

BACHELOR OF ENGINEERING IN ARCHITECTURE

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Main Language of Instruction:

French ☒ English ☐ Arabic ☐

Campus Where the Program Is Offered: CST

OBJECTIVES

The architecture program aims to train architects through hands-on, innovative education centered on design studios, collaborative learning, and a multilingual, multicultural environment. Graduates will be able to:

- Pursue specialized graduate studies in both professional practice and research at leading universities worldwide.
- Design, create, and lead decision-making processes across the architectural and construction sectors.
- Collaborate with leading local and international architectural firms.

PROGRAM LEARNING OUTCOMES (COMPETENCIES)

- Analyze complex architectural issues within rural and urban contexts.
- Identify and compare architectural theories and movements throughout history.
- Acquire, manage, and apply knowledge using advanced digital tools and effective learning methods.
- Analyze and address rural, urban, environmental, social, cultural, and identity-related contexts.
- Communicate effectively with diverse stakeholders.
- Devise appropriate design solutions.
- Collaborate effectively within teams by sharing leadership, fostering inclusivity, coordinating tasks, and achieving common objectives.
- Apply technical standards, codes, and regulations.
- Demonstrate ethical and professional responsibility by evaluating the global, economic, environmental, and societal impacts of architectural solutions.
- Conduct relevant experiments, analyze and interpret data, and apply architectural judgment to draw conclusions.
- Manage and supervise construction sites.
- Prepare accurate and updated execution documents, including architectural, structural, electromechanical, and environmental drawings, along with technical specifications.
- Design, develop, and deliver complex architectural projects by integrating analytical, conceptual, architectural, legal, financial, and technical aspects to ensure project coherence.

PROGRAM REQUIREMENTS

342 credits: Required courses (292 credits), Institution's Elective Courses (12 credits), Open Elective Courses (6 credits), and USJ General Education Program (32 credits).

Fundamental Courses (304 Cr.)

Required Courses (292 Cr.)

Architecture Studio I: Introduction to Design (10 Cr.). Architecture Studio II: Introduction to the Architectural Project (10 Cr.). Architecture Studio II - Advanced (6 Cr.). Architecture Studio III: Housing and Structure (10 Cr.). Architecture Studio IV: Equipping and Inhabiting the City (10 Cr.). Advanced Studio I: Urban Renewal, Rehabilitation, Reconversion, or Extension (10 Cr.). Advanced Studio II: Architecture & Territory (10 Cr.). Advanced Studio III: Architecture, Society, and Symbols (10 Cr.). Advanced Studio IV: Innovation, Materiality, Complexity - Experimentation, AI, and Matter (10 Cr.). Introduction to Research (2 Cr.). Thesis Topic Selection (2 Cr.). Capstone Project I: Thesis (8 Cr.). Capstone Project II: Schematic Design (SD) (14 Cr.). Capstone Project III: Design Development (DD) and Final Defense (20 Cr.). Developed Project Studio I (6 Cr.). Developed Project Studio II (6 Cr.). Introduction to Design and Digital Fabrication (4 Cr.). Architectural Representation I: Introduction (3 Cr.). Architectural Representation II: Intermediate (3 Cr.). Architectural Representation III: Developing a Personal Style



(3 Cr.). Geometry and Architecture I (4 Cr.). Geometry and Architecture II (3 Cr.). Digital Tools I: Introduction (3 Cr.). Digital Tools II: Intermediate (3 Cr.). Digital Tools III: Advanced (3 Cr.). In-situ: Introduction (2 Cr.). Elements of Architecture (3 Cr.). Architectural Design Methodology (3 Cr.). History of Architecture: 19th to 20th Century (4 Cr.). Societies, Culture and Ways of Life (2 Cr.). History of Architecture: From Antiquity to its Origins (4 Cr.). History of Architecture: From the Middle Ages to the Renaissance (4 Cr.). Lebanese Architectural Heritage and Surveys (4 Cr.). History of Contemporary Architecture (4 Cr.). Engaging the Existing Building: Preservation, Restoration and Transformation (2 Cr.). Art and Architecture (2 Cr.). Landscape and Architecture (2 Cr.). Architecture, City and Territory: Contemporary Issues and Strategies (2 Cr.). Architectural Analysis and Critical Thinking (4 Cr.). Architecture and Urbanism (4 Cr.). Urban Design Workshop (3 Cr.). Urban Sociology (2 Cr.). Architecture and Artificial Intelligence (3 Cr.). Building Technology I: Fundamentals (3 Cr.). Building Technology II: Structural Shell and Circulation (4 Cr.). Building Technology III: Envelope and Facades (4 Cr.). Building Technology IV: Interior and Finishes (4 Cr.). Art of Structures (3 Cr.). Statics (2 Cr.). Strength of Materials (4 Cr.). Structural Design: Fundamentals and Reinforced Concrete (4 Cr.). Structural Design: Structural Systems and Frameworks (4 Cr.). Building Physics (2 Cr.). Building Equipment and Comfort: HVAC (4 Cr.). Building Services: Plumbing and Electrical (4 Cr.). Lighting (2 Cr.). Acoustics (2 Cr.). Climate, Ecology, and Architecture (4 Cr.). Environmental Certification (2 Cr.). Professional Internship (4 Cr.). Real Estate and Construction Law (4 Cr.). Photographing Space (3 Cr.). Fire Safety (2 Cr.).

Institution's Elective Courses (12 Cr.), to be chosen from the list below:

Materials and Making Workshop (2 Cr.). Final Dwellings (4 Cr.). Sublime Beirut (2 Cr.). Anarchitecture (4 Cr.). Urban Foresight (2 Cr.). Materiality and Architectural Surfaces (4 Cr.). Philosophy and Architecture (2 Cr.).

Open Elective Courses (6 Cr.)

USJ General Education Program (32 Cr.)

Code	Course Name	Credits
	ENGLISH OR OTHER LANGUAGE	4
538ANGAS8	English	4
	ARABIC	2
	<i>Arabic Language and Culture</i>	2
435LALML2	Arabic Language and Media	2
	HUMANITIES	10
064VALEL1	USJ Values in Daily Life	2
	<i>Ethics</i>	4
538ETAAS5	Ethics and Architecture	4
	<i>Civic Engagement and Citizenship</i>	2
538CPHAS3	Philosophy and the Reality of Living	2
	<i>Other Humanities Course</i>	2
538CARAS6	Architecture and Religions	2
	SOCIAL SCIENCES	6
	<i>Professional Integration and/or Entrepreneurship</i>	6
538GPRAS8	Professional Practice and Ethics	2
538GMPAS9	Project Management	4

	COMMUNICATION TECHNIQUES	4
538TECAS0	Communication Skills	4
	QUANTITATIVE TECHNIQUES	6
538SMAAS1	Applied Mathematics for Architecture I	4
538SMAAS3	Applied Mathematics for Architecture II	2

