Architecture

This section presents the requirements for programs in:

• M. Architectural Studies
• M. Architecture 2-year stream
• M. Architecture 3-year stream
• Ph.D. Architecture
• Graduate Diploma in Architectural Conservation

Program Requirements

M. Architectural Studies (6.0 credits)

General Requirements:

1. 3.5 credits in core courses 3.5
2. 0.5 credit in elective course credit 0.5
3. 2.0 credits in thesis, which must be defended at an oral examination 2.0

Total Credits 6.0

Specific Requirements:

Year 1
Fall Term
ARCH 5301 [0.5] Seminar: Vitruvian Exercises I
ARCN 5301 [0.5] Workshop: Daedalic Exercises I
ARCH 5101 [1.0] Colloquium I (over two terms)

Winter Term
ARCH 5302 [0.5] Seminar II: Vitruvian Exercises II
ARCN 5302 [0.5] Workshop: Daedalic Exercises II
ARCH 5101 [1.0] Colloquium I (continued from Fall Term)

M. Architecture 2-year stream (8.0 credits)

General Requirements (8.0 credits):

1. 2.0 credits in core courses 2.0
2. 1.0 credit in elective courses 1.0
3. 3.0 credits in studio courses 3.0
4. 2.0 credits in Thesis, which must be defended at an oral examination 2.0

Total Credits 8.0

Specific Requirements:

Year 1
Fall Term
ARCH 5200 [0.5] Graduate Seminar 1: Introduction to Critical Thought in Architecture
ARCC 5100 [0.5] Advanced Building Systems
ARCH 5105 [1.5] Graduate Studio 1

M. Architecture 3-year stream (15.5 credits)

General Requirements (15.5 credits) - Program Core Curriculum

1. 6.0 credits in core courses 6.0
2. 7.5 credits in studio courses 7.5
3. 2.0 credits in: 2.0
   • ARCN 5909 [2.0] Thesis - Directed Research Studio (DRS) (which must be defended at an oral examination)

Total Credits 15.5

Year 2
Fall Term
ARCH 5031 [2.0] M.Arch. 1 - Studio I
ARCC 5096 [0.5] Building Technology I
ARCH 5010 [0.5] History and Theory of Modern Architecture

Winter Term
ARCH 5032 [1.5] M.Arch. 1 - Studio II
ARCC 5097 [0.5] Building Technology II
ARCH 5099 [0.5] Building Technology IV
ARCH 5020 [0.5] Theories of Modernity

Summer Term
ARCH 5098 [0.5] Building Technology III
ARCH 5033 [1.0] M.Arch. 1 - Studio III

Year 2
Fall Term
ARCH 5105 [1.5] Graduate Studio 1
ARCC 5200 [0.5] Professional Practice
ARCH 5100 [0.5] Advanced Building Systems

Winter Term
ARCH 5201 [0.5] Graduate Seminar 2: Contemporary Theoretical Perspectives in Architecture
ARCS 5106 [1.5] Graduate Studio 2

0.5 credit in elective from courses at the 5000 level or above, approved by the Associate Director (Graduate Programs)

Note 1: ARCT 5090 [2.0] normally extends over two terms.

ARCC 5200 [0.5] or 0.5 credit elective from courses at the 5000 level or above, approved by the Associate Director (Graduate Programs)
ARCS 5106 [1.5]  Graduate Studio 2
ARCH 5200 [0.5]  Graduate Seminar 1: Introduction to Critical Thought in Architecture

Year 3
Fall Term  3.0
ARCN 5909 [2.0]  Thesis - Directed Research Studio (DRS)
ARCH 5201 [0.5]  Graduate Seminar 2: Contemporary Theoretical Perspectives in Architecture
ARCC 5500 [0.5]  Advanced Design Economics

Winter Term
ARCN 5909 [2.0]  Thesis - Directed Research Studio (DRS)

Total Credits  15.5

Notes:
1. ARCS 5909 [2.0] Thesis - Independent Study and ARCN 5909 [2.0] Thesis - Directed Research Studio (DRS) normally extend over two terms. This project will follow guidelines prescribed by the Associate Director (Graduate Programs).
2. The thesis is expected to include both a written text and a design component with appropriate modes of two and three-dimensional representation, including digital. Final thesis documentation must satisfy the requirements established by the Faculty of Graduate and Postdoctoral Affairs.

