

# Architecture - Auxiliary Courses (ARCS, ARCC, ARCN, ARCU)

---

## Architecture - Studio (ARCS) Courses

### ARCS 2105 [1.5 credit]

#### Studio 2

Supported by the core curriculum, focuses on small-scale building in a local context. Using analog methods, projects introduce the integration of basic structure and building systems while furthering fundamental concepts such as space, inhabitation, and materiality. (Core Course).

Includes: Experiential Learning Activity

Precludes additional credit for ARCH 2111.

Prerequisite(s): ARCS 1005 and ARCS 1105.

Twelve hours studio, plus one hour lecture per week.

### ARCS 2106 [1.5 credit]

#### Studio 3

With a focus on small to medium scale building projects, projects consider analog and digital methods to advance consideration of site, program, and the materials as the means for shaping the built environment. (Core Course).

Includes: Experiential Learning Activity

Precludes additional credit for ARCH 2172, ARCH 2182, ARCH 2192.

Prerequisite(s): ARCS 1005 and ARCS 1105.

Twelve hours studio, plus one hour lecture per week.

### ARCS 2302 [1.0 credit]

#### Conservation Studio 1

Conservation methodologies will be tested and studied through design exercises and historical research on existing architectures, cities and landscapes. The emphasis on the understanding and the relation with the setting will be essential.

Includes: Experiential Learning Activity

Precludes additional credit for ARCH 2172, ARCH 2182, ARCH 2192.

Prerequisite(s): Second-year standing in B.A.S. major Conservation and Sustainability or permission of the School.

Eight hours studio per week.

### ARCS 2303 [1.0 credit]

#### Urbanism Studio 1: Fundamentals of Urbanism

Through readings, discussions and projects, students will examine a number of the forces that produce the built environment and explore a variety of approaches to documenting, representing, analyzing, organizing and controlling the growth, shape, density, and mix of uses associated with cities.

Includes: Experiential Learning Activity

Precludes additional credit for ARCH 2111, ARCU 2303 (no longer offered), ARCU 3501 (no longer offered).

Prerequisite(s): ARCS 1005 and ARCS 1105, or permission of instructor.

Eight hours studio, plus one hour lecture per week.

### ARCS 2304 [1.0 credit]

#### Urbanism Studio 2: Urbanism in the Core

Intensification, revitalization, gentrification, brownfield redevelopment, sustainability, development standards, form-based codes, and the larger impact of migration on urban density. Through design, students explore the ramifications of practices, policies, pressures, processes and cultural preferences on the evolving form and function of the urban core.

Includes: Experiential Learning Activity

Precludes additional credit for ARCH 2172, ARCH 2182, ARCH 2192, ARCS 3303 (no longer offered).

Prerequisite(s): ARCS 1105, and third-year standing in B.A.S. Urbanism major or permission of the School.

Eight hours studio, plus one hour lecture per week.

### ARCS 3105 [1.5 credit]

#### Studio 4

Supported by the core curriculum, focuses on a medium-scale building within a regional context. May include a small design-build. Projects further analog and digital methods. May introduce concepts like adaptive re-use while furthering the understanding of structure and building systems in a complex building. (Core Course).

Includes: Experiential Learning Activity

Precludes additional credit for ARCH 3111.

Prerequisite(s): ARCS 2105 and ARCS 2106.

Twelve hours studio, plus one hour lecture per week.

### ARCS 3107 [1.0 credit]

#### Studio 5

The Directed Studies Abroad (DSA) studio considers large-scale, mixed-use buildings in an international context. Design projects advance analog and digital methods to explore broader cultural and social conditions within a complex site often in conjunction with a site visit abroad. (Core Course).

Includes: Experiential Learning Activity

Precludes additional credit for ARCH 3172, ARCH 3182, ARCH 3192, ARCS 3106 (no longer offered).

Prerequisite(s): ARCS 2105 and ARCS 2106.

Eight hours studio, plus one hour lecture per week.

**ARCS 3301 [1.0 credit]****Conservation Studio 2**

Historical building projects exploring architecture as a form of cultural expression. Consideration of site, program and materials. Introduction of conservation, sustainability and adaptive re-use principles, development standards, architectural codes, using case studies in Ottawa and elsewhere. Physical, digital drawings and models to explore designs. (Core).

Includes: Experiential Learning Activity

Precludes additional credit for ARCH 3111, ARCC 3301 (no longer offered).

Prerequisite(s): ARCS 2302 and third-year standing in B.A.S. Conservation and Sustainability major or permission of the School.

Studio eight hours per week.

**ARCS 3302 [1.0 credit]****Conservation Studio 3**

The role of architecture in culture, stressing site and program with respect to their historic, social and ecological implications. Synthesis of issues, methods and techniques of the conservation and sustainability curriculum. (Core Course).