SUGGESTED STUDY PLAN

Semester 1

Code	Course Name	Credits
538PA1AS1	Architecture Studio I: Introduction to Design	10
538RGAAS1	Geometry and Architecture I	4
538RA1AS1	Architectural Representation I: Introduction	3
538CISAS1	In-situ: Introduction	2
538SPBAS2	Building Physics	2
538ST1AS1	Building Technology I: Fundamentals	3
538SELAS1	Elements of Architecture	3
538CH2AS3	History of Architecture: From Antiquity to its Origins	4
	Total	31

Semester 2

Code	Course Name	Credits
538PA2AS2	Architecture Studio II: Introduction to the Architectural Project	10
538RA2AS2	Architectural Representation II: Intermediate	3
538RD1AS2	Digital Tools I: Introduction	3
538SS1AS2	Art of Structures	3
538SMAAS1	Applied Mathematics for Architecture I	4
538CSMAS2	Societies, Culture, and Ways of Life	2
538RGAAS2	Geometry and Architecture II	3
538PMPAS2	Architectural Design Methodology	3
	Open Elective Course	2
	Total	33

Summer Trimester

Code	Course Name	Credits
538PAAAS2	Architecture Studio II - Advanced	6
	Total	6

Semester 3

Code	Course Name	Credits
538PA3AS3	Architecture Studio III: Housing and Structure	10
538RPEAS3	Photographing Space	3
538CH3AS4	History of Architecture: From the Middle Ages to the Renaissance	4
538CPHAS3	Philosophy and Reality of Living	2
538ST2AS3	Building Technology II: Structural Shell and Circulation	4
538CAAAS3	Art and Architecture	2
538SSTAS3	Statics	2
538RD2AS3	Digital Tools II: Intermediate	3
435LALML2	Arabic Language and Media	2
	Institution's Elective Course	2
	Total	34

Semester 4

Code	Course Name	Credits
538PA4AS4	Architecture Studio IV: Equipping and Inhabiting the City	10
538CPLAS4	Lebanese Architectural Heritage and Surveys	4
538CH1AS2	History of Architecture: 19 th to 20 th Century	4
538ST3AS4	Building Technology III: Envelope and Facades	4
538SEFAS8	Building Services: Plumbing and Electrical	4
538SRMAS4	Strength of Materials	4
538SMAAS3	Applied Mathematics for Architecture II	2
	Open Elective Course	2
	Total	34

Summer Trimester

Code	Course Name	Credits
538PPDAS5	Developed Project Studio I	6
	Total	6

Semester 5

Code	Course Name	Credits
538PA1AS5	Advanced Studio I: Urban Renewal, Rehabilitation, Reconversion, or Extension	10
538RA3AS5	Architectural Representation III: Developing a Personal Style	3
538CH4AS5	History of Contemporary Architecture	4
538CBEAS5	Engaging the Existing Building: Preservation, Restoration, and Transformation	2
538SS3AS5	Structural Design: Fundamentals and Reinforced Concrete	4
538ETAAS5	Ethics and Architecture	4
538CAUAS5	Architecture and Urbanism	4
538RD3AS8	Digital Tools III: Advanced	3
	Total	34

Semester 6

Code	Course Name	Credits
538PA2AS6	Advanced Studio II: Architecture & Territory	10
538ST4AS6	Building Technology IV: Interior and Finishes	4
538SE1AS6	Climate, Ecology, and Architecture	4
538GDCAS6	Real Estate and Construction Law	4
538SECAS4	Building Equipment and Comfort: HVAC	4
538SELAS6	Lighting	2
538SACAS6	Acoustics	2
538SSIAS8	Fire Safety	2
	Open Elective Course	2
	Total	34

Summer Trimester

Code	Course Name	Credits
538PD2AS6	Developed Project Studio II	6
538GSPAS7	Professional Internship	4
	Total	10

Semester 7

Code	Course Name	Credits
538PA3AS7	Advanced Studio III: Architecture, Society, and Symbols	10
538CTVAS7	Architecture, City, and Territory: Contemporary Issues and Strategies	2
538SS4AS7	Structural Design: Structural Systems and Frameworks	4
538CPCAS7	Architectural Analysis and Critical Thinking	4
538CARAS6	Architecture and Religions	2
538PFDAS7	Introduction to Design and Digital Fabrication	4
538TECAS0	Communication Skills	4
064VALEL1	USJ Values in Daily Life	2
	Institution's Elective Course	2
	Total	34

Semester 8

Code	Course Name	Credits
538PA4AS8	Advanced Studio IV: Innovation, Materiality, Complexity - Experimentation, AI, and Matter	10
538PIRAS7	Introduction to Research	2
538PCSAS8	Thesis Topic Selection	2
538CSUAS6	Urban Sociology	2
538CPAAS6	Landscape and Architecture	2
538SIAAS8	Architecture and Artificial Intelligence	3

538CURAS9	Urban Design Workshop	3
538ANGAS8	English	4
	Institution's Elective Courses	4
	Total	32

Summer Trimester

Code	Course Name	Credits
538PP1AS8	Capstone Project I: Thesis	8
	Total	8

Semester 9

Code	Course Name	Credits
538PP2AS9	Capstone Project II: Schematic Design (SD)	14
538SE2AS9	Environmental Certification	2
538GPRAS8	Professional Practice and Ethics	2
538GMPAS9	Project Management	4
	Institution's Elective Courses	4
	Total	26

Semester 10

Code	Course Name	Credits
538PP3AS0	Capstone Project III: Design Development (DD) and Final Defense	20
	Total	20

COURSE DESCRIPTION

Project, Research and Thesis:

538PMPAS2	Architectural Design Methodology	3 Cr.
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This course introduces the methodology of architectural design and directly supports the Architecture Design Studio II course. It guides students through the design process, from the analysis of context and program to the formulation of a design question and the development of an architectural concept. By exploring diverse methodological approaches, students will move beyond intuition toward a critical, reasoned, and reflective design practice.

Prerequisite: Architectural Representation I: Introduction and Geometry and Architecture I (538RA1AS1)

538PA1AS1	Architecture Studio I: Introduction to Design	10 Cr.
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This course introduces students to the fundamental principles of design through a series of progressive exercises exploring the relationships among form, space, matter, and perception. Through experimentation, manipulation, observation, and iteration, students will develop an initial understanding of the architectural design process, from analysis to the formulation of a coherent spatial proposition.

Number of projects: 3 or 4

Learning outcomes: Formal and volumetric research, design and development of architectural elements, structural integrity, material experimentation, material-form-structure-function relationship, compositional process (transformation, iteration, assemblies, etc.), movement and spatial performance, proportion and scale, light and shadow, spatial organization and graphic representation, documentation of the design process.

Project deliverables: Handcrafted models and graphic boards, to be specified by the instructors.

538PA2AS2	Architecture Studio II: Introduction to the Architectural Project	10 Cr.
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This course introduces students to the architectural project through fundamental notions of form, use and spatial experience. Through drawing and physical modeling, students will investigate composition, proportion, scale, light, place and time.

Number of projects: 3 or 4.

Learning outcomes: Translation of situations and scenarios into spatial experiences; spatial sequencing and architectural journeys; body-space relationships, including scale and proportion; spatial organization and the articulation of static and dynamic spaces; natural light and its impact on spatial experience; site analysis and architectural integration within an urban context, including party walls and alignments; experimentation with structural systems; structural hierarchy, including columns and beams; form-structure-material relationships; design of simple architectural programs, including small dwellings and neighborhood facilities; development of functional organization diagrams; geometric drawing and physical model representation; oral presentation.