Ph.D. Architecture (10.0 credits)
Students admitted to the PhD program in Architecture will be required to complete the following 10.0 credits:
• 1.0 credit in core Workshop courses
• 1.0 credit in core Seminar courses
• 2.0 credits in PhD. Colloquium
• 1.0 credit in comprehensive examination
• 1.0 credit in dissertation proposal examination
• 4.0 credits in oral defence of thesis

Specific Requirements:
Year 1
Fall term
ARCH 6001 [0.5]  Seminar: Vitruvian Exercises I
ARCH 6002 [0.5]  Workshop: Daedalic Exercises I
ARCH 6101 [1.0]  Colloquium I *

Winter term
ARCH 6002 [0.5]  Seminar II: Vitruvian Exercises II
ARCH 6002 [0.5]  Workshop: Daedalic Exercises II
ARCH 6101 [1.0]  Colloquium I *

Year 2
ARCH 6102 [1.0]  Colloquium II
ARCH 6907 [1.0]  Ph.D. Comprehensive Examination
ARCH 6908 [1.0]  Ph.D. Proposal Examination *

Year 3
ARCH 6909 [4.0]  Ph.D. Dissertation

Note(s):
* ARCH 6101 [1.0] Colloquium I, ARCH 6102 [1.0] Colloquium II, ARCH 6907 [1.0] Ph.D. Comprehensive Examination, ARCH 6908 [1.0] Ph.D. Proposal Examination are 1.0-credit courses and extend over two terms.

Graduate Diploma in Architectural Conservation (4.0 credits)
Requirements:

Fall term
CDNS 5401 [0.5]  Heritage Conservation I: History, Principles, and Concepts 0.5
ARCH 4002 [0.5]  Canadian Architecture 0.5
ARCU 5402 [0.5]  Workshop: Urban Studies in Heritage Conservation 0.5
ARCH 4200 [0.5]  Architectural Conservation Philosophy and Ethics 0.5

Winter term
CDNS 5402 [0.5]  Heritage Conservation II: Theory in Practice 0.5
ARCN 5100 [0.5]  Representation and Documentation in Architectural Conservation 0.5
ARCH 5402 [0.5]  Evaluation of Heritage Properties 0.5
ARCC 5401 [0.5]  Workshop: Technical Studies in Heritage Conservation 0.5

Total Credits  4.0

Regulations
See the General Regulations section of this Calendar.

M. Architecture
Architecture permits the C+ option in the 15.5-credit M.Arch. 1 curriculum only. (See Section 11.2 of the General Regulations).

Admission Requirements
Master of Architecture (M.Arch.)
Two-year M.Arch. (8.0 credits)
A four-year honours undergraduate degree or its equivalent in architecture, with significant studio experience in architectural design, and a minimum overall standing of B-.

Three-year M.Arch. (15.5 credits)
A four-year honours undergraduate degree from diverse backgrounds with a minimum overall B+ standing.

For the three-year M.Arch., all students will apply for the 15.5-credit program. Most will be admitted to the fall term of Year 1. Some applicants possessing a B.A.S. Conservation and Sustainability or an equivalent degree in an environmental design field may be eligible for second entry, to be determined by the Azrieli School of Architecture and Urbanism and the Faculty of Graduate and Postdoctoral Affairs. Students admitted into second entry will be accepted into the winter term of Year 1 and will complete 12.0 credits.

All applicants whose first language is not English must demonstrate proficiency in the English language. See
Section 3.6 of the General Regulations section of this calendar for details.
For more information, please visit https://carleton.ca/architecture/programs/

**M. Architectural Studies (M.A.S.)**
The Master of Architectural Studies is a non-professional degree for students interested in pursuing in-depth architectural research.

The minimum requirement for admission to the M.A.S. is a four-year honours undergraduate degree in architecture or equivalent, with a minimum overall standing of B-.

