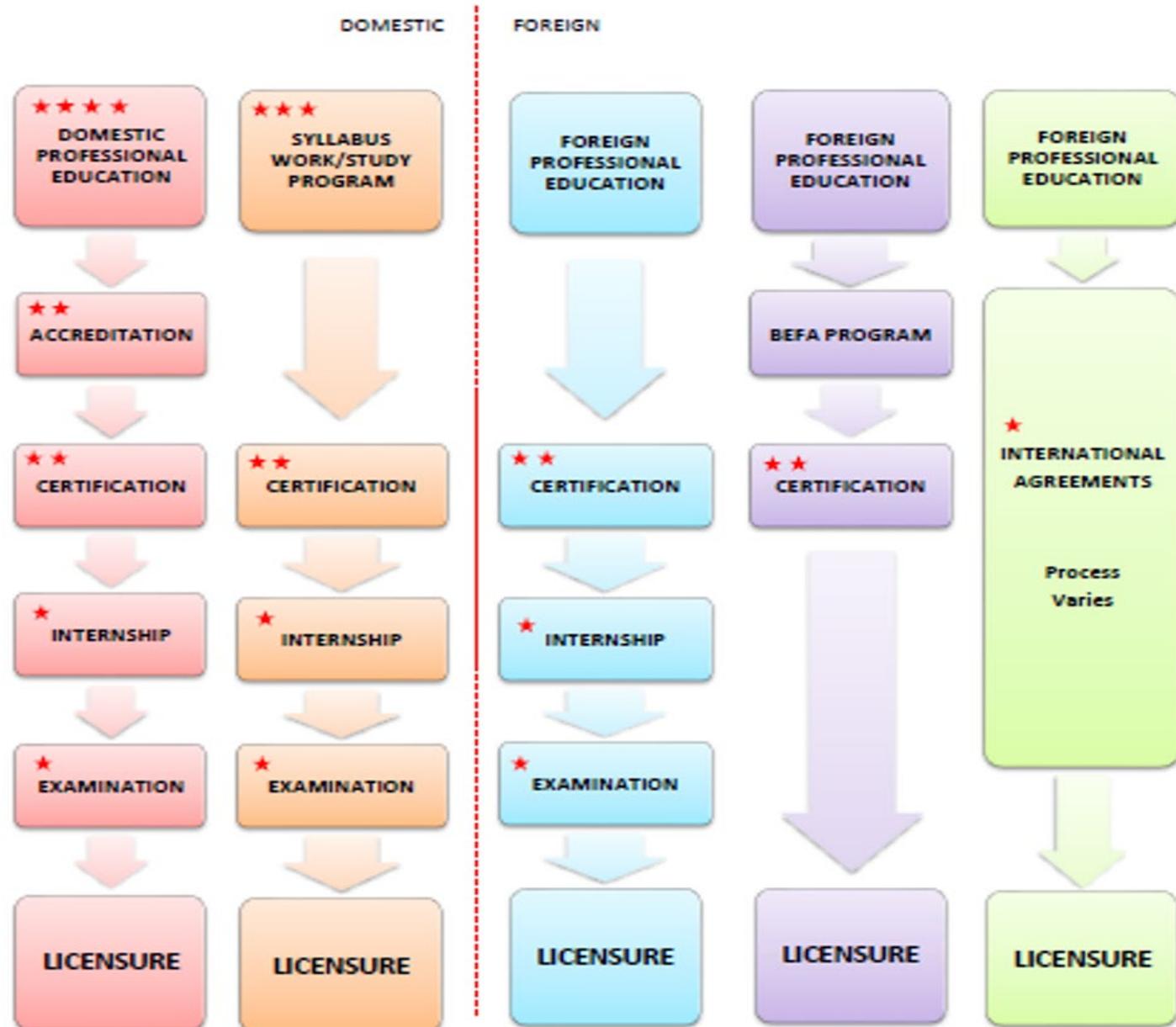
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# CALA GOVERNING DOCUMENTS