Project deliverables: Handcrafted models and graphic boards. Physical models are mandatory for all projects (study models and final models). Deliverables for each project will be specified by the instructors (conceptual research and organization chart, plans, sections, facades). At least one project will require an axonometric drawing and/or perspective.

Prerequisite: Architecture Studio I: Introduction to Design (538PA1AS1)

538PAAAS2	Architecture Studio II - Advanced	6 Cr.
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This course builds on Architecture Studio II and deepens students' understanding of fundamental notions introduced previously, with an emphasis on the progression of the design process and the quality of spatialization. The course focuses on the development and refinement of an architectural concept through iterative drawing and model-making. Students will further explore the relationships among form, space, use, light, and structure, without engaging in advanced technical resolution.

Number of projects: 1, developed in two phases.

Prerequisite: Architecture Studio II: Introduction to the Architectural Project (538PA2AS2)

538PA3AS3	Architecture Studio III: Housing and Structure	10 Cr.
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This course approaches architectural design through the articulation of three fundamental dimensions: program (housing), logic (structure), and context (the natural or urban environment).

Through the analysis of real sites, students will investigate contextual conditions, including topography, orientation, climate, and vegetation, alongside structural logics explored through observation, research, and fabrication.

Through individual and collective housing projects, students will examine ways of inhabiting a site and the relationships among site, materiality, structure, and architectural space. The course progressively increases the complexity of the housing project, from site analysis and conceptual development to architectural and structural integration.

Number of projects: 3 projects (site analysis, concept, project), including an individual housing project integrating structural systems.

Learning outcomes: Site analysis, individual housing program, collective housing, integration into sloping sites; structural systems and spatial layout; parking and circulation; introduction to regulatory parameters and area calculations, including FAR, BCR, setbacks, and maximum building height; small-scale housing design with increasing complexity; assembly and modular systems; housing design methods; structural logic and spatial organization; housing typologies, including simplex and duplex; adjoining and opposing configurations; interior-exterior relationships; materiality and structural expression; composition and rendering techniques; graphic organization and board layout; architectural drawing techniques.

Project deliverables: Boards including plans, sections, facades and perspective (scales and format to be defined by the instructors), intention models and conceptual model.

Related course: Philosophy and Reality of Living.

Prerequisite: Architecture Studio II: Introduction to Architectural Project (538PA2AS2)

538PA4AS4	Architecture Studio IV: Equipping and Inhabiting the City	10 Cr.
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This course explores architectural intervention in an urban context. It approaches the analysis and representation of the city as a means of reflection on public space and the dialectical relationship between buildings and the communities that inhabit them. The course develops the notions of program, accessibility, and materiality through a series of public facility projects at different scales.



Number of projects: 3 projects: Urban analysis (group work), urban intervention (individual work), and two public equipment projects.

Learning outcomes: Urban analysis and interpretation; formulation of architectural programs in response to identified urban issues; development of public facility programs (e.g. cultural, health, leisure, mixed, etc.), architectural integration within an urban site; accessibility and circulation; interior–exterior spatial continuity; structural systems; parking and regulatory constraints; form–materiality–structure relationships; site observation and documentation:

- Site visits, urban discovery, investigation, meeting users and analyzing their practices, taking photos, sketches, etc.
- Site history and contextual research.
- Analysis of urban elements: road systems and traffic, building morphology, open spaces, urban atmospheres (sunshine, lighting, sound, activity, etc.), flows and permeabilities, etc.
- Cartographic representation of urban morphology: full and empty spaces, the age of the building, heights, functions, etc.
- formulation of a design problem and project guidelines.
- Program development and individual project development based on group analysis.

Prerequisite: Architecture Studio III: Housing and Structure (538PA3AS3)

538PPDAS5	Developed Project Studio I	6 Cr.
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This course introduces students to the design development and execution drawings of a project. At the end of Architecture Studio IV, students will choose one of the projects covered during studios III and IV and develop it in detail over a two-months period. The course addresses the practical and technical aspects of project realization.

Learning outcomes: Structural systems, developed plans (axes, double walls, shafts, technical rooms, etc.), developed sections and elevations, wall sections and details (waterproofing, joints, aluminum, etc.), stairs, openings catalog.

Prerequisite: Architecture Studio III: Housing and Structure (538PA3AS3)

538PA1AS5	Advanced Studio I: Urban Renewal, Rehabilitation, Reconversion, or Extension	10 Cr.
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This course introduces students to a multidisciplinary and thematic approach to architecture, through urban renewal, rehabilitation, adaptive reuse, and extension of existing built environments.

It explores interventions at multiple scales, from the building to the urban fabric, drawing on heritage, landscape, sustainability, and territorial considerations. Students will develop innovative architectural responses capable of transforming the existing conditions while preserving memory, and addressing historical, social, technical, and environmental considerations.

Number of projects: 2

Prerequisite: Architecture Studio IV: Equipping and Inhabiting the City (538PA4AS4)

538PA2AS6	Advanced Studio II: Architecture & Territory	10 Cr.
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This course addresses architectural design at the expanded territorial scale, considering architecture, landscape, infrastructure, environment, society, and regulatory frameworks as interconnected systems.

It develops a strategic approach to architectural design in territorial contexts characterized by continuities and disruption (urban, landscape, social, environmental, or administrative). Architecture is explored as a driver of territorial transformation, integrating built form, spatial organization, uses, mobility, and identity.

Studio S6 focuses on conceptual and strategic project formulation, at an intentional level, without detailed technical development. Advanced technical resolution is addressed in Developed Project Studio S6.2 (538PD2AS6), ensuring pedagogical continuity between territorial strategy and technical project development.

Number of projects: 2

Prerequisite: Advanced Studio I: Urban Renewal, Rehabilitation, Reconversion, or Extension (538PA1AS5)

538PA3AS7	Advanced Studio III: Architecture, Society, and Symbols	10 Cr.
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This course further develops the approaches explored in the previous advanced studios. It examines the capacity of architecture to produce meaning and express social, cultural, and symbolic values, integrating these immaterial dimensions into a built and technically coherent architecture.





The course addresses the practical and technical aspects of project realization in greater depth, without seeking complete professional engineering. Emphasis is placed on maintaining rigorous coherence among the project's concept, symbolism, and materiality.

Number of projects: 2

Prerequisite: Advanced Studio II: Architecture & Territory (538PA2AS6)

538PA4AS8	Advanced Studio IV: Innovation, Materiality, Complexity - Experimentation, AI, and Matter	10 Cr.
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This course is a synthesis the skills acquired throughout the previous studios and prepares students for the Capstone Project. Students will develop projects that integrate conceptual, technical, structural, and contextual dimensions through a research-based approach to architectural design.

It explores:

Innovative construction systems and materials;

Artificial intelligence as a tool for exploration, iteration, and generation;

Prototyping, simulation, and fabrication;

Advanced relationships among form, structure, envelope, and technical systems;

Hybrid, complex, or emerging programs.