All applicants whose first language is not English must demonstrate proficiency in the English language. See Section 3.6 of the General Regulations section of this calendar for details.
For more information visit https://carleton.ca/architecture/programs/

**Ph.D. Architecture**
The normal requirement for admission to the doctoral program in architecture is a master's degree (or equivalent) in architecture or a related field with a minimum overall standing of A-.

All applicants whose first language is not English must demonstrate proficiency in the English language. See Section 3.6 of the General Regulations section of this calendar for details.

**Graduate Diploma in Architectural Conservation**
There are two points of entry into the program:

**Direct Entry**
- The normal requirement is a bachelor degree with a minimum average of B+. The program can be taken part-time or full-time.

**Admission from the M.Arch. or M.A.S.**
- Students may apply to the Graduate Diploma in Architectural Conservation during the first year of study in the Master of Architecture professional program or the Master of Architectural Studies program.

All applicants whose first language is not English must demonstrate proficiency in the English language. See Section 3.6 of the General Regulations section of this calendar for details.
For more information visit https://carleton.ca/architecture/programs/

**Architecture-MAS (ARCT) Courses**

**ARCT 5909 [2.0 credits]**
**M.A.S. Thesis**
Scholarly written thesis supported by methods of two and three-dimensional representation. Research undertaken by the student is expected to engage a topic in the culture of practice in Architecture. Proposals must be approved by the graduate committee of the Azrieli School of Architecture and Urbanism (ARCU).
Includes: Experiential Learning Activity

**Architecture - Studio (ARCS) Courses**

**ARCS 5031 [2.0 credits]**
**M.Arch. 1 - Studio I**

**ARCS 5032 [1.5 credit]**
**M.Arch. 1 - Studio II**
Building materials and practices within the context of increasingly complex building programs. Social context of architecture in relation to material expression. Modeling is stressed.

**ARCS 5033 [1.0 credit]**
**M.Arch. 1 - Studio III**
A comprehensive studio dealing with issues of program and site as the culturally defining aspects of architectural practice within complex urban and social situations, using difficult sites and hybrid programs. Projects brought to a high degree of technical, formal, and graphic resolution.

**ARCS 5105 [1.5 credit]**
**Graduate Studio 1**
An architectural investigation within a contemporary urban setting, usually dealing with central-city sites and complex programs. Projects address the question of urban architecture both from practical and theoretical perspectives. Architecturally relevant building technology and systems will be introduced in the Studio as required.
Includes: Experiential Learning Activity

**ARCS 5106 [1.5 credit]**
**Graduate Studio 2**
The design of a large-scale and culturally significant building project, set within a prominent urban or natural landscape. Integrated resolution of the combined issue of site, program, and expression is expected. Architecturally relevant building technology and systems will be introduced in the Studio as required.
Includes: Experiential Learning Activity
Prerequisite(s): ARCS 5105.

**ARCS 5909 [2.0 credits]**
**Thesis - Independent Study**
Student-initiated design investigation, developed with a thesis supervisor, supported by text and appropriate methods of two and three-dimensional representation. Proposals must be approved by the Graduate Committee of the Azrieli School of Architecture and Urbanism.
Includes: Experiential Learning Activity

**Architecture - Technical (ARCC) Courses**

**ARCC 5000 [0.5 credit]**
**Directed Studies in Architecture and Technology**
Reading and research tutorials.
Prerequisite(s): permission of the School.
ARCC 5001 [0.5 credit]
Introduction to Design and Multimedia
Multimedia and interactive design as they relate to architecture and the field of design. Special topics include virtual environments, user interface in software, Web and product design, perceptual and cognitive science, navigation, film/video and sound editing and animation technologies.

ARCC 5002 [0.5 credit]
Topics in Design and Multimedia: Information Architecture and the World Wide Web
Introduction to the design of Web-based applications, focusing on process, site architecture, usability testing, and Web functionality. Students synthesize and customize software applications. Client and server-side functionality. Introduction to relational database design, JavaScript, cgi scripts, and «middleware» products such as WebObjects and ColdFusion.

