

**Measurable outcomes for newly registered Architect
Assumes 6 storey concrete structure**

Education	Registration	No Knowledge	Know	Comprehend	Apply	Analyze	Synthesize	Evaluate
		0	1	2	3	4	5	6

Applicable Verbs

		Education	Registration	No Knowledge	Know	Comprehend	Apply	Analyze	Synthesize	Evaluate	Applicable Verbs
2	Site and environmental analysis										
	2.1 Principles related to the siting of a building and its environment: land planning, urban design, and environmental evaluation	-	4	-	-	-	-	R	-	-	Select, Distinguish, Classify, Compare, Prioritize
	2.1.1 Physical, cultural and regulatory factors related to site planning										
	2.1.2 Urban design issues and planning processes that influence the design of a building on a specific site										
	2.1.3 Strategies for dealing with environmental, social, and economic issues in site evaluation										
	2.2 Siting a building in relation to its environment	-	5	-	-	-	-	-	R	-	Hypothesize, Develop, Design, Plan, Create, Invent
	2.2.1 Grading and storm water management										
	2.2.2 Energy consumption										
	2.2.3 Sustainability										
	2.3 Data and information management	-	4	-	-	-	-	R	-	-	Select, Distinguish, Classify, Compare, Prioritize
	2.3.1 The effect of data derived from engineering and environmental reports, land surveys, and land title										
	2.4 Integration/synthesis of site and environmental analysis with all other categories	-	5	-	-	-	-	-	R	-	Hypothesize, Develop, Design, Plan, Create, Invent

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3	Schematic Design																	
3.1	Aspects of schematic design	-	5		-	-	-	-	-	-	R	-						Hypothesize, Develop, Design, Plan, Create, Invent
	3.1.1																	
	3.1.2																	
	3.1.3																	
	3.1.4																	
	3.1.5																	
	3.1.6																	
	3.1.7																	
	3.1.8																	
	3.1.9																	
3.2	Implementation of schematic design principles to craft solutions	-	6		-	-	-	-	-	-	R	-						Critique, Recommend, Appraise, Judge, Compare, Consider
	3.2.1																	
	3.2.2																	
	3.2.3																	
	3.2.4																	
	3.2.5																	
3.3	Integration/synthesis of schematic design with all other categories	-	5		-	-	-	-	-	-	R	-						Hypothesize, Develop, Design, Plan, Create, Invent

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4	Engineering systems coordination -- Structural, Mechanical, Electrical, Civil		-										
	4.1	Main properties of structural systems and their influence on design	-	3		-	-	-	R	-	-	-	Organize, Sketch, Solve, Prepare, Choose, Apply
		4.1.1 General structural principles of building design & construction											
		4.1.2 Codes and regulatory requirements for design of the structure											
		4.1.3 Implications of design decisions on the selection of systems, materials, technology, and construction											
		4.1.4 Influence of site and environmental characteristics on the selection, design, and construction of structural systems											
	4.2	Principles of primary and lateral forces, codes/regulations governing those principles, and their collective influence on design of the structural system	-	3		-	-	-	R	-	-	-	Organize, Sketch, Solve, Prepare, Choose, Apply
		4.2.1 Principles of primary and lateral forces in the design and construction of buildings											
		4.2.2 Building code and other regulatory requirements related to seismic forces											
		4.2.3 Implication of design decisions in the selection of systems, materials, and construction details related to seismic forces											
		4.2.4 Influence of site and environmental characteristics on the selection, design, and construction of building structural systems related to seismic forces											
	4.3	Principles of fire protection, codes/regulations governing those principles, and their collective influence on design of the structural system	-	4		-	-	-	-	R	-	-	Select, Distinguish, Classify, Compare, Prioritize
		4.3.1 Effect of relevant codes on requirement for and design of sprinkler systems											
		4.3.2 Impact of sprinkler protection on size and construction of the building											
		4.3.3 Evaluation and selection of fire detection and suppression systems											
	4.4	Mechanical and passive systems and their influence on design	-	4		-	-	-	-	R	-	-	Select, Distinguish, Classify, Compare, Prioritize
		4.4.1 Codes relevant to active and passive environmental control systems											
		4.4.2 Sustainability and environmental control systems											
	4.5	Main properties of the electrical system (lighting, electricity supply and distribution, fire alarm systems, security and communication systems) and their influence on sustainability and design	-	3		-	-	-	R	-	-	-	Organize, Sketch, Solve, Prepare, Choose, Apply
		4.5.1 Codes relevant to electrical and fire alarm systems											
		4.5.2 Sustainability and lighting/fire alarm systems											
	4.6	Main properties of the civil engineering system (water management -- supply, drainage, infrastructure) and their influence on sustainability and design	-	3		-	-	-	R	-	-	-	Organize, Sketch, Solve, Prepare, Choose, Apply
		4.6.1 Civil engineering design impact on the building and site											
		4.6.2 Interface with municipal systems and approval processes, service agreements, etc.											
	4.7	Coordination of engineering systems documentation	-	4		-	-	-	-	R	-	-	Select, Distinguish, Classify, Compare, Prioritize
		4.7.1 Advantages and limitations of the structural system											
		4.7.2 Advantages and limitation of the mechanical systems											
		4.7.3 Impact of structural, mechanical, and lighting systems on the building and site											
	4.8	Integration/synthesis of engineering systems and all other categories	-	4		-	-	-	-	R	-	-	