# ROADMAP TO LICENSURE



- ★ Administered by CALA
- ★★ Administered by CACB on behalf of CALA
- ★★★ Administered by RAIC
- ★★★★ Administered by CCUSA

# Canadian Standard of Competency for Architects

## Abbreviated Version

February 2020

**Required Form of Comprehension**  
(See last page for details)

<b>1</b>	<b>PROGRAMMING</b>	
1.1	Prepare an architectural functional program	3
1.2	Incorporate principles of sustainable development within an architectural program	3
1.3	Evaluate the architectural program	5
<b>2</b>	<b>SITE AND ENVIRONMENTAL ANALYSIS</b>	
2.1	Propose solutions to the siting of a building in relation to its environment	5
<b>3</b>	<b>SCHEMATIC DESIGN</b>	
3.1	Define schematic design principles and approaches	2
3.2	Analyze design principles and solutions in relation to context	4
3.3	Evaluate aesthetics of design solutions	5
3.4	Utilize conceptual and representational skills to imagine and communicate design concepts and solutions	3
3.5	Assess technical aspects of the schematic design solutions	5
3.6	Produce schematic design solutions for a project	6
3.7	Consider the principles of energy efficiency and environmental impacts	5
<b>4</b>	<b>ENGINEERING SYSTEMS INTEGRATION</b>	
4.1	Describe the structural systems and their influence on design	2
4.2	Understand the mechanical systems (passive and active) and their influence on sustainability and design	2
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	2
4.4	Describe civil engineering systems (water management – supply, drainage, infrastructure) and their influence on sustainability and design	2
4.5	Analyze the choice of engineering system options relative to a project	4
<b>5</b>	<b>BUILDING COST ANALYSIS</b>	
5.1	Understand factors influencing cost	2
5.2	Understand methods of estimating costs (range of options)	2
5.3	Apply cost estimating methods to a project	3
5.4	Develop cost planning/ cost control methodology	6
5.5	Understand principles of life cycle costs	2
<b>6</b>	<b>CODE RESEARCH</b>	
6.1	Understand the scope and application of the national and local building codes to the design construction and occupancy of a building	2
6.2	Apply code requirements to the design process	3
6.3	Apply code requirements to construction documents	3
6.4	Demonstrate awareness of alternate solution provisions in national and local building codes	1
6.5	Apply energy-related code requirements to a project	1
<b>7</b>	<b>DESIGN DEVELOPMENT</b>	
7.1	Assess factors influencing design development	5
7.2	Assess engineering systems and regulatory factors	5
7.3	Develop a solution that responds to the factors influencing the design	6
7.4	Evaluate alternatives in finalizing a detailed solution	5
7.5	Evaluate detailed solutions with regards to client/user group program needs	5
7.6	Develop design documentation (for review and approval of the proposed solution)	6
7.7	Incorporate principles of energy efficiency and environmental concepts	3

<b>8</b>	<b>CONSTRUCTION DOCUMENTS</b>	
8.1	Understand components of construction documents	2
8.2	Understand construction materials, their properties and influence on design and documentation	2
8.3	Create assemblies with consideration to their properties and influence on design and documentation	6
8.4	Create building envelope (design and detailing)	6
8.5	Apply the principles of a project manual and its technical specifications	3
8.6	Coordinate construction documents	4
<b>9</b>	<b>PROCUREMENT AND CONTRACT AWARD</b>	
9.1	Summarize methods of realizing construction projects/ forms of project delivery	2
9.2	Summarize major types of construction contracts, including purpose and obligations	2
9.3	Evaluate bids submitted by contractors	5
9.4	Apply process for considering and awarding construction contracts	3
<b>10</b>	<b>CONSTRUCTION PHASE</b>	
10.1	Analyze the role of architects and others in the administration of the construction contract (office and site)	4
10.2	Administer construction phase office tasks	4
10.3	Administer construction phase site tasks	6
10.4	Administer appropriate forms and documents	5
<b>11</b>	<b>MANAGEMENT OF THE PROJECT</b>	
11.1	Apply the principles of managing an architectural project	3
11.2	Develop and implement work plans	6
<b>12</b>	<b>PROFESSIONALISM AND PROFESSIONAL PRACTICE</b>	
12.1	Consider external relationships in practice management	5
12.2	Consider internal relationships in practice management	5
12.3	Understand the role of a self-governing profession in contemporary Canadian society	2