ARCC 5003 [0.5 credit]
Design and Technology Workshop
The prime objective of the workshop is to investigate issues in architectural design in relation to technology as a cultural paradigm. The workshop operates as a directed study with specific content, objectives, and scheduling arranged between student and academic advisor. Includes: Experiential Learning Activity

ARCC 5096 [0.5 credit]
Building Technology I
General introduction to materials and methods of construction with particular focus on wood and timber frame construction. Site conditions, foundations, structure and envelope in terms of their response to local climate: sun (light and heat), wind, moisture. Includes: Experiential Learning Activity

ARCC 5097 [0.5 credit]
Building Technology II
Technical issues involved in architectural design of buildings from ancient times to the present. Technological innovation and materials related to structural developments, and the organization and design of structures. Basic concepts of equilibrium, and mechanics of materials. Final projects developed in conjunction with design studio. Includes: Experiential Learning Activity

ARCC 5098 [0.5 credit]
Building Technology III
Wood frame, post and beam, steel and concrete systems and construction techniques. Structural systems and building envelope principles and practice are explored in conjunction with mechanical and electrical systems in small buildings. Final projects developed in conjunction with design studio. Includes: Experiential Learning Activity

ARCC 5099 [0.5 credit]
Building Technology IV
Medium scale steel, concrete, and wood frame buildings as case studies to explore approaches to building science principles, building envelope design, advanced construction methods and materials, acoustics and sound control, and fire protection, with a focus on sustainable design strategies and environmental impact. Includes: Experiential Learning Activity

ARCC 5100 [0.5 credit]
Advanced Building Systems
Introduction to advanced design in building technology and systems integration. Leading edge building materials, technologies and philosophies will be explored through intensive case study research and analysis, comparing, and critically evaluating, traditional methods with current computer modeling and analysis techniques. Includes: Experiential Learning Activity

ARCC 5200 [0.5 credit]
Professional Practice
The practice of architecture. Professional organization and conduct, the architect's services, business law, office organization and management, contract documents, building codes, contract management, cost control, accounting and site supervision. Guest speakers and case studies. Includes: Experiential Learning Activity
Precludes additional credit for ARCU 4200.

ARCC 5401 [0.5 credit]
Workshop: Technical Studies in Heritage Conservation
Includes: Experiential Learning Activity
Prerequisite(s): permission of the School.

ARCC 5500 [0.5 credit]
Advanced Design Economics
Principles of building economics. Determinants and prediction of building costs. Uncertainty and investment economics. Creative cost control for buildings during schematic design, design development, construction document preparation and construction. Economic evaluation during all phases of design process; emphasis on sustainable strategies. Includes: Experiential Learning Activity

ARCC 5909 [2.0 credits]
M.Arch. Post-Professional Thesis (Design and Technology)
Basic or applied research in architectural, industrial, and digital design. Areas include interactive education/training, product/interface design, programming/scripting, culture/technology, or research as defined by the student. Final thesis documentation must satisfy the requirements established by the Faculty of Graduate Studies. Includes: Experiential Learning Activity
Prerequisite(s): Proposals must be approved by the Graduate Committee of the Azrieli School of Architecture and Urbanism.
Architecture - Techniques (ARCN) Courses

ARCN 5000 [0.5 credit]
Directed Studies in Computer-Aided Design
Reading and research tutorials.
Includes: Experiential Learning Activity
Prerequisite(s): permission of the School.

ARCN 5001 [0.5 credit]
Directed Studies in Architecture
Reading and research tutorials.
Includes: Experiential Learning Activity
Prerequisite(s): permission of the School.

ARCN 5005 [0.5 credit]
Theory and Practice of Architectural Representation
Free-hand drawing as a way of observing and understanding the world. Various media and techniques introduced through a wide range of studio and outdoor exercises. (Theory/History Elective).
Includes: Experiential Learning Activity

ARCN 5100 [0.5 credit]
Representation and Documentation in Architectural Conservation
An in-depth study of the conventions and history of heritage recording including traditional field survey, photogrammetry, laser scanning technologies, and hybrid representations.
Workshop, six hours a week (including field trips and on-site work).

