

Guidelines for Mentors and Employers

*Information to assist Mentors and Employers
in fulfilling their responsibilities under the
Intern Architect Program*

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These guidelines have been endorsed by the following member association of the Committee of Canadian Architectural Councils (CCAC):

Architectural Institute of British Columbia
Alberta 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
Nova Scotia Association of Architects
Architects Association of Prince Edward Island
Newfoundland Association of Architects

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*(Excerpt from Appendix A to the **Intern Architect Program** manual)*

Keywords

Intern Architect¹

1The title Intern Architect is used in all provinces except in Québec, where the term Stagiaire en architecture ('Architectural Intern') is used, and in Manitoba, where the term Intern is used.

An intern architect is an individual who has completed a professional degree program in architecture or recognized equivalent, has obtained a certificate from the *Canadian Architectural Certification Board*, and has registered with a provincial association of architects. An Intern Architect receives the *Intern Architect Program* manual with instructions and forms for recording experience.

Architectural Student

An architectural student is an individual who is enrolled in a CACB-accredited architectural program or RAIC Syllabus Program. Some provincial associations also accept individuals from schools accredited by the National Architectural Accrediting Board Inc. (NAAB) in the United States.

Mentor

A mentor is "an experienced and trusted advisor" (Oxford Dictionary). Under the *Intern Architect Program*, the mentor must be an architect or a retired architect, outside the Intern Architect's firm of employment, except in rare extraordinary circumstances.

Employer

An Employer is the individual within the firm, organization or practice who personally supervises and directs the Intern Architect on a daily basis.

Architect Registration Examination (ARE)

The Architect Registration Examination is a nine-part series of examinations comprised of the following divisions:

Multiple Choice Divisions

- Pre-design
- General Structures
- Lateral Forces
- Mechanical and Electrical Systems
- Materials and Methods
- Construction Documents

Graphic Divisions

- Site Planning
- Building Planning
- Building Technology

The examination is developed and administered by the National Council of Architectural Registration Boards (NCARB) in the United States. Currently, the ten provincial associations use the ARE. Canadian architects are appointed to NCARB Examination Committees to assist in the development of the examination, as well as to ensure that the metric system is used and that Canadian standards and terminology are provided. The fully computerized examination is being progressively introduced in the French language and is given at various testing centres across North America.

CERB (Canadian Experience Record Book)

The Canadian Experience Record Book is part of the *Intern Architect Program* manual. The Intern Architect is responsible for maintaining a continuous record of experience and submitting this record regularly to the provincial association for review and credit.

Introduction - The Intern Architect Program

Intern Architect Program (IAP) is administered by the ten provincial associations of architects. The IAP contributes to the professional development of competent architects who will be able to provide exemplary architectural services. A comprehensive internship program is necessary to acquire and reinforce the knowledge, integrity, judgement, skills, discipline and quest for learning that must serve the architect for a lifetime. The objectives of the program are to:

- define and identify areas of architectural practice where Intern Architects must acquire basic knowledge and skills;
- encourage additional experience in other broad spheres of architectural practice;
- provide information and advice about educational, internship and professional issues and opportunities;
- provide a uniform system for documentation and assessment;
- provide greater access to, and recognition of, supplementary educational opportunities;
- facilitate the transition between formal education and architectural registration/licensure;
- involve members of the profession in the development and training of future members.

Recording work experience can begin after 50% completion of a professional degree in architecture or satisfactory completion of Part I of the RAIC Syllabus. The architectural student or graduate must first apply for registration in the *Intern Architect Program* with a provincial association of architects. The provincial associations of architects (the licensing/registration authorities) have adopted common admission standards regarding Education, Experience and Examination. These standards include:

- **Education** - Canadian Architectural Certification Board (CACB) certification;
- **Experience** - standard pre-registration/licensing experience requirements;
- **Examination** - standard Architect Registration Examination (ARE)

Under the *Intern Architect Program* there are two types of experience: a **Mandatory Component** and a **Discretionary Component**. The Mandatory Component requires the completion of specific activities under the supervision of an **Architect**. These activities must be recorded in the **Canadian Experience Record Book** which is part of the *Intern Architect Program* manual. Architects may serve as employers under the Discretionary Component, however, in many circumstances, other professionals such as engineers, landscape architects, planners, interior designers or general contractors may be the employer.