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5	Building cost analysis										
5.1	Factors influencing cost	-	4		-	-	-	R	-	-	Select, Distinguish, Classify, Compare, Prioritize
	5.1.1 Factors influencing project budget and financing										
	5.1.2 Cost implications of alternative design decisions										
	5.1.3 Time scheduling for construction										
5.2	Cost planning/cost control	-	4		-	-	-	R	-	-	Select, Distinguish, Classify, Compare, Prioritize
	5.2.1 Client's budget in conjunction with the program and the conditions for completing the project										
	5.2.2 Recommendations made to a client following a value analysis										
5.3	Methods of estimating costs	-	4		-	-	-	R	-	-	Select, Distinguish, Classify, Compare, Prioritize
	5.3.1 Methods of estimating costs at preliminary stages of a project (schematic design)										
	5.3.2 Methods of estimating costs at implementation stages of a project (design development/contract										
5.4	Estimating methods within the framework of a project	-	4		-	-	-	R	-	-	Select, Distinguish, Classify, Compare, Prioritize
	5.4.1 Resources available to do a cost estimate										
	5.4.2 Concepts of construction, project and overall costs										
	5.4.3 Preferred methods of estimating costs within given situations										
5.5	Integration/synthesis of building cost analysis with all other categories	-	4		-	-	-	R	-	-	Select, Distinguish, Classify, Compare, Prioritize
6	Code research										
6.1	National and local building codes	-	4		-	-	-	R	-	-	Select, Distinguish, Classify, Compare, Prioritize
	6.1.1 Code requirements governing classification of buildings										
	6.1.2 Code requirements governing non-combustible construction										
	6.1.3 Code requirements governing fire separations										
	6.1.4 Code requirements governing fire fighter access										
	6.1.5 Code requirements governing sound separations										
	6.1.6 Code requirements governing safety within floor areas										
	6.1.7 Code requirements governing exits										
	6.1.8 Occupant loads given specific requirements										
	6.1.9 Regulations respecting health requirements										
	6.1.10 Regulatory requirements respecting barrier-free design and universal accessibility										
	6.1.11 Documents and organizations referenced or included in codes										
	6.1.12 Application of relevant code sections to specific building types										
	6.1.13 Measures for high-rise buildings										
	6.1.14 Measures for inter-connected floor space										
6.2	Integration/synthesis of code research with all other categories	-	4		-	-	-	R	-	-	Select, Distinguish, Classify, Compare, Prioritize

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				0	1	2	3	4	5	6	
7	Design Development										
	7.1	-	6	-	-	-	-	-	-	R	Critique, Recommend, Appraise, Judge, Compare, Consider
	7.2	-	5	-	-	-	-	-	R	-	Hypothesize, Develop, Design, Plan, Create, Invent
	7.3	-	5	-	-	-	-	-	R	-	Hypothesize, Develop, Design, Plan, Create, Invent
	7.4	-	5	-	-	-	-	-	R	-	Hypothesize, Develop, Design, Plan, Create, Invent
	7.5	-	5	-	-	-	-	-	R	-	Hypothesize, Develop, Design, Plan, Create, Invent
	7.6	-	6	-	-	-	-	-	-	R	Critique, Recommend, Appraise, Judge, Compare, Consider
	7.7	-	6	-	-	-	-	-	-	R	Critique, Recommend, Appraise, Judge, Compare, Consider
	7.8	-	4	-	-	-	-	R	-	-	Select, Distinguish, Classify, Compare, Prioritize
	7.9	-	5	-	-	-	-	-	R	-	Hypothesize, Develop, Design, Plan, Create, Invent
	7.10	-	4	-	-	-	-	R	-	-	Select, Distinguish, Classify, Compare, Prioritize
	7.11	-	5	-	-	-	-	-	R	-	Hypothesize, Develop, Design, Plan, Create, Invent