ARCN 5101 [0.5 credit]
Interactive Design Workshop I
An intensive introduction to the design of interactive environments, using multimedia software including Adobe Photoshop, Illustrator, Premiere, Macromedia, Dreamweaver, Fireworks, Director, 3D Modeling programs, and sound editing. Basic design, graphic design, and software literacy. Presentations by design professionals.
Includes: Experiential Learning Activity

ARCN 5102 [0.5 credit]
Interactive Design Workshop II
An introduction to the logistic aspects of producing multimedia products with an emphasis on usability testing and user-interface design. Topics include: storyboarding/graphic design, instructional design, rapid prototyping, project streaming, management and marketing, technical writing, product evaluation. Organized as a seminar. Work is done in teams.
Includes: Experiential Learning Activity

ARCN 5301 [0.5 credit]
Workshop: Daedalic Exercises I
Experimental mediation, materiality and making.
Includes: Experiential Learning Activity

ARCN 5302 [0.5 credit]
Workshop: Daedalic Exercises II
Innovative mediation, materiality and making.
Includes: Experiential Learning Activity

ARCN 5909 [2.0 credits]
Thesis - Directed Research Studio (DRS)
An intensive research-based design project. The unit is initiated and guided by a faculty member engaged in organized research. Proposals must be approved by the Graduate Committee of the Azrieli School of Architecture and Urbanism.
Includes: Experiential Learning Activity

ARCN 6001 [0.5 credit]
Workshop: Daedalic Exercises I
Experimental mediation, materiality and making. This course is required of all first year doctoral students in architecture.
Includes: Experiential Learning Activity

ARCN 6002 [0.5 credit]
Workshop: Daedalic Exercises II
Experimental mediation, materiality and making. This course is required of all first year doctoral students in architecture.
Includes: Experiential Learning Activity

ARCN 6901 [0.5 credit]
Placement in Architecture
An opportunity to earn academic credit by engaging in research activities under the supervision of a professional architect or researcher in architectural, government, non-governmental or other professional settings. Placement research must be related to the preparation of the doctoral research. Design Studios/Design Thesis/Research (ARCS).
Includes: Experiential Learning Activity

Architecture - Theory/History (ARCH) Courses

ARCH 5000 [0.5 credit]
Directed Studies in History and Theory of Architecture
Reading and research tutorials.
Prerequisite(s): permission of the School.

ARCH 5001 [0.5 credit]
Architecture Seminar I
An introduction to the intellectual frameworks connecting design and culture as manifest in theories of culture and architecture. The seminar builds on previous undergraduate studies, and is not an introduction to these fields. The field of inquiry is both historical and contemporary.
Prerequisite(s): ARCH 5001.

ARCH 5002 [0.5 credit]
Architecture Seminar II
A continuation of ARCH 5001, this seminar follows the same general description, but concentrates more on architectural design, on the contemporary condition, and on the ways of thinking that characterize embodiment of cultural content in architecture and other artifacts.
Prerequisite(s): ARCH 5001.
ARCH 5003 [0.5 credit]
Design and Culture Workshop
The prime objective of the workshop is to investigate cultural issues in architectural design. The workshop operates as a directed study with specific content, objectives, and scheduling arranged between student and academic advisor.
Includes: Experiential Learning Activity

ARCH 5010 [0.5 credit]
History and Theory of Modern Architecture
Architectural and urban ideals of modernism with emphasis upon the development of the avant-garde in the early twentieth century. The phenomenon of modern architecture within the broader framework of the development of western thought.

ARCH 5020 [0.5 credit]
Theories of Modernity
Theories of modernity (including recent developments in cultural theory, theorizing from the Global South and more, recent technological and socio-political transformations) and how they help shape contemporary architectural discourse.

ARCH 5100 [0.5 credit]
Directed Studies in Architecture and Society
Reading and research tutorials.
Prerequisite(s): permission of the School.

ARCH 5101 [1.0 credit]
Colloquium I
This seminar brings together graduate students with architectural faculty to present their work-in-progress. It focuses on an immersion in conventions of theoretical and methodological approaches to advanced architectural research, including research ethics, proposal writing and research funding.

ARCH 5200 [0.5 credit]
Graduate Seminar 1: Introduction to Critical Thought in Architecture
Critical theories and research approaches relevant to the field of architecture. Identification of issues through a coordinated series of lectures and readings. Development of analytical and interpretative skills through seminar discussions and writing culminating in a scholarly position paper by the student.