The provincial associations require the timely review of the experience recorded in the CERB. When 900 - 1000 hours of experience have been completed, an "Experience Summary Form" duly dated, signed and certified by the Intern Architect, and signed and dated by the Employer and Mentor must be submitted by the Intern Architect to the provincial association for review and credit within eight weeks of the date of the last entry. In some provinces, penalty fees are charged for late submission. The experience usually takes a minimum of three calendar years to complete.

An Intern Architect may start writing the **Architect Registration Examination** (ARE), which is administered by the National Council of Architectural Registration Boards (NCARB), after obtaining CACB certification and eligibility from the provincial association. There are nine divisions in total, and all may be taken at independent computerized testing

centres throughout the year. Upon successful completion of the ARE and fulfillment of the experience requirements, the Intern Architect may apply to become registered or licensed.

Some provincial associations have additional requirements, such as attendance at admission courses and/or an oral examination. These additional prerequisites to licensing/registration are available from the provincial association of architects.

The Role of the Mentor

Historically, most architects were trained by Mentors, experienced practitioners who transferred their knowledge and skills to the apprentice or “Intern”. Because of the ever increasing pressures of architectural practice this role has evolved to one of “*employer and employee*” or “*employer and independent contractor*”.

The *Intern Architect Program* is designed to address this decline in the mentorship relationship. The intent of the relationship between Mentor and Intern Architect is for the Mentor to offer counsel that is removed from the employment situation, thereby providing an independent and objective overview of the Intern Architect’s training and experience.

The Mentor should meet regularly with the Intern Architect to review the progress of experience and to discuss career objectives and broader issues related to the profession.

The Mentor is expected to:

- act as the Intern Architect’s professional advisor for the period of experience, by conducting regular meetings (usually about three times a year) with the Intern Architect to discuss experience and performance and to offer constructive criticism. Contact with the Employer is encouraged;
- discuss issues pertaining to professional conduct and ethics;
- review the Intern Architect’s experience and advise of any deficiencies, and recommend changes in emphasis. These changes could possibly result in the Intern Architect changing employment to achieve certain objectives, if necessary;
- review with the Intern Architect comments from the provincial association in regard to experience submitted for review;
- advise, if she/he so wishes, the Intern Architect on the requirements of architectural practice including, the Architects Act, bylaws, and regulations, governing the profession;
- encourage, if she/he so wishes, the Intern Architect to participate in community service and continuing education;
- certify to the provincial association that he or she has met with the Intern Architect.

The Intern Architect should determine the nature of his or her relationship with the Mentor and direction of his or her experience; however, the Mentor should provide counsel at all stages of this process. It is important to keep in mind the fact that Intern Architects are often in a state of transition— moving from project to project **within one office**; or, from project to project **and, from office to office**. A mentor can provide continuity and help an Intern Architect keep focused on the ‘bigger picture’.

Becoming a Mentor can be mutually beneficial - it can serve as a reminder of why we chose architecture as a career. Mentoring can provide an exchange of new ideas and concerns which help both the Mentor and the Intern Architect. Involvement with future members of the profession, will assist a Mentor in keeping abreast of the latest cultural and technological developments within the profession.

In conclusion, the Mentor should provide motivation, encouragement, direction and constructive criticism toward the Intern Architect’s progress. A Mentor should “listen, guide and encourage”.

The Role of the Employer

The intent of the relationship between **Employer** and **Intern Architect** is for the Employer to supervise and direct the Intern Architect on a daily basis, thereby providing guidance with respect to the tasks at hand. In addition to daily guidance, it may be helpful for the Employer to frequently meet with the Intern Architect to review each major stage of a project to ensure that he/she has a good understanding and working knowledge of all aspects of the work as it proceeds.

The Employer should regularly assess the quality of the work performed and certify the Intern Architect's documentation of work experience activity. Although the Employer is not responsible for documenting the Intern Architect's activities, he or she should have a clear understanding of the objectives and experience requirements of the Intern Architect Program and be familiar with the documentation procedures.