Includes: Experiential Learning Activity

Precludes additional credit for ARCC 3302 (no longer offered), ARCH 3172, ARCH 3182, ARCH 3192.

Prerequisite(s): ARCS 3301 and third-year standing in B.A.S. Conservation and Sustainability major or permission of the School.

Studio eight hours per week.

**ARCS 3304 [1.0 credit]****Urbanism Studio 3: Urbanism on the Periphery**

Urbanization, sprawl, growth models, land consumption, containment strategies (smart growth, greenbelts, growth boundaries), edge cities, the Just City, Ecological Urbanism, and informal suburbanization in developed and developing countries. Through design, students explore the impact of practices, pressures, processes and cultural preferences on the expanding city.

Includes: Experiential Learning Activity

Precludes additional credit for ARCH 3111, ARCU 3304 (no longer offered).

Prerequisite(s): ARCS 2303 and ARCS 2304 and third-year standing in B.A.S. Urbanism major or permission of the School.

Eight hours studio, plus one hour lecture per week.

**ARCS 3306 [1.0 credit]****Urbanism Studio 5: Global Perspectives**

Urbanization as a global phenomenon. Study of various forms of urbanization and de-urbanization in relation to economic, political and cultural forces. Through design, students explore the (trans)formation of settlements and communities outside of the North American context.

Includes: Experiential Learning Activity

Precludes additional credit for ARCH 3172, ARCH 3182, ARCH 3192, ARCS 4304 (no longer offered).

Prerequisite(s): ARCS 2303 and ARCS 2304 and third-year standing in B.A.S. Urbanism major or permission of the School.

Eight hours studio, plus one hour lecture per week.

**ARCS 4105 [1.5 credit]****Comprehensive Studio**

Focussing on multi-unit housing, students from BAS majors collaborate to develop strategies for redevelopment of large urban sites. Engages urban design, site planning, programming, adaptive reuse, and community consultation. Students produce detailed designs for buildings, emphasizing building systems and envelope design. (Core Course).

Includes: Experiential Learning Activity

Precludes additional credit for ARCH 4111.

Prerequisite(s): ARCS 3105 and ARCS 3107, or ARCS 3303 and ARCS 3304.

Twelve hours studio, plus one hour lecture per week.

**ARCS 4107 [1.0 credit]****Option Studio**

Offers a range of topics for exploration. Students use analog and digital methods and techniques to culminate the undergraduate studio sequence while offering focused research-led investigation into key social, political, spatial issues. (Core Course).

Includes: Experiential Learning Activity

Precludes additional credit for ARCH 4172, ARCH 4182, ARCH 4192, ARCS 4106 (no longer offered).

Prerequisite(s): ARCS 3105 and ARCS 3107.

Eight hours studio, plus one hour lecture per week.

**Architecture - Technical (ARCC) Courses****ARCC 2100 [0.5 credit]****Design and the Environment**

Examines varied methods and techniques to understand the people, places, and potentials of landscapes with a focus on equity and an ethics of care for social and physical environments.

Precludes additional credit for ARCH 1222.

Prerequisite(s): Second-year standing or permission of the School.

Lecture three hours per week

**ARCC 2202 [0.5 credit]****Architectural Technology 1**

General introduction to materials and methods of construction with focus on wood and timber frame construction. Site conditions, foundations, structure and envelope design in terms of their response to local climate: sun (light and heat) wind, moisture. (Core course).

Precludes additional credit for ARCH 2221.

Prerequisite(s): permission of the School.

Lectures three hours a week.

**ARCC 2203 [0.5 credit]****Architectural Technology 3**

Wood frame, post and beam, steel and concrete systems and construction techniques. Structural systems and building envelope principles and practise are explored in conjunction with mechanical and electrical systems in smaller buildings. Emphasis on precedent, tradition and methodology of architectural detailing for construction.

Includes: Experiential Learning Activity

Precludes additional credit for ARCH 3221.

Prerequisite(s): ARCC 2202 and third-year standing for B.A.S. students and third-year standing for students in B.Eng. Architectural Conservation and Sustainability.

Lectures three hours a week.

**ARCC 3202 [0.5 credit]****Architectural Technology 4**

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. Focus on sustainable design strategies and environment impact. (Core course).

Precludes additional credit for ARCH 4221.

Prerequisite(s): ARCC 2203 and third-year standing for B.A.S. students or ARCC 2203 and third-year standing for students in B.Eng. Architectural Conservation.

Lectures three hours a week.

**ARCC 4200 [0.5 credit]****Structural Morphology**

Interdisciplinary study of structural and developmental morphology focusing on dynamic generative design processes, integrative systems, spatial modulations and fundamental generative principles of spatial form and structure as it relates to architecture. (Workshop).

Includes: Experiential Learning Activity

Lectures, seminar, workshop or field work six hours a week.