The course serves as an advanced design laboratory in which students will demonstrate their ability to produce experimental, rigorous, coherent, and well-controlled architecture.

Number of projects: 2

Prerequisite: Advanced Studio III: Architecture, Society, and Symbols (538PA3AS7)

538PD2AS6	Developed Project Studio II	6 Cr.
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This course builds on the skills acquired in Developed Project Studio I and introduces students to design development and construction documentation. They will select one of the projects covered during the previous semester and develop it in detail over a two-month period.

This project constitutes the technical culmination of the advanced cycle. Students will transform an architectural project developed in the S6 Studio into a technically coordinated and constructible project, integrating the full range of building systems: structure, technical networks (HVAC, electrical, plumbing), envelope, environment, lighting, acoustics, and fire safety.

The course operates as a technical coordination workshop. It does not seek to provide complete professional engineering but to develop an advanced, operative understanding of technical integration consistent with contemporary architectural practice and NAAB standards.

The course builds on the architectural project developed in S6 (Architecture and Territory Studio) and connects with concurrent or immediately preceding courses: Building Equipment and Comfort: HVAC, Lighting, Acoustics, Fire Safety, Climate and Ecology, and Building Technology IV.

Learning outcomes: By the end of this course, students will be able to transform an architectural project into a technically coordinated and constructible one. They will produce a clear and hierarchized DD set: developed plans (gridlines, double walls, ducts, technical rooms), developed sections and elevations, wall sections and construction details (waterproofing, joints, fixings, aluminum profiles), stairs, and bathrooms. They will also integrate the main building systems into the project-structure, envelope, HVAC, electrical, plumbing, lighting, acoustics, and fire safety-in coordination with the associated technical disciplines. They will verify regulatory compliance and demonstrate an operative understanding of technical integration consistent with contemporary architectural practice and NAAB standards.

Prerequisite: Developed Project Studio I (538PPDAS5)

538PIRAS7	Introduction to Research	2 Cr.
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This course introduces research-based design as a fundamental component of architectural practice. It explores key architectural problematics and guides students in formulating and developing personal hypotheses through the critical reading of theoretical texts. The course also prepares students for the final thesis by introducing the fundamentals of methodical academic writing and the formulation and articulation of a focused research question.



538PCSAS8	Thesis Topic Selection	2 Cr.
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This seminar uses an iterative divergence-convergence methodology known as “3×3×3.” Starting from a preferred theme, students will explore different topics and contexts and develops a combinatorial matrix of at least 9 proposals (3 themes × 3 topics × 3 interventions). This process requires students to diversify and evaluate alternatives before committing to a final topic.

The course aims to enable students to identify, formulate, and validate a relevant, feasible, and compelling Capstone Project topic capable of supporting both a research thesis and a complete architectural project (Schematic Design and Design Development) over the three subsequent semesters.

538PFDAS7	Introduction to Design and Digital Fabrication	4 Cr.
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This course covers the digital manufacturing tools, the new design technologies (CNC fabrication, laser and 3D printing, etc.), experimentation, manufacturing and full-scale installations. The course includes workshop visits and hands-on work with professionals, enabling students to develop prototypes and full-scale installations based on their designs.

Prerequisite: Architecture Studio IV: Equipping and Inhabiting the City (538PA4AS4)

538PP1AS8	Capstone Project I: Thesis	8 Cr.
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This course constitutes the intellectual foundation of the degree project. Students will formulate a structured architectural research question, develop an appropriate research methodology, and produce a written thesis that establishes the theoretical and analytical foundations of their project.

The thesis informs and guides the architectural project developed in the subsequent semesters (Schematic Design in S9, Design Development in S10). It maintains a constant dialogue with the design intent, clarifying its theoretical foundations, context, references, and positioning.

The course aims to produce an architectural research thesis (30–50 pages with analytical boards) that structures the degree project and demonstrates a critical, well-argued stance.

Prerequisites: 4 Advanced Studio + Thesis Topic Selection + a total of 275 credits.

538PP2AS9	Capstone Project II: Schematic Design (SD)	14 Cr.
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This course synthesizes the theoretical and practical knowledge acquired throughout the four-year architecture program. Students will apply this knowledge to develop a preliminary design proposal based on a selected site, theme, and program. The project is grounded in an in-depth analysis that enables students to formulate a coherent and well-considered architectural vision across multiple scales and dimensions, including architectural, urban, heritage, and environmental considerations.

Prerequisite: Capstone Project I: Thesis (538PP1AS8)

538PP3ASo	Capstone Project III: Design Development (DD) and Final Defense	20 Cr.
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This course finalizes the Capstone Project by further developing the preliminary design proposal produced during the previous semester. Students will apply advanced knowledge in architecture and building engineering to integrate materials, structure, electrical and mechanical systems, safety, ecology, and other relevant technical considerations. The course culminates in a final architectural project that demonstrates the coherent integration of architectural, technical, and environmental dimensions.

Prerequisite: Capstone Project II: Schematic Design (SD) (538PP2AS9)

Performing Arts and Techniques

538RA1AS1	Architectural Representation I: Introduction	3 Cr.
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This course introduces students to the representation of simple shapes and to freehand analog drawing from observation. It enables students to design and visually express themselves by translating perceptual experiences through different representation tools and media. The course provides an accelerated introduction to proportion, composition, horizontal and vertical reference lines, and perspective. It also offers a condensed overview of the history of architectural representation through image analysis and visualization. By the end of this course, students will assemble a portfolio of their work, providing an introduction to digital image editing tools.

538RA2AS2	Architectural Representation II: Intermediate	3 Cr.
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This course deepens students' representation skills. It shifts from a primarily studio-based instruction to a site-reading approach, using urban and landscape sketching to develop the ability to represent rhythms, movements and lights. Students will be introduced to iteration and narrative in contemporary architectural representation through collage, infographics, and other types of multimedia drawing. The design of a portfolio publication bringing together all the course work further develops the graphic tools introduced in the first semester.

Prerequisite: Architectural Representation I: Introduction (538RA1AS1)

538RA3AS5	Architectural Representation III: Developing a Personal Style	3 Cr.
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This course helps students develop an individual approach to architectural representation and encourages critical reflection on its role within the discipline. It is an advanced course in representation focused on the production of complex drawings and on the evolution of contemporary representation methods. It also develops written and verbal presentation skills that complement graphic representation.

Students will be introduced to the web design, enabling them to create a professional identity by digitally combining a selection of their best drawings and studio projects.

Prerequisite: Architectural Representation II: Intermediate (538RA2AS2)

538RGAAS1	Geometry and Architecture I	4 Cr.
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This course introduces students to the fundamental techniques of geometric drawing by hand using professional architectural drafting tools. It develops spatial and technical thinking, enabling students to visualize and reason about form and space.

Geometry is presented as an essential tool for the sciences and techniques of architecture. Students will learn to "see" in space, understand geometric conventions, and accurately represent three-dimensional objects. The course emphasizes projection operations, axonometric drawing, shadows, and perspectives, equipping students with the representational skills required for architectural design and communication.