The **Employer** is expected to:

- offer the Intern Architect the full range of responsibilities and opportunities afforded by the practice of architecture, to the extent that the nature of the practice allows in order to fulfill the necessary experience requirements for licence/registration and to better acquaint them with the duties and responsibilities of an Architect, and to meet the standards of the architectural profession in order to protect the public interest;
- review and evaluate the Intern Architect's experience and performance on a regular basis with the Intern Architect. At the discretion of the Intern Architect, this should be done either with, or independently from, the Mentor.
- provide detailed comments and recommendations on the Intern Architect's "Experience Summary Form";
- certify the Intern Architect's experience relating to employment within the practice in the **Canadian Experience Record Book (CERB)**.

The mandatory component of the Intern Architect's experience must satisfy the minimum hours stated under the following categories:

- Category A – Design and Construction Documents (2800 hours)
- Category B – Construction Administration (560 hours)
- Category C – Management (280 hours)

The discretionary component (1880 hours) of an Intern Architect's experience may include areas such as employment under the direct supervision of a professional engineer or other recognized professional; post-graduate study or research; undergraduate work experience; or, work experience while enrolled in the RAIC Syllabus Program. The Intern Architect should ensure that the employment situation is acceptable to the provincial association before commencement of recording.

For more detailed information on the Experience Requirements, click [here](#).

The Employer plays a crucial role in the Intern Architect's career, not only by providing encouragement, direction and constructive criticism, but also by facilitating the transition between architectural education and practice and providing the practical professional experience required for licence/registration.

Appendix A

Recording a Session with your Intern Architect

It is helpful for the Mentor to record notes of each meeting with the Intern Architect. These notes may be in the form of a diary and can assist the Mentor in future discussions and in planning an Intern Architect's future work experience and career.

In addition, the Mentor must eventually sign a declaration indicating that he or she has met with the Intern Architect and these notes serve as back-up documentation for this declaration.

The following checklist may be of assistance:

- Obtain copies of the Intern Architect's "*Experience Summary Form*" and "*Periodic Assessment Form*"
- Discuss the Intern Architect's expectation from a Mentor and his or her expectations for internship
- Identify and discuss the expectations of the Intern Architect from the Employer and the workplace and how the experience over the last few months compares with these expectations
- Review and discuss the range of project types, sizes and occupancies and experience categories (Click [here](#) for more detailed information on the 'Experience Requirements')
- Identify and record the level of responsibility of the Intern Architect
- List the professional goals of the Intern Architect for the next few months
- Discuss with the Intern Architect upcoming dates and deadlines regarding the *Intern Architect Program*, including the ARE and required activities of experience
- Record your recommendations for the next few months
- Record observations on any deficiencies or activities required to be undertaken by the Intern Architect
- Make arrangements for the next meeting

Appendix B

A Three Year Planner

The Internship process may be completed in about three years. Every Intern Architect-Mentor relationship is different and therefore the following checklist is provided only as a model. Remember, the following milestones are **suggestions** only.

YEAR 1

Session 1	First meeting-- Get to know each other --Start formal mentoring relationship
Session 2	Discuss overall career goals and the profession Sign "Declaration Form"
Session 3	Discuss work experience in general and if all required activities (experience categories) can be completed with current career path Sign "Declaration Form"

YEAR 2

Session 1	Discuss work experience in detail, and possibly review samples of work, and if all required activities (experience categories) are on track
Session 2	Discuss with Intern Architect the skills required for relating to Clients and the Public and how to develop professional judgement Sign "Declaration Form"
Session 3	Intern Architect to commence Architect Registration Examination (ARE) Review with Intern Architect provincial association licensing/registration requirements Sign "Declaration Form"

YEAR 3

Session 1	Review work experience in detail and if all required activities (experience categories) are on track for completion within the year ahead Sign "Declaration Form"
Session 2	Discuss with Intern Architect the skills required for relating to Clients and the Public and how to develop professional judgement
Session 3	Ensure all professional and work experience issues are fully resolved Sign "Declaration Form" Congratulate Intern Architect on becoming an ARCHITECT !!!

Appendix C

Experience Area Description and Recommended Activities

(Excerpt from Appendix A to the Intern Architect Program Manual)

An Intern Architect must acquire 5600 hours to satisfy the Intern Experience requirements. The following chart lists the experience categories and areas and the required hours for each.

CATEGORY A: DESIGN AND CONSTRUCTION DOCUMENTS

	<u>Number of Hours Required</u>
1. Programming	80
2. Site and Environmental Analysis	80
3. Schematic Design	120
4. Engineering Systems Coordination	120
5. Building Cost Analysis	80
6. Code Research	120
7. Design Development	320
8. Construction Documents	1080
9. Specifications and Materials Research	120
10. Document Checking Coordination	<u>80</u>
	2200
Total Hours Required	2800*

* This total includes the 2200 minimum hours required, plus 600 additional hours that must be earned in any of the experience areas 1-10.