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8.5	Components of construction documents	-	5	-	-	-	-	R	-	Hypothesize, Develop, Design, Plan, Create, Invent
	8.5.1 Contents of the specifications									
	8.5.2 Function of the specifications									
	8.5.3 Function of the working drawings									
	8.5.4 Main components of and the relationships among the various components of construction documents									
8.6	Role of the architect with respect to construction documents	-	5	-	-	-	-	R	-	Hypothesize, Develop, Design, Plan, Create, Invent
	8.6.1 Conformation of products, materials, and assemblies to standards and codes									
	8.6.2 Coordinate and complete architectural documents									
	8.6.3 Professional responsibilities and liabilities arising from production/issuance of construction documents									
	8.6.4 Professional services and construction contract(s) administration									
	8.6.5 Professional practice issues, including risk management, insurance, and professional/business ethics									
8.7	Principles of writing a technical specification	-	4	-	-	-	-	R	-	Select, Distinguish, Classify, Compare, Prioritize
	8.7.1 Links between the Master Format and the National Master Specifications (NMS)									
	8.7.2 Divisions of the NMS that are common or specific to each of the disciplines (architecture, structural,									
	8.7.3 Construction elements and the corresponding division of the Master Format									
	8.7.4 Components of a typical Master Format specification section									
	8.7.5 Rules related to writing a good specification									
	8.7.6 General conditions -- bidding requirements, contract forms, contract conditions									
	8.7.7 Addenda and contract modifications									
8.8	Document checking and coordination	-	6	-	-	-	-	-	R	Critique, Recommend, Appraise, Judge, Compare, Consider
8.9	Integration/synthesis of construction documents with all other categories	-	4	-	-	-	-	R	-	Select, Distinguish, Classify, Compare, Prioritize

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9	Bidding and contract negotiation										
	9.1 Methods of realizing construction projects/forms of project delivery	-	2	-	-	R	-	-	-	-	Illustrate, Summarize, Explain, Distinguish
	9.1.1 Forms of project delivery										
	9.2 Types, purposes, and obligations arising from different forms of construction contracts	-	6	-	-	-	-	-	-	R	Critique, Recommend, Appraise, Judge, Compare, Consider
	9.2.1 Different types of construction contracts										
	9.2.2 Purposes of variant CCDC construction documents										
	9.2.3 Responsibilities of parties to or referenced in a construction contract										
	9.3 Methods for awarding construction contracts	-	6	-	-	-	-	-	-	R	Critique, Recommend, Appraise, Judge, Compare, Consider
	9.3.1 Responsibilities of each party involved in the tendering process										
	9.3.2 Role of local construction associations and bid depositories in the tendering process										
	9.3.3 Methods for awarding a construction contract										
	9.3.4 Stages of a standard tendering process										
	9.3.5 Documentation required for each phase of the tendering process										
	9.3.6 Addenda and clarifications										
	9.4 Bids submitted by contractors	-	6	-	-	-	-	-	-	R	Critique, Recommend, Appraise, Judge, Compare, Consider
	9.4.1 Architect's responsibility in making recommendations										
	9.4.2 Assess bid submissions										
	9.4.3 Process of evaluating submitted tenders										
	9.4.4 Bid and performance bonds and their role in the tendering process										
	9.5 Integration/synthesis of bidding and contract negotiation with all other categories	-	4	-	-	-	-	R	-	-	Select, Distinguish, Classify, Compare, Prioritize

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13	Professionalism and professional practice											
13.1	Professional practice	-	5		-	-	-	-	R	-		Hypothesize, Develop, Design, Plan, Create, Invent
	13.1.1											
	13.1.2											
	13.1.3											
	13.1.4											
13.2	Role of self governing profession in contemporary Canadian society	-	2		-	-	R	-	-	-		Illustrate, Summarize, Explain, Distinguish
13.3	Legal and professional obligations of an architect as a member of a self governing profession	-	3		-	-	-	R	-	-		
13.4	Professional ethics and responsibility	-	3		-	-	-	R	-	-		Organize, Sketch, Solve, Prepare, Choose, Apply
13.5	Personal characteristics of a professional	-	3		-	-	-	R	-	-		Organize, Sketch, Solve, Prepare, Choose, Apply
	13.5.1											
	13.5.2											
	13.5.3											
	13.5.4											
13.6	Professional practice management	-	4		-	-	-	-	R	-		Select, Distinguish, Classify, Compare, Prioritize
	13.6.1											
	13.6.2											
	13.6.3											
	13.6.4											
	13.6.5											
	13.6.6											
	13.6.7											
13.7	Integration/synthesis of professionalism and professional practice with all other categories	-	3		-	-	-	R	-	-		Organize, Sketch, Solve, Prepare, Choose, Apply