538RGAAS2	Geometry and Architecture II	3 Cr.
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This course builds on the foundations of descriptive geometry, with a focus on the study and mastery of architectural perspective. It deepens students' understanding of three-dimensional representation techniques and enables them to translate architectural concepts into precise and expressive perspective drawings.

Students will be introduced to one-point, two-point, and multi-point perspective. The course also addresses proportion and depth, as well as the use of light and shadow to enhance realism and expressiveness in compositions. Through hands-on exercises, students will develop the ability to conceptualize, draw, and communicate complex volumes. This course prepares students to apply these techniques to architectural projects, strengthening the link between spatial thinking and graphic representation.

Prerequisite: Geometry and Architecture I (538RGAAS1)

538RD1AS2	Digital Tools I: Introduction	3 Cr.
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This course introduces students to digital tools for representation and design, as well as to geometric conventions. Building on techniques previously developed through freehand and guided manual drawing in prerequisite courses, students will develop these techniques digitally using a range of software tools.

Students will learn to represent space through computer-aided drawing, progressing from two-dimensional (2D) representations to three-dimensional (3D) modeling using AutoCAD. The course emphasizes observation and representation through orthogonal projections, conventional drawings (plans, sections, elevations, perspectives), as well as the digital construction of complex surfaces.

Prerequisite: Geometry and Architecture I (538RGAAS1)

538RD2AS3	Digital Tools II: Intermediate	3 Cr.
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This course deepens students' knowledge of digital representation and design. It introduces the geometry of Boolean operations as a foundation for understanding parametric representation and the graphical modeling of complex forms and volumes.

Students will gain hands-on experience with advanced 3D modeling software, such as 3ds Max, Rhinoceros, and Grasshopper, with the tools evolving alongside technological advancements. The course emphasizes a parametric



and algorithmic design approach, enabling students to explore generative processes and complex digital forms.

Prerequisite: Digital Tools I: Introduction (538RD1AS2)

538RD3AS8	Digital Tools III: Advanced	3 Cr.
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This course concludes the three-course digital tools sequence with an integrative and forward-looking synthesis. It focuses on the latest developments in digital design and representation software, enabling students to produce comprehensive and professional final deliverables for architectural projects.

Students will review and consolidate the digital design, modeling, and construction tools learned in previous courses. The course emphasizes workflow integration, from conceptual modeling to detailed documentation and rendering. It also introduces Building Information Modeling (BIM) environments such as Revit or equivalent software, enabling students to coordinate design, documentation, and visualization within a single platform.

Prerequisite: Digital Tools II: Intermediate (538RD2AS3)

History, Context and Culture

538CISAS1	In-situ: Introduction	2 Cr.
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This course introduces students to the concept of site and context in which architectural interventions are situated, along with the multiple factors that influence and shape them.

Throughout the semester, students will observe and explore sites through multiple layers. A careful reading of the site is considered essential to designing meaningful and responsible architecture. The course encourages students to use both creativity and scientific reasoning to shape the built environment in the long-term interest of all living beings.

Drawing on the Roman concept of Genius Loci (“spirit of the place”), the course is structured around three main themes:

Natural Sites: Examination of topography, vegetation, watercourses, hills, and human interventions in the natural landscape.

Urban Context: Analysis of the cultural and built environment, including heritage and urban fabric.

Ecology and Activism: Study of the environmental and cultural value of ecological sites, relevant legislation and its application, and the key factors required for environmentally responsible practice.

While addressing multiple layers simultaneously, each theme will focus on a specific aspect of the site through maps, models, readings, films, research assignments, and student presentations.

Content overview:

Geology and geography

Movement of the Earth and the sun

Natural regions and climatic zones

Rural and urban regions and their interrelations

Ecological and environmental approaches

538CH1AS2	History of Architecture: 19th to 20th Century	4 Cr.
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This course introduces students to the architectural developments of the 19th and 20th centuries, a period marked by increasingly sophisticated materials, diverse stylistic influences, and profound social transformations. During this period, architecture saw the rapid emergence and proliferation of new movements in response to technological advances and evolving ideologies.

Content overview:

Historicism – Art Nouveau – International Style – Organic Architecture – Deconstructivism.

538CSMAS2	Societies, Culture, and Ways of Life	2 Cr.
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This course introduces students to the cultural norms, social rhythms, environments, and modes of dwelling, emphasizing culture as a human creation that is continuously redefined and reinvented. Positioned at the intersection of private, family, and public spheres, the course examines the diversity of practices, attitudes, and lifestyles across different societies.

This diversity is reflected in the consumption of material and cultural goods, customs and moral codes, uses of space and time, domestic organization, and modes of social integration. These elements vary according to climate,





value systems, cultural forms, and habits. As anthropologist Ralph Linton reminds us, “A culture is the way of life of a society.”

Content overview:

- Primitive societies and their organizational structures
- Traditional societies
- Contemporary societies
- From ways of life to modes of dwelling

538CH2AS3	History of Architecture: From Antiquity to its Origins	4 Cr.
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This course introduces students to the theological, ideological, and theoretical foundations underlying the architecture of Antiquity and its early development. It develops students' ability to understand and use the vocabulary of art, architecture, and urbanism, and to identify and name the key stylistic characteristics of artistic, architectural, and urban production across the periods studied.

By the end of the course, students will be able to situate representative architectural and urban works within their historical and geographical contexts and interpret their meaning by understanding the circumstances of their creation. The course also examines the relationship between the history of art and the political, economic, and social organization of societies.

Content overview: Pharaonic Egypt – Hellenic Antiquity – The Roman World – Early Christian Transformation.

538CPHAS3	Philosophy and Reality of Living	2 Cr.
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This course explores the architectural and philosophical dimensions of dwelling as a reflection of human thought, way of life, relationship to the environment, and connection to society.

The course analyzes Martin Heidegger's philosophy of dwelling, including its different dimensions (human being, world, space, and place), which he considers intrinsic to the human condition. Students will also be introduced to Gaston Bachelard's poetic vision of space, Le Corbusier's more functionalist perspective, and contemporary housing crises. These crises are presented as symptoms of deeper issues, such as the standardization of architecture and the loss of meaning in dwelling – a concept too often reduced to the provision of shelter.

Prerequisite: Societies, Culture and Ways of Life (538CSMAS2)

538PHAAS5	Philosophy and Architecture	2 Cr.
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This course offers a critical reading of the history of architecture through the lens of philosophy. It is structured around two main axes: the first explores Eastern, Greek, and Islamic architecture, while the second focuses on Western architectural thought from the medieval period through modernity and the contemporary era.

This course aims to:

- Examine the impact of fundamental philosophical concepts on architectural theory and practice.
- Examine the contribution of philosophy to addressing the challenges of architecture as a discipline.
- Focus on key philosophical notions such as space, place, finitude, infinity, form, and matter.
- Explore the intersection and mutual influence of aesthetic philosophy, art theory and criticism, and the practical commitments of artists.
- Engage with the contributions of major philosophers to architectural thought, including Thales, Hegel, and Heidegger.