CATEGORY B: CONSTRUCTION ADMINISTRATION

	<u>Number of Hours Required</u>
11. Bidding and Contract Negotiation	80
12. Construction Phase - Office	120
13. Construction Phase - Observation	<u>120</u>
	320
Total Hours Required	560*

* This total includes the 320 minimum hours required, plus 240 additional hours that must be earned in any of the experience areas 11-13.

CATEGORY C: MANAGEMENT

	<u>Number of Hours Required</u>
14. Project Management	120

15. Office management	<u>80</u>
	200
Total Hours Required	280*

* This total includes the 200 minimum hours required, plus 80 additional hours that must be earned in any of the experience areas 14-15.

CATEGORY D: RELATED ACTIVITIES

	<u>Number of Hours Required</u>
16. Professional and Community Service	0
Total Hours Permitted	80*

* No mandatory minimum hours are required in this category. The 80 hours under Category D is encouraged but may be substituted with 80 hours in any of the Categories A, B and C.

CATEGORY E: DISCRETIONARY

	<u>Number of Hours Required</u>
17. Related Disciplines	0
18. Post Graduate Work/Teaching/Research	0
19. Undergraduate Experience	0
20. RAIC Syllabus	0
Total Hours Permitted	1880
Total Hours Required	5600

The required minimum in Categories A, B, C, and D total 3720 hours. The additional 1880 units may be acquired in any of the listed categories, subject to permitted maximums.

CATEGORY A: DESIGN AND CONSTRUCTION DOCUMENTS

1. Programming

Programming is the process of 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, isolating and developing concepts, and determining general needs. The Client-Architect agreements presume that the owner will furnish the program and that any involvement of the architect in writing the program will be an additional service not covered in the basic agreement. However, many owners employ the architect to assist them in this effort. The project will also be affected by the mortgage lender; public officials involved in health, welfare and safety; future tenants, and, increasingly, the people who will work in the built environment. Their input at the programming stage is essential to maintain an orderly design process.

Required Intern Activities include the following:

- Participate in office conferences with clients regarding programming, periodic reviews and formal presentations and assist in preparing minutes or reports for future reference.
- Assist with presentations at zoning and variance hearings, and at meetings with the owners and consultants of these projects.
- Assist in preparing the summary and evaluation of data and requirements obtained from all sources. Research current literature pertaining to architectural programming.

2. Site and Environmental Analysis

Site analysis includes land planning, urban design and environmental evaluation. 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. Governmental agencies frequently require documentation on the results that construction will have on surrounding lands (i.e. environmental impact studies). Decisions relating to site analysis must involve the selection, organization and evaluation of pertinent data that will lead to a resolution of the owner's program while conforming to legal requirements.

Required Intern Activities include the following:

- Assist in analyzing several sites to assess the feasibility of their use for a proposed project.
- Help analyze the feasibility of using a specific site for a project.
- Assist in the analysis of specific land use and location for a project.
- Assist in the formulation of 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. Schematic Design

From the owner-approved program, the architect develops alternative solutions to satisfy technical and aesthetic requirements. Preferred schemes are presented until owner and architect can agree on one.

Required Intern Activities include the following:

- Participate in the development and preparation of preliminary design concepts to determine the spatial relationships that best satisfy the owner's program.
- Participate in the development and coordination of program requirements with consultants.
- Assist in the preparation of presentation drawings and models.
- Assist in the analysis and selection of engineering systems.
- Participate in design review and approval meetings with clients, user groups, etc.

4. Engineering Systems Coordination

The architect is usually responsible for the selection, design and coordination of all building systems, including the engineering systems. The emphasis of this training requirement is to develop an understanding of the integration of the engineered systems normally designed by consultants and provided by product suppliers under the direct supervision and control of the architect. These traditionally have included structural, mechanical and electrical subsystems as well as newer technical innovations and special requirements, such as telecommunications and computer applications.

Architects must know how engineering systems work, including system benefits and limitations, availability, cost and the space requirements necessary to provide the basis for system design, selection and integration. This knowledge also provides the vital communication links necessary for appropriate interaction with engineering consultants and product suppliers.