ARCH 5201 [0.5 credit]
Graduate Seminar 2: Contemporary Theoretical Perspectives in Architecture
Lectures, readings, and case studies on contemporary issues in architecture and allied fields of study. Critical analysis of trends and possibilities set against traditional modes of architectural thought and practice. This course serves as a forum for a preliminary articulation of the thesis proposal.
Includes: Experiential Learning Activity
Prerequisite(s): ARCH 5200.

ARCH 5301 [0.5 credit]
Seminar: Vitruvian Exercises I
Investigation of the cunning and graphic intelligence of architects: i.e. architectural modes of research.

ARCH 5302 [0.5 credit]
Seminar II: Vitruvian Exercises II
Seminar II builds upon the fall term with a focus on the study of the fabric of architectural theory stretched within the marble loom of construction. This course is required of all first year M.A.S. students.

ARCH 5402 [0.5 credit]
Evaluation of Heritage Properties
The cultural, political, economic and legal factors that shape our definition of heritage architecture. Processes for and implications of heritage designation, cultural value and costs associated with restoration and ongoing preservation. (Theory/History Elective).
Includes: Experiential Learning Activity
Lectures, three hours a week.

ARCH 5500 [0.5 credit]
Housing and Culture Seminar
Housing as a function of social organization, demographics, market demand and governmental policies. The evolution of housing form, the role of the state, and the participation of architects in the housing marketplace promoting design as a form of social reform.
Precludes additional credit for ARCH 4201.

ARCH 5509 [2.0 credits]
M.Arch. Post-Professional Thesis (Architecture and Cultural Diversity)
A scholarly, written thesis supported by appropriate methods of two and three-dimensional representation. Research undertaken by the student is expected to engage one of the research topics outlined above. Final thesis documentation must satisfy the requirements established by the Faculty of Graduate and Postdoctoral Affairs.
Includes: Experiential Learning Activity
Prerequisite(s): Proposals must be approved by the graduate committee of the Azrieli School of Architecture and Urbanism.

ARCH 5600 [0.5 credit]
Seminar: Vitruvian Exercises I
Investigation of the cunning and graphic intelligence of architects: i.e. architectural modes of research. This course is required of all first year doctoral students in architecture.

ARCH 5602 [0.5 credit]
Seminar II: Vitruvian Exercises II
Seminar II builds upon the fall term with a focus on the study of the fabric of architectural theory stretched within the marble loom of construction. This course is required of all first year doctoral students in architecture.
ARCH 6101 [1.0 credit]
Colloquium I
This seminar brings together doctoral students with architectural faculty to present their work-in-progress. Immersion in conventions of theoretical and methodological approaches to advanced architectural research, including research ethics, proposal writing and research funding. This course is required of all first year doctoral students in architecture.
Includes: Experiential Learning Activity

ARCH 6102 [1.0 credit]
Colloquium II
This seminar continues to bring together doctoral students with architectural faculty and guest lecturers to present their work-in-progress. This course is required of all students enrolled in the Ph.D. program from the second year through until completion of the dissertation.
Includes: Experiential Learning Activity

ARCH 6907 [1.0 credit]
Ph.D. Comprehensive Examination
Students must demonstrate to their thesis advisory committees a sufficiently broad background in the theoretical and topical area literatures and constructions relevant to their individual projects.

ARCH 6908 [1.0 credit]
Ph.D. Proposal Examination
Students must demonstrate to thesis advisory committees their ability to link theory to a work or practice of architecture. This examination requires the preparation of a drawing or a model, to then be discussed within a theoretical framework during the oral part of the exam.

ARCH 6909 [4.0 credits]
Ph.D. Dissertation
The dissertation will be comprised of two critical modes of investigation of equal importance: a speculative project and a research text. The speculative project is realized using specific traditional and non-traditional media as deemed appropriate.
Includes: Experiential Learning Activity

Architecture - Urban (ARCU) Courses

ARCU 5000 [0.5 credit]
Directed Studies in Architecture and the City
Reading and research tutorials.
Includes: Experiential Learning Activity

ARCU 5402 [0.5 credit]
Workshop: Urban Studies in Heritage Conservation
Includes: Experiential Learning Activity
Prerequisite(s): permission of the School.