538CH3AS4	History of Architecture: From the Middle Ages to the Renaissance	4 Cr.
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This course introduces students to the theological, ideological, and theoretical foundations underlying works of art and architecture from the Middle Ages through the Renaissance. It develops students' ability to understand and use the vocabulary of art, architecture, and urbanism, and to identify and name the key stylistic characteristics of artistic, architectural, and urban production across the periods studied.

By the end of the course, students will be able to situate representative architectural and urban projects in time and space, interpret their meaning within their historical and cultural contexts, and explain the intellectual, social, and political conditions of their production. Most importantly, students will learn to relate the history of art and architecture to the political, economic, and social organization of the societies that produced them.

Content overview: Byzantium – Islamic Architecture – Romanesque – Gothic – Renaissance – Baroque and Rococo.



538CARAS6	Architecture and Religions	2 Cr.
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This course introduces students to religious architecture, beginning with the Greco-Roman world. Understanding this period is essential to grasp its influence on later civilizations, notably Judeo-Christian and Islamic cultures.

The course explores:

- The worship of Greco-Roman deities and its architectural manifestations.
- The worship of one God in the monotheistic religions: Judaism, Christianity, and Islam.
- The sacred spaces, liturgical arrangements, and symbolic systems characteristic of each religion.
- Ultimately, this course serves as an introduction to a theology of architecture, enabling students to reflect on the ways faith, ritual, and space intersect across cultures and epochs.

538CPLAS4	Lebanese Architectural Heritage and Surveys	4 Cr.
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This course provides an overview of Lebanese architectural heritage, from vernacular traditions to domestic and public architecture, including palaces, religious edifices, and other building typologies. The course offers a critical analysis of the elements that constitute this heritage, their evolution over time and across cities and regions, their diverse sources of inspiration, and their terminology.

Special attention is given to the city as a place of density and transformation, tracing its evolution through different historical periods up to the Modern Movement. The course develops a comprehensive understanding of the richness and complexity of Lebanese architecture while fostering cultural identity and awareness of preservation challenges.

Content overview: Vernacular Architecture – Traditional Architecture – Religious and Civic Architecture – 1930s – 1940s – 1950s – 1960s – Modern Movement.

538CH4AS5	History of Contemporary Architecture	4 Cr.
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This course develops students' analytical and critical thinking in relation to the contemporary world in which they will practice architecture and the new constraints the discipline. It covers climate change, energy efficiency, parametric and computational design, new materials, the star-architect phenomenon, urban gigantism, the roles of public and private stakeholders, and participatory modes of collaboration.

Content overview: Ecological / Sustainable Architecture – Bioclimatic Architecture – High-Tech Architecture – Blob Architecture – Deconstructivism – Postmodernism – Critical Regionalism – “Gadget” Architecture – Bionic Architecture – Metabolist Architecture – Emergency Architecture – Futurist Architecture.

538CBEAS5	Engaging the Existing Building: Preservation, Restoration and Transformation	2 Cr.
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This course introduces the criteria used to assess existing buildings, determine their value and significance, and select the most appropriate approach to intervention. It provides an overview of technical strategies and their implementation, as well as the range of trades and disciplines involved in conservation, adaptive reuse, and transformation, with a focus on meeting contemporary standards of comfort and functionality.

Content overview: Building Evaluation Criteria – Historic Buildings – Listed/Protected Buildings – Buildings with Collective Memory Value – Buildings for Recovery or Transformation – Restoration Techniques – Preservation Strategies – Adaptive Reuse and Rehabilitation.

538CAUAS5	Architecture and Urbanism	4 Cr.
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This course introduces the conceptual and historical foundations, methods, and instruments of urban regulation, with particular attention to the Lebanese context. It develops students' ability to understand urban forms through a reasoned approach.

This course comprises two parts:

- 1- Theoretical: Students will develop the foundations needed to read and analyze urban space. The course retraces the main stages of urbanization across different cities and historical periods (medieval, modern, industrial, contemporary, etc.) to understand the logic underlying the formation of the contemporary city.
- 2- Practical: Students will work with quantitative and qualitative data sources suitable for describing and analyzing urban space. These include historical and current topographical maps, statistics, thematic maps, direct observation, participant observation, and surveys.



The course also examines the challenges facing the future development of cities, with particular attention to the Lebanese context.

Content overview: Elements of the morphological and functional analysis of the city.

538CURAS9	Urban Design Workshop	3 Cr.
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This course introduces students to the stages of the urban project and strategic planning, as well as to urban planning tools, through the study of real-world international case studies.

Students will engage with real situations in which they will learn participatory planning, community engagement, and social and environmental responsibility. They will work within real-world constraints while being exposed to global perspectives on urbanism.

Prerequisite: Architecture and Urbanism (538CAUAS5)

538SIAAS8	Architecture and Artificial Intelligence	3 Cr.
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This course explores the impact of artificial intelligence on contemporary architectural design, with a focus on representation, decision-making, and project workflows. Students will experiment with generative AI, data analysis, algorithmic morphogenesis, and environmental simulation to develop an AI-assisted architectural project that combines digital tools with a critical approach. The pedagogy follows an “understand, experiment, design, and critique” sequence through lectures, workshops, experimentation, and project juries.

The course serves as the contemporary methodology of the degree cycle. It complements Advanced Studio IV (S8 - Innovation, Materiality, Complexity) by providing tools and approaches for AI-augmented architecture and prepares students to apply these methodologies in the Capstone Project.

Learning outcomes: By the end of this course, students will be able to understand the fundamental principles of AI applied to architecture; analyze the relationships among data, algorithms, and design; use AI tools to generate forms and scenarios; apply hybrid (human + AI) workflows; develop an AI-assisted architectural project; assess the limitations and biases of these tools; formulate a critical reflection on automation and the question of authorship; synthesize design, technology, and representation; and collaborate within an interdisciplinary environment.

Prerequisite: Digital Tools III: Advanced (538RD3AS8)

064VALEL1	USJ Values in Daily Life	2 Cr.
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This course introduces students to the core values of Saint Joseph University of Beirut (USJ), enabling them to integrate these values into their personal, interpersonal, and professional lives. It encourages students to critically reflect on how the values outlined in the USJ Charter can influence their behaviors, actions, and decisions in addressing the challenges of the contemporary world. It also raises awareness of global issues and ethical responsibilities, preparing students to contribute positively to society.

435LALML2	Arabic Language and Media	2 Cr.
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This course introduces Modern Standard Arabic (MSA) through an interactive approach that integrates language learning, cultural awareness, and critical thinking. Using media as a gateway to the Arabic language and contemporary Arab societies, students will engage with authentic materials, including newspapers, audiovisual content, social media, and digital platforms, to explore key issues and debates shaping the Arab world today. The course aims to develop students' proficiency in comprehension and expression in MSA while fostering critical engagement with media discourse and reflection on the role of media in contemporary societies.

538CAAAS3	Art and Architecture	2 Cr.
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This course explores the intersections and parallels between art and architecture. It examines the place of art within architecture and architecture as an art form in its own right, shaped by ideas, forms, and symbols. The course also encourages students to engage with USJ's core values and consider their application in everyday life. Students will approach architecture as an expression of cultural spirit, artistic creativity, and the human mind. Through interactive presentations and case studies of artworks from diverse historical periods and global contexts, the course develops aesthetic sensitivity and critical thinking as essential components of architectural education.