Required Intern Activities include the following:

- Become familiar with construction methods and performance of different engineering systems.
- Understand safety requirements and the selection process for engineering systems.
- Assist in research, analysis and selection of engineering systems during the schematic design and development phases.
- Help coordinate engineering systems documents 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.
- Assist in checking shop drawings, evaluating samples and maintaining records.
- Visit job site and observe installation and integration of engineering systems, construction details and space requirements.
- Attend systems start up, operation and maintenance meetings required for

acceptance and use by the owner.

- Obtain and study manufacturers' literature for engineering systems and components.
- Become familiar with relevant codes and regulatory standards applicable to various engineering systems.
- Check maintenance manuals and warranties submitted by contractors for conformance with contract documents.

5. Building Cost Analysis

An important responsibility of the architect is to evaluate the probable project construction cost. Accurate estimates are crucial to the client. They influence decisions involving basic design, selection of building products and systems and construction scheduling. Long-term maintenance, as well as tax impact of material and system selection (value engineering), are additional factors that bear on development of the project. For their own preliminary analysis, most architects use computations based on area and/or volume. Estimates of cost provided later in the design process are frequently made on the basis of labour and material requirements (quantity surveys), a method that requires a more specialized knowledge of construction costs.

Required Intern Activities include the following:

- Calculate the area and volume of a project.
- Make a simplified quantity takeoff of selected materials and prepare comparative cost analyses.
- Assist in the preparation of cost estimates of each stage of a project.
- Review various references and texts utilized in cost estimating.
- Assist in the preparation of cost analyses for current projects, using a variety of indices.
- Conduct a survey of current costs per square foot of various types of projects, using local cost data.

6. Code Research

Building inspectors as well as officials in zoning, environmental and other agencies relating to the health, welfare and safety of the public, oversee the enforcement of federal, provincial and local regulations related to building construction. The codes promulgated by these various agencies have a direct bearing on the total design process and thorough knowledge of all requirements is essential to the satisfactory completion of any project.

Required Intern Activities include the following:

- Assist in searching and documenting codes, regulations, etc., for one or more specific projects.
- Study 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 dimension, public toilet rooms, ramps) in satisfaction of code requirements.

- Determine a project's allowable land coverage as well as maximum areas in compliance with zoning and any other related ordinances.

7. Design Development

Based on the client-approved schematic design, the architect fixes and details, for the client's further approval, the size and character of the entire project, including selection of material and engineering systems.

Required Intern Activities include the following:

- Participate in the preparation of detailed design development drawings from schematic design documents.
- Assist in developing various schedules and outline specifications for materials, finishes, fixed equipment, fixtures, construction time and construction cost.
- Help coordinate engineering systems proposed for the project.
- Participate in design review and approval meetings with clients, user groups, etc.

8. Construction Documents

The working drawings phase of construction documents preparation constitutes the major activity in an architect's office. These drawings describe in graphic form all of the essentials of the work to be done: location, size, arrangement and details of the project. Since the successful and timely execution of these documents can be equated closely with an office's financial success, architects constantly search for more efficient ways to produce construction documents. Regardless of the method of preparation, it is extremely important that the documents be accurate, consistent, complete and understandable. This requires thorough quality control including constant review and cross-checking of all documents. In addition, effective coordination of consultants' drawings is essential to avoid conflicts between the various trades during construction.

Required Intern Activities include the following:

- Work in the preparation of detail drawings, developing technical skills in drafting accuracy, completeness and clarity.
- Assist in the coordination of all documents produced by the architect and the consultants.
- Develop a knowledge of professional responsibilities and liabilities arising from the issuance of construction documents.
- Participate in the mechanics of assembling the finished construction documents.
- Assist the job captain (or equivalent) in routine administrative/control tasks.

9. Specifications and Materials Research

Well-grounded knowledge of specification-writing principles and procedures is essential to the preparation of sound, enforceable specifications. Unless these skills are properly developed, expert knowledge of materials, contracts and construction procedures cannot be communicated successfully. A cardinal principle of specification writing requires the architect to understand the relationship between drawings and specifications, and to be able to communicate in a logical, orderly sequence, the requirements of the construction

process. Many factors must be considered in the selection and evaluation of material or products to be used in a project: appropriateness, durability, aesthetic quality, initial cost, maintenance, etc. To avoid future problems, it is extremely important that the architect recognize the function of each item to be specified. The architect must carefully assess new materials as well as new or unusual applications of familiar items, regardless of manufacturer representations, to be certain no hidden deficiencies exist that might create problems for the owner and expose the architect to liability.