This document should be read in conjunction with *Definitions of Competencies* and *Forms of Comprehension*

### Forms of Comprehension (Blooms Levels)

- 1 Remember
- 2 Understand
- 3 Apply
- 4 Analyze
- 5 Evaluate
- 6 Create

Refer to *Forms of Comprehension* for description of each level

# Forms of Comprehension

1	<p><b>Remember:</b> recalling, retrieving relevant knowledge from long-term memory; remembering facts and information through memorization in approximately the form in which they were learned <i>For example, you know and are able to name, cite, describe, define (but only if recall is involved), etc.</i></p>
2	<p><b>Understand:</b> perceiving the intended meaning of, explaining in your own words; interpreting information <i>For example, you can explain, summarize, describe/define (if not based solely on recall), interpret, give examples of, etc.</i></p>
3	<p><b>Apply:</b> 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 <i>For example, you can use your knowledge and experience in new situations to solve, calculate, apply rules, laws, and methods, etc.</i></p>
4	<p><b>Analyze:</b> 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 relationships between/among them <i>For example, you are able to compare, contrast, explain why, classify, differentiate, select, etc.</i></p>
5	<p><b>Evaluate:</b> appraising, assessing a plan or process based on specific standards and criteria for a given purpose; making judgements based on criteria and standards <i>For example, you can judge, recommend, critique, defend, appraise, propose, justify, etc.</i></p>
6	<p><b>Create:</b> putting elements together to form a coherent or functional whole; reorganizing elements into a new pattern or structure <i>For example, you are able to create, develop, produce, plan, modify, construct, etc.</i></p>

# Canadian Standard of Competency for Architects

## Full Version

February 2020

Required Form of Comprehension

(See last page for details)