**ARCC 4207 [0.5 credit]****Advanced Building Assessment**

In-depth study of the conventions, methods, and tools used in the assessment of buildings and their sties including traditional field survey, photogrammetry, laser scanning technologies, and hybrid representations.

Includes: Experiential Learning Activity

Precludes additional credit for ARCC 4900 (no longer offered).

Prerequisite(s): enrolment in the BAS Conservation and Sustainability program and fourth-year standing.

Laboratories, lectures, field trips, six hours a week.

**ARCC 4500 [0.5 credit]****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.

Precludes additional credit for ARCC 3500, ARCH 4772.

Prerequisite(s): fourth-year standing in the B.A.S. program or permission of the School.

Three hours a week.

**ARCC 4801 [0.5 credit]****Architectural Technology**

A specific aspect of architecture in the area of architectural technology. Topics vary from year to year. (Elective Course).

Prerequisite(s): permission of the School.

**Architecture - Techniques (ARCN) Courses****ARCN 1005 [0.5 credit]****Introduction to Drawing: Seeing Through the Hand**

Fundamental concepts of line and line weight, light and shadow, perspective, contrast and composition. Exercises will include some mixed media and will introduce students to drawing as a way of translating ideas into images.

Includes: Experiential Learning Activity

One hour lecture and two hours drawing/discussion.

**ARCN 3999 [0.0 credit]****Co-operative Work Term**

Includes: Experiential Learning Activity

**ARCN 4100 [0.5 credit]****Historic Site Recording and Assessment**

Methods of heritage building documentation including hand recording, photography, rectified photography, total station, gps, photogrammetry, and laser scanning. Non-destructive testing techniques; environmental assessment tools for determining air quality and energy efficiency. Multidisciplinary teams for all project work.

Includes: Experiential Learning Activity

Also listed as ACSE 3207, CIVE 3207.

Precludes additional credit for ARCN 3100 (no longer offered), ARCH 3881.

Prerequisite(s): second-year standing in B.A.S. Conservation and Sustainability.

Lectures three hours a week, lab or field work two hours a week.

**ARCN 4200 [0.5 credit]****Building Pathology and Rehabilitation**

Deterioration mechanisms for concrete, timber, steel and masonry structures. Identification of design deficiencies; criteria for selection and design of rehabilitation systems. Design techniques to reduce deterioration in new construction and historical structures.

Includes: Experiential Learning Activity

Also listed as ACSE 4601, CIVE 4601.

Prerequisite(s): ARCN 4100 and third-year standing in B.A.S. Conservation and Sustainability.

Lectures three hours a week, lab/field work two hours a week.

**Architecture - Urban (ARCU) Courses****ARCU 3100 [0.5 credit]****The Morphology of the City**

Primary structural, spatial and formal organization and elements that characterize the morphology of cities; historical and contemporary significance for architecture and urban design. (Core).

Precludes additional credit for ARCH 2331.

Prerequisite(s): First-year standing in the B.A.S. Urbanism major, second or third-year standing in other B.A.S. majors, or permission of the School.

Lecture two hours a week and tutorial one hour a week.

**ARCU 4103 [0.5 credit]****Cities**

Course addresses cities such as Istanbul, Mexico City, Venice, Paris, Ottawa, Mumbai, and New Orleans.

Topics presented by the instructor and guests include environmental resilience and climate change; social justice and informal settlement; smart cities and data privacy; and urban design, memory, and imagination.

Precludes additional credit for ARCU 3902 (no longer offered).

Prerequisite(s): Second-year standing or permission of the Instructor.

Lecture two hours per week and tutorial one hour per week.

**ARCU 4300 [0.5 credit]****Theories of Urbanism**

Contemporary urban theory and critical scholarship that engages evolving social, political, economic and environmental perspectives, addresses multiple scales, geographic contexts, and disciplinary boundaries, and investigates the expanding array of models, tools and techniques that have contributed to various theories of urbanism.

Precludes additional credit for ARCH 4992.

Prerequisite(s): ARCU 3100.

**ARCU 4700 [0.5 credit]****Urban Utopias**

Urban utopias throughout history, with emphasis on the 20th century. Garden Cities, anti-urbanism and radical decentralization, the city in the region, Italian Rationalist cities, Le Corbusier and CIAM, post-WWII New Towns (England, Scandinavia and the US), Sustainable Urbanism.

Prerequisite(s): third or fourth-year standing in B.A.S. Urbanism program or permission of the School.

Lectures three hours a week.

**ARCU 4801 [0.5 credit]****Topics in Urbanism**

Advanced seminar in selected topics related to urbanism. Topics may include histories and theories related to urban systems, design, and planning. (Core course).

Precludes additional credit for ARCH 4993.

Prerequisite(s): third-year standing in B.A.S. (Urbanism) or permission of the Instructor.

Seminar three hours per week.