Required Intern Activities include the following:

- Review construction specifications' organization, purpose and format, and assist in writing specifications. Review and analyze bidding forms, insurance and bonding requirements, liens, supplementary and special conditions.
- Research and evaluate data for products to be specified, including information regarding availability, cost, code acceptability and manufacturers' reliability. Attend sales presentations in connection with this research.
- Research industry standards and guidelines for specific classes of products (e.g. curtain walls, aluminum windows) as they affect various manufacturers' items being considered for acceptability on a project. Research construction techniques and systems and understand workmanship standards such as poured-in-place concrete, masonry construction, etc.
- Evaluate the potential for using master specifications in a project specification, including procedures needed to adapt individual sections for this use.

10. Document Checking and Coordination

Close coordination between drawings and specifications is required when preparing construction documents. The work of each consultant must be reviewed regularly and checked against the architectural drawings as well as the drawings of other consultants to eliminate conflicts. Before final release for construction purposes, the drawings must be checked and cross-checked for accuracy and compatibility.

Required Intern Activities include the following:

- Assist in cross-checking 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 accuracy of dimensions, notes, abbreviations and indications.
- Assist in developing a schedule of lead time required for proper coordination with other disciplines.
- Check consultants' drawings with architectural drawings and other consultants' drawings for possible conflicts and interference of plumbing lines, ductwork, electrical fixtures, etc.
- Assist in the final project review for compliance with applicable codes, regulations, etc.

CATEGORY B: CONSTRUCTION ADMINISTRATION

11. Bidding and Contract Negotiations

The architect assists in establishing and administering bidding procedures, issuing addenda, evaluating proposed substitutions, reviewing the qualifications of bidders, analyzing bids or negotiated proposals and making recommendations for the selection of the contractor(s).

The construction contract and related documents are the formal instruments that bind the major parties together in the construction phase. They detail the desired product and the services to be provided in its construction, as well as the consideration to be paid for the product and the services.

Required Intern Activities include the following:

- Carefully review the bidding/award stages of previous projects. Develop an understanding of problems encountered and how they were resolved.
- Prepare sample bids using quantity takeoffs from the building cost analysis.
- Assist in the pre-qualification of bidders.
- Assist in the receipt, analysis and evaluation of bids, including any alternates.
- Learn what information and submittal are required prior to issuance of notice to proceed.
- Assist in evaluating equal product considerations in preparing addenda.
- Meet with contractors and material suppliers to better understand problems they encounter with bid packages and construction contract documents. Understand the role of the lending institution during the bidding process.
- Assist in the preparation and negotiation of construction contracts and become familiar with the conditions of the contract for construction in order to identify the roles of the architect, contractor, owner, bonding company and insurer in the administration of the construction phase.

12. Construction Phase - Office

During the construction phase there are many related tasks that do not directly involve field observations: processing contractors' applications for payment, preparing change orders, checking shop drawings and samples, adjudicating disputes, etc. The architect's handling of these matters will usually have a direct bearing on the smooth functioning of the work in the field. For example, prompt processing of the contractor's application for payment, including review of any substantiating data that may be required by the contract documents, helps the contractor maintain an even flow of funds.

Items such as shop drawings, samples and test reports submitted for the architect's review must be acted upon promptly to expedite the construction process. Changes in the work that may affect the time of construction or modify the cost are accomplished by change orders. Interpretations necessary for the proper execution of work must be promptly given in writing even when no change order is required.

Required Intern Activities include the following:

- Assist in processing applications for payment and preparing certificates for payment.
- Assist in checking shop drawings, evaluating samples submitted and maintaining records.
- Assist in evaluating requests for changes interpreting documents and preparing change orders.
- Participate in resolution of disputes and interpretation of conflicts relating to the contract documents.
- Participate in the assembly of evidence and preparation of testimony to be used before an arbitration panel or in court.
- Become familiar with the legal responsibilities of owners, contractors and architects.
- Participate in the preparation of record documents at project completion.