<b>1</b>	<b>PROGRAMMING</b>		
	<b>1.1</b>	<b>Prepare an architectural functional program</b>	<b>3</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	
	<b>1.2</b>	<b>Incorporate principles of sustainable development within an architectural program</b>	<b>3</b>
	1.2.1	Identify design issues that maximize the benefits of existing environmental conditions	
	1.2.2	Apply the principles of sustainable development	
	<b>1.3</b>	<b>Evaluate the architectural program</b>	<b>5</b>
	1.3.1	Evaluate the feasibility of the program with respect to project constraints and opportunities	
	1.3.2	Evaluate the feasibility of the program relative to the site	
	1.3.3	Evaluate the project and construction cost, and budget implications of the program	
	1.3.4	Evaluate the program against stated client objectives	
<b>2</b>	<b>SITE AND ENVIRONMENTAL ANALYSIS</b>		
	<b>2.1</b>	<b>Propose solutions to the siting of a building in relation to its environment</b>	<b>5</b>
	2.1.1	Propose grading and storm water management solutions	
	2.1.2	Evaluate the siting of the building in relation to energy consumption and sustainability	
	2.1.3	Propose solutions for the siting of the building in relation to access and circulation	
	2.1.4	Evaluate the siting of the building in relation to the data derived from engineering, geotechnical and environmental reports, land surveys and land title searches	
	2.1.5	Evaluate the siting of a building in relation to zoning and other regulatory requirements	
<b>3</b>	<b>SCHEMATIC DESIGN</b>		
	<b>3.1</b>	<b>Define schematic design principles and approaches</b>	<b>2</b>
	3.1.1	Understand the history of architecture – globally and locally	
	3.1.2	Understand the theory of architecture – historic and current	
	3.1.3	Understand the evolution of aesthetic design	
	3.1.4	Understand the evolution of environmental theory and practice	
	3.1.5	Understand the process of community consultation	
	<b>3.2</b>	<b>Analyze design principles and solutions in relation to context</b>	<b>4</b>
	3.2.1	Explain social consequences – positive and negative	
	3.2.2	Explain contextual/ environmental/ community influences	
	<b>3.3</b>	<b>Evaluate aesthetics of design solutions</b>	<b>5</b>
	3.3.1	Evaluate massing/form and proportion/scale	
	3.3.2	Evaluate materials in relation to selection criteria	
	3.3.3	Evaluate aesthetic rigour and coherence	
	3.3.4	Evaluate siting in relation to its impact to the aesthetic of the design solution	
	<b>3.4</b>	<b>Utilize conceptual and representational skills to imagine and communicate design concepts and solutions</b>	<b>3</b>
	3.4.1	Convey design concept using 3D visualization	
	3.4.2	Prepare graphic representations to illustrate the design concept and solution	
	3.4.3	Prepare a physical model to validate the design concept and solution	
	<b>3.5</b>	<b>Assess technical aspects of the schematic design solutions</b>	<b>5</b>
	3.5.1	Assess information required for schematic design	
	3.5.2	Assess the impact of factors such as human behaviour, historic precedent and design theory on schematic design	
	<b>3.6</b>	<b>Produce schematic design solutions for a project</b>	<b>6</b>
	3.5.3	Assess engineering services required for the schematic design of the project	
	3.5.4	Assess the scheduling implications for construction	