Content overview: Primitive Art – Antiquity – Middle Ages – Renaissance – Baroque – Classical – 19th Century – Contemporary Art.

538CPAAS6	Landscape and Architecture	2 Cr.
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This course explores the close relationship between architecture and landscape in the contemporary world. As urban expansion increasingly encroaches on natural landscapes, their integration, protection, and planning have become integral to contemporary architectural practice. Through international case studies representing diverse approaches, the course engages students in an interactive exploration of this essential dimension of architectural education.

Content overview:

- Conservation and transformation of the landscape
- Architecture and new urban landscapes
- Projects dealing with sensitive landscapes
- Landscapes protection and planning
- Experimentation through projects

Prerequisite: History of Contemporary Architecture (538CH4AS5)

538CPCAS7	Architectural Analysis and Critical Thinking	4 Cr.
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This course introduces students to architectural research and integrates research into the design process. Through the study of exemplary projects that demonstrate philosophical rigor, students will examine architecture and urban design as tools serving humanity and society. The course develops students' ability to understand the reasoning underlying design and cultivate a sensitive understanding of architectural production, enabling them to develop a personal approach and position in response to the diverse expressions of contemporary architecture.

Content overview: The Architectural Process – Architectural Production – Space – Functionality – Form – Structure – Philosophy – The Poetic Dimension.

Prerequisite: Philosophy and Reality of Living (538CPHAS3)

538CTVAS7	Architecture, City, and Territory: Contemporary Issues and Strategies	2 Cr.
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This course examines the architectural project not as an end in itself, but as an instrument for developing a multidisciplinary understanding of the contemporary city at different scales. It explores the methods and tools used in urban analysis and design, the hybridization of knowledge, the contributions of the architectural project at different stages of its development, and the advantages and limitations of this approach in relation to other methods in planning and urbanism. The course also encourages students to consider buildings from the perspective of their inhabitants and users.

Content overview: The Building as an Object – The Urban Fabric – Networks – Users – Stakeholders – Partners – New Data.

538CSUAS6	Urban Sociology	2 Cr.
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This course introduces students to urban sociology and its study of the relationships between forms of social organization and forms of urban development. It examines social morphology, which is the study of the forms taken by society within space, as well as urban morphology, which is the study of the physical forms of the city – its housing, monuments, urban design, and broader spatial arrangements. Together these perspectives provide a basis for understanding and supporting social life in existing cities and informing the design of new urban or architectural environments.

Sciences, Techniques and Environment

538SELAS1	Elements of Architecture	3 Cr.
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The course provides theoretical support for studio work and introduces fundamental concepts related to the design of an architectural project, including both abstract notions (concept, route, light, symbolism, scale, etc.) and physical elements.

Content overview: Space – Measurements, Scale and Proportions – Light – Composition – Urban Spaces (the Fabric/Object Relationship) – Openings – Circulation Elements.

538ST1AS1	Building Technology I: Fundamentals	3 Cr.
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This course introduces students to the building and its construction systems. It familiarizes them with building terminology and graphic conventions while introducing common construction elements and their configuration – from foundations to roofing – including interior works and the building envelope.

This course also introduces the environmental challenges associated with buildings. Students will understand that construction elements result from technical, cultural, regulatory, and environmental requirements, as well as architectural intentions. They will also recognize these elements as both the means through which architecture is constructed and the outcome of the architectural design process.

538ST2AS3	Building Technology II: Structural Shell and Circulation	4 Cr.
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This course introduces students to the systems, materials, and conventional construction methods associated with the structural work (*gros œuvre*) of a building. It focuses on foundations and structural systems, with particular attention to masonry, concrete, timber, and steel.

The course also addresses vertical circulation systems, including their materials, construction techniques, and dimensional requirements: stairs, ramps, elevators, and other vertical access systems.

As with the other courses in this sequence, the course and its associated practical sessions emphasize that construction elements result from the interplay of technical, cultural, regulatory, and environmental requirements, as well as architectural intentions. They serve both as the support for and the outcome of architectural design.

Prerequisite: Building Technology I: Fundamentals (538ST1AS1)

538ST3AS4	Building Technology III: Envelope and Facades	4 Cr.
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This course introduces students to the systems, materials, and conventional construction methods related to the building envelope. It focuses on façade cladding, openings, window and door systems, roofs, and roofing assemblies.

As with the other courses in this sequence, the course and its associated practical sessions emphasize that construction elements result from the interplay of technical, cultural, regulatory, and environmental requirements, as well as architectural intentions. They serve both as the support for and the outcome of architectural design.

Prerequisite: Building Technology I: Fundamentals (538ST1AS1)

538ST4AS6	Building Technology IV: Interior and Finishes	4 Cr.
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This course introduces students to the systems, materials, and conventional construction methods related to the building interiors, focusing primarily on partitions, doors, and finishes for walls, floors, and ceilings.

As with the other courses in this sequence, the course and its associated practical sessions emphasize that construction elements result from the interplay of technical, cultural, regulatory, and environmental requirements, as well as architectural intentions. They serve both as the support for and the outcome of architectural design.

Prerequisite: Building Technology I: Fundamentals (538ST1AS1)

538SMAAS1	Applied Mathematics for Architecture I	4 Cr.
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This course provides students with mathematical tools for evaluating, measuring, and quantifying the built reality of architecture. It combines theoretical concepts (without formal proofs) that structure students' thinking and develop their capacity for abstraction with direct application exercises and architectural applications.

By the end of this course, students will be able to:

Describe a phenomenon using single- or multivariable functions.

Analyze and study curves by calculating limits and derivatives and interpreting their variations.

Perform single and double integral calculations of functions over a given interval.

Work with parametric curves to model and analyze complex architectural forms.

538SMAAS3	Applied Mathematics for Architecture II	2 Cr.
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This course provides students with mathematical tools to solve practical problems in architecture. It covers conic sections, parametric curves, complex volumetry, and numerical series.



The course provides a concise theoretical foundation, without formal proofs, followed by direct application exercises. Emphasis is placed on architectural illustrations and case studies, enabling students to directly apply mathematical concepts to model, analyze, and optimize architectural forms and spatial configurations.

Prerequisite: Applied Mathematics for Architecture I (538SMAAS1)

538SS1AS2	Art of Structures	3 Cr.
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This course introduces students to the fundamentals of load-bearing structures and their analysis. It presents the main types of simple architectural structures, the basic principles of structural behavior, and the methods for determining the internal forces acting within them.

It also introduces the principles of structural dimensioning and the resolution of forces through graphical statics, enabling students to understand how loads are transmitted and distributed throughout a structure.

538SSTAS3	Statics	2 Cr.
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This course introduces the fundamental concepts of statics for understanding the mechanical behavior of load-bearing structures. Students will analyze and calculate simple structures, focusing on loads, internal forces, and deformations.

Applications include structural systems in concrete, wood, and steel, enabling students to understand how different materials respond to various stresses and to evaluate structural stability and performance.