13. Construction Phase - Observation

In administering the construction contract, the architect's function is 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. Periodic reports on the stage of completion of scheduled activities are collected and compared to the overall project schedule at job site meetings. These meetings facilitate communication between the contract parties and produce a detailed progress record. The architect must determine through observation the date of substantial completion and receive all data, warranties and releases required by the contract documents prior to final inspection and final payment. In addition to these construction-related responsibilities, the architect interprets contract documents when disagreements occur and judges the dispute impartially, even when the owner is involved. Dissatisfaction with the architect's decision can lead to arbitration or the courts.

Required Intern Activities include the following:

- Visit the job site and participate in observation of the work in place and material stored, and prepare field reports of such routine inspections.
- Review and analyze construction time schedules. Understand the various network methods (e.g. critical path method) potentially available to the contractor.
- By reviewing contract documents and participating in professional development programs, develop an awareness of the contractual obligations related to observation of construction.
- Attend periodic job-site construction meetings and assist in recording and documenting all actions taken and agreed to at such meetings.
- Participate in the substantial completion inspection and assist in the punch list verification.
- Participate in the final acceptance inspection with owner and other involved parties.

CATEGORY C: MANAGEMENT

14. Project Management

The economic and professional health of a firm depends on an orderly, trackable method of project execution. A clearly defined project work plan, the key to the efficient management of project tasks, requires participation and input from team members, consultants, client representatives and other key decision-makers (financial experts, developers, lawyers and contractors). The project manager defines consensus goals, and coordinates tasks and scheduling. Team building depends on clear goals and good communication, with particular attention to decisions that influence the work of multiple team members.

A project file initiated and maintained by the project manager is the comprehensive record to the project's life and a useful resource for future endeavours. The work plan must be congruent with all project-related contractual agreements (which are normally maintained in the project file). Scheduled quality control reviews are identified in the work plan; the project manager may request interim reviews in advance of established submittal dates. It is the project manager's responsibility to measure actual schedule/budget progress against the work plan "yardstick," assess all discrepancies and take the corrective action necessary to maintain project control. The project manager also maintains design quality during bidding, contract negotiation and construction phases through administration of the project file, oversees the firm's construction representative and monitors scheduled on-site quality reviews.

Finally, the project manager closes out project records and agreements and sets up future post-occupancy evaluation procedures.

Required Intern Activities include the following:

- Review the firm's project management manual or all important forms, checklists and other practice aids if a manual does not exist.
- Understand the procedure for assignment of project management responsibilities and the project manager's role in the acquisition process.
- Participate in the development of a project work plan including identifying goals, client requirements, responsibilities, a first-cut schedule and the project record.
- Review a work plan against all project-related contractual agreements.
- Become familiar with team management including role assignments, team communication methods and frequency and maintaining the project file.
- Review design documentation standards and understand expected levels of documentation at each phase of the project.
- Attend quality reviews at project development milestones identified in the work plan.
- Assist in preparing 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 including contractual fulfillments, final fee for services, invoicing and modifications (e.g. change orders).

- Attend post-occupancy evaluation trips to completed project sites.

15. Office Management

Although architecture is a creative profession, current techniques of practice require that the architect's office operate in almost the same manner as a commercial enterprise. Steady income must be generated and expenses carefully budgeted and monitored so that economic stability can be maintained. Accurate records must be kept for tax purposes and for use in future work. Established office requirements and regulations are essential to maintaining a smooth operation; office practice manuals are a typical tool for dissemination of this information. Profitable use of office personnel requires budgeting time and adhering to schedules. The architect's relationship to the client is established by contractual agreement. A contract establishes the duties and obligations of the parties. In order for a contract to be enforceable, there must be mutual agreement between competent parties, an acceptable monetary consideration, and it must be for lawful purpose and accomplishable within an estimated time frame.

Effective public relations plays an essential role in the creation of the architect's image. This is important in bringing new clients and work into the office as well as in attracting superior people for the professional staff. The architect must participate in marketing activities if the practice is to succeed. On the other hand, the architect's marketing activities (unlike those of merchants, manufacturers and others in commerce) are subject to certain professional constraints. The architect must learn marketing techniques that are effective while remaining within legitimate rules of professional conduct.