# Education and Internship Framework - DRAFT

COMPETENCY		Required Form of Comprehension		Expectation at Licensure										
		SPC/PPC		% Completion Toward Expectation at Licensure										
				10	20	30	40	50	60	70	80	90	100	
0	<b>Foundation Education</b>		PPC6											
	0.1	Critical Thinking	PPC6/B1											
	0.2	Research Skills	B1											
	0.3	Graphic Skills	PPC2/A3											
	0.4	Verbal & Writing Skills	PPC6											
	0.5	Collaborative Skills	PPC4											
	0.6	Human Behaviour	PPC3/B4											
	0.7	Cultural Diversity	PPC3/B2/B4											
	0.8	History & Theory	B2/B3											
	0.9	Precedents	B2											
	0.10	Design Skills	A2											
1	<b>Programming</b>		PPC2/PPC5											
	1.1	Prepare an architectural program	3 A4											
	1.2	Incorporate principles of sustainable development within an architectural program	3 PPC3/B5/C5											
	1.3	Evaluate the architectural program	5 A4											
2	<b>Site and Environmental Analysis</b>		PPC3											
	2.1	Propose solutions to the siting of a building in relation to its environment	5 PPC3/A5/A6											
3	<b>Schematic Design</b>		PPC2											
	3.1	Define schematic design principles and approaches	2 A1/A2/A6											
	3.2	Analyze design principles and solutions in relation to context	4 A1/A2/A6											
	3.3	Evaluate aesthetics of design solutions	5 A3											
	3.4	Use conceptual, representational skills to imagine/communicate design concepts/solutions	3 A2/A8											
	3.5	Assess technical aspects of the schematic design solutions	5 B5/C2/C3/											
	3.6	Produce schematic design solutions for a project	6 A2/A3/A6/A8											
	3.7	Consider the principles of energy efficiency and environmental impacts	5 PPC3/B5											
4	<b>Engineering Systems Coordination</b>		PPC5											
	4.1	Understand structural systems and their influence on design	2 PPC5/C3											
	4.2	Understand mechanical systems and their influence on sustainability and design	2 PPC5/B5/C5											
	4.3	Understand electrical systems and their influence on sustainability and design	2 PPC5/B5/C5											
	4.4	Understand civil engineering systems and their influence on sustainability and design	2 PPC5/B5/C5											
	4.5	Analyze the choice of engineering system options relative to a project	4 PPC5/B5											
5	<b>Building Cost Analysis</b>		PPC5											
	5.1	Understand factors influencing cost	2 PPC5/E5											
	5.2	Understand methods of estimating costs (range of options)	2 PPC5/E5											
	5.3	Apply cost estimating methods to a project	3 PPC5/E5											
	5.4	Develop cost planning/ cost control methodology	6 PPC5/E5											
	5.5	Understand principles of life cycle costs	2 PPC5/E5											
6	<b>Code Research</b>		PPC1/PPC6											
	6.1	Understand the scope + application of nat.+local building codes to all aspects of building	2 C1/E2											
	6.2	Apply code requirements to the design process	3 C1/E2											
	6.3	Apply code requirements to construction documents	3 C1/E2											
	6.4	Demonstrate awareness of alternate solution provisions in nat.+local building codes	1 C1/E2											
	6.5	Apply energy-related code requirements to a project	3 PPC3/A5/C4											
7	<b>Design Development</b>		PPC2											
	7.1	Assess factors influencing design development	5 A6/A7/D											
	7.2	Assess engineering systems and regulatory factors	5 D/E5											
	7.3	Develop a solution that responds to the factors influencing the design	6 A6/C2/C4											
	7.4	Evaluate alternatives in finalizing a detailed solution	5 A7/D											
	7.5	Evaluate detailed solutions with regards to client/user group program needs	5 A6/A7/D											
	7.6	Develop design documentation (for review and approval of the proposed solution)	6 A8/D											
	7.7	Incorporate principles of energy efficiency and environmental concepts	3 PPC5/B5											
8	<b>Construction Documents</b>		PPC6											
	8.1	Understand components of construction documents	2 A8/D											
	8.2	Understand construction materials, their properties and influence on design + documents	2 C2/D											
	8.3	Create material assemblies with consideration to their properties and their influence	6 C2/D											
	8.4	Create a building envelope (design and detailing)	6 C4/D											
	8.5	Apply the principles of the project manual and its technical specifications	3 A8/D/E2											
	8.6	Coordinate construction documents	4 PPC4A7											
9	<b>Procurement and Contract Award</b>		PPC5											
	9.1	Summarize methods of realizing construction projects/forms of project delivery	2 PPC1/E1/E2											
	9.2	Summarize major types of construction contracts, including purpose and obligations	2 PPC1/E1/E2											
	9.3	Evaluate bids submitted by contractors	5 PPC1/E1/E2											
	9.4	Apply process for considering and awarding construction contracts	3 PPC1/E2/E4											
10	<b>Construction Phase</b>		PPC4/PPC5											
	10.1	Analyze the role of architects and others in the administration of the construction contract	4 E1/E2/E3/E4											
	10.2	Administer construction phase office tasks	4 E1/E3/E4/E5											
	10.3	Administer construction phase site tasks	6 E1/E2/E3/E4											
	10.4	Administer appropriate forms and documents	5 E1/E3/E4/E5											
11	<b>Management of the Project</b>		PPC1/PPC5											
	11.1	Apply the principles of managing an architectural project	3 E5											
	11.2	Develop and implement work plans	6 E5											
12	<b>Professionalism and Professional Practice</b>		PPC1/PPC4											
	12.1	Consider external relationships in practice management	5 PPC4/ E1/3											
	12.2	Consider internal aspects of practice management	5 PPC1/E4 E5											
	12.3	Understand the role of a self-governing profession in contemporary Canadian society	2 PPC1/E2											

Forms of Comprehension (Bloom's Levels)  
 1 Remember  
 2 Understand  
 3 Apply  
 4 Analyze  
 5 Evaluate  
 6 Create