Required Intern Activities include the following:

- Review the process of internal accounting and cost control systems for operation of the firm.
- Participate in allocation of time to all elements involved in a total project from preliminary design through construction.
- Review professional service contracts for their structure, content, determination of responsibility and enforcement procedures.
- Review the compensation structure as related to types of services rendered by the firm.
- Review current contractual relationships with consultants.
- Research legal obligations, limitations and liabilities of professional service contracts.
- Review the firm's professional liability insurance policy and develop an awareness of potential practices and procedures that are not covered by the policy.
- Assist in developing programs to publicize the firm's professional services and its expertise.
- Participate in the firm's program for securing commissions for professional services through assisting in market research, prospect list preparation and information-gathering activities.
- Assist in developing firm brochures and advertising as elements of promotion.
- Assist or accompany principals or marketing staff carrying out business

development.

- Participate in presentation to prospective clients and formal selection interviews.
- Participate in the firm's internal budgeting (profit planning) process.

CATEGORY D: RELATED ACTIVITIES

16. Professional and Community Service

Architects have a responsibility to participate in a broad range of professional and community activities, especially those that will foster a more complete understanding of the social and economic value of the architect's services. Professional and community service make for a well-rounded architect and provide a base of experience for decisions affecting the public interest. Such experience will assist in the development of interpersonal skills related to communication, group dynamics and team work.

The Intern is encouraged to offer volunteer service in traditional and non-traditional organizations. This involvement will enhance practical training in a number of ways, including broadening your understanding of the myriad forces that affect change in our society, expanding professional knowledge and reinforcing professional skills leading to a better quality of life in the community. The Intern and the profession of architecture benefit through satisfying your social responsibilities.

Possible Intern Activities

- Contribute to the work of professional organizations through serving on committees and participating in conferences, conventions and open meetings focused on professional issues.
- Provide career counselling for high school and college students.
- Take an activist role in provincial/local government affairs.
- Conduct educational programs in elementary and secondary schools, and participate in other activities aimed at improving public understanding of the importance of design excellence.
- Participate in civic organizations, neighbourhood groups, museum programs and other activities relating to such issues as the homeless, natural disasters, historic preservation, resource conservation and environmental awareness.

CATEGORY E: DISCRETIONARY EXPERIENCE

The IAP experience requirement is not intended to be narrow or restrictive, but to bring into proper perspective the broad aspects of architectural practice. In addition, new areas of concern and involvement that do not fall within more traditional practice are opening to architects. These activities allow the Intern, while developing basic practice skills, to develop expertise in these areas.

Possible related activities include energy conservation, computer applications, planning, interior design, landscape architecture, environmental and structural engineering, applied research, teaching, architectural conservation and professional delineation.

The Intern who is gaining experience in related activities, should determine from the registration/licensing authority how much of this time is acceptable in accordance with their requirements.

17. Related Disciplines

An Intern's experience may include areas such as planning, urban design, interior design, landscape architecture, professional engineering and construction-related activities.

An Intern may acquire a maximum of 1880 hours experience directly related to architecture under the direct supervision of a professional engineer, interior designer, landscape architect, planner or urban designer. Such experience must be submitted for review and assessment with respect to its relevance to architectural practice, and the Intern may be subject to an interview to demonstrate its relevance.

An Intern may acquire a maximum of 1880 hours experience directly related to on-site construction and operation, or experience involving physical analysis of buildings. Such experience must be submitted for review and assessment with respect to its relevance to architectural practice, and the Intern may be subject to an interview to demonstrate its relevance.

18. Post Graduate Study/Teaching/Research

An Intern may acquire a maximum of 1880 hours experience by enrolling in and graduating from a post-professional program in architecture or related studies, or by teaching or research in a university architectural program, if the subject matter of study, teaching or research is approved as directly relevant to architectural practice by the provincial association. Such experience must be submitted for review and assessment with respect to its relevance to architectural practice, and the Intern may be subject to an interview upon completion of the program to demonstrate its relevance.

19. Undergraduate Experience

Before certification by the CACB and registering as an Intern with a provincial association, a student attending a CACB accredited architectural program may acquire 1880 hours of experience under the direction of an architect in an architectural firm or approved equivalent employment situation. The experience may only be recorded after completing not less than 50 percent of the architectural program.

20. RAIC Syllabus

Before certification by the CACB and registering as an Intern with a provincial association, a person enrolled in the RAIC Syllabus Program may earn 1880 hours of experience after completing the Program Part 1.