Prerequisites: Art of Structures (538SS1AS2)

538SRMAS4	Strength of Materials	4 Cr.
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This course introduces students to the fundamental principles of mechanics of materials, focusing on the behavior of load-bearing structures. Students will analyze and calculate simple structures, focusing on loads, internal forces, and deformations.

Through theoretical explanations and practical applications, students will examine the behavior of concrete, timber, and steel systems, determining stress, strain, and deflection, and understanding their implications for safe and efficient design.

Prerequisite: Statics (538SSTAS3)

538SS3AS5	Structural Design: Fundamentals and Reinforced Concrete	4 Cr.
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This course studies structural analysis and design using Eurocodes, with particular emphasis on:

Permanent and variable loads

Load combinations and actions

Structural effects and serviceability states

Ultimate limit states

The course also introduces the principles of reinforced concrete design, emphasizing the structural logic of a building. Students will learn to perform a global load path analysis, tracing load transfer and load descent from the roof to the foundation, preparing them for advanced structural design courses.

Prerequisite: Strength of Materials (538SRMAS4)

538SS4AS7	Structural Design: Structural Systems and Frameworks	4 Cr.
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This course deepens students' knowledge of structural design by introducing the fundamentals of soil mechanics, foundations, retaining structures, and seismic loads. It develops students' ability to design complex structures in direct relation to architectural design, enabling them to identify and address the challenges posed by such structures and make coherent, rational choices that strengthen and enhance the architectural project.

The course also introduces iconic structural typologies from architectural history, allowing students to explore their structural behavior and the implications of their complexity.

Prerequisite: Structural Design: Fundamentals and Reinforced Concrete (538SS3AS5)

538SPBAS2	Building Physics	2 Cr.
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This course provides students with foundational knowledge in building physics. It is structured around three complementary areas:





Thermal Fundamentals: The course introduces basic thermal concepts, including the physics of building envelopes, indoor hygrothermal comfort, and air quality. Students will examine the principles of heat and moisture transfer through ventilation and building walls to understand the factors that determine indoor thermal comfort.

Building Acoustics: This part introduces the fundamentals of building acoustics, including the nature and measurement of the acoustic field, sound propagation, and acoustic requirements related to geometrical and wave phenomena.

Photometry and Colorimetry: This part introduces the fundamentals of photometry and colorimetry, enabling students to consider light quality and color as design parameters.

538SECAS4	Building Equipment and Comfort: HVAC	4 Cr.
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This course approaches, from a design and integration perspective, the architectural and technological measures related to environmental quality, focusing on visual comfort through natural and artificial lighting, acoustic comfort through acoustic correction and sound insulation, thermal comfort through heating and cooling, and air quality through ventilation. The course aims to integrate these aspects into the design process within climatic, regulatory, and environmental contexts, while enabling students to understand and describe the role and operation of these systems and apply standard preliminary sizing rules for installations.

Prerequisite: Building Physics (538SPBAS2)

538SEFAS8	Building Services: Plumbing and Electrical	4 Cr.
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This course approaches, from a design and integration perspective, the architectural and technological measures related to environmental quality, focusing on visual comfort through natural and artificial lighting, acoustic comfort through acoustic correction and sound insulation, thermal comfort through heating and cooling, and air quality through ventilation. The course aims to integrate these aspects into the design process within climatic, regulatory, and environmental contexts, while enabling students to understand and describe the role and operation of these systems and apply standard preliminary sizing rules for installations.

Prerequisite: Building Physics (538SPBAS2)

538SELAS6	Lighting	2 Cr.
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This course introduces light as a material of architectural design. It covers photometry, daylighting, artificial lighting, and the design of luminous atmospheres, with an emphasis on visual comfort, spatial quality, and energy performance. The course follows an “understand, analyze, and design” approach through lectures, case studies, exercises, and an applied design workshop.

The course connects with Advanced Studio II - Architecture and Territory (S6) and complements Climate and Ecology and in Building Equipment and Comfort, bringing the sensory and perceptual dimension to the technical cycle of S6.

Learning outcomes: By the end of this course, students will be able to identify the fundamental photometric quantities, analyze the impact of natural light on space, evaluate the visual comfort, apply daylighting strategies, master the principles of artificial lighting, design an integrated and high-performance lighting scheme, and represent a lighting intention.

Prerequisite: Building Services: Plumbing and Electrical (538SEFAS8)

538SACAS6	Acoustics	2 Cr.
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This course introduces the fundamentals of sound propagation, acoustic insulation and correction, and room acoustics. It addresses absorptive and reflective materials, noise pollution, and acoustic comfort according to use (housing, performance hall, public space). The course follows an “understand, analyze, correct, and design” approach through lectures, case studies, exercises, and an applied design workshop (15 hours over 6 weeks).

The course connects with Advanced Studio II - Architecture and Territory (S6) and complements Building Equipment and Comfort: HVAC and in Lighting, forming the thermal–light–sound triad of architectural comfort in S6.

Learning outcomes: By the end of this course, students will be able to identify the fundamental principles of sound (frequency, intensity, propagation), analyze acoustic phenomena in architectural spaces, evaluate acoustic quality (reverberation, noise), apply insulation and acoustic correction techniques (absorption, diffusion), adapt solutions to different uses, integrate acoustic solutions into a project, and represent an acoustic strategy through diagrams and drawings.

Prerequisite: Building Physics (538SPBAS2)



538SE1AS6	Climate, Ecology, and Architecture	4 Cr.
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This course covers the challenges and principles of sustainable development and bioclimatic building design. It emphasizes the transversal nature of sustainability, synthesizing knowledge of site, climate, building systems, technologies, and materials. Through case studies and hands-on experimentation, students will explore how to translate these concepts into an architectural project, integrating environmental, technological, and material considerations into a coherent design process.

538SE2AS9	Environmental Certification	2 Cr.
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This course introduces students to environmental certification systems used in the region, such as LEED, BREEAM, HQE, and ARZ, and explores their application through case studies.

It also examines the economic and financial benefits of environmentally responsible design – including brand differentiation, access to special financing schemes, reduced consumption costs, enhanced construction quality, and measurable return on investment.

Prerequisite: Climate, Ecology and Architecture (538SE1AS6)

538SSIAS8	Fire Safety	2 Cr.
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This course introduces students to the fundamental principles of fire safety and their integration into architectural design. It provides the knowledge needed to apply fire safety standards and principles to protect occupants and property.

Students will learn to integrate fire safety solutions into construction projects, contributing to the safety and protection of building occupants.

Professional Practice

538GDCAS6	Real Estate and Construction Law	4 Cr.
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This course covers three areas:

General Legal Concepts: Fundamentals of public and private law relevant to architecture, including real estate, urban planning, property ownership, condominium law, and public procurement.

Lebanese Construction Law: Principles and provisions governing urban planning rules related to building form, height, footprint, and surface area.

Technical Standards and Regulations: Technical norms and regulations applicable to building design and construction, including fire safety, accessibility for persons with disabilities, security requirements, and DTU (*Documents Techniques Unifiés*) standards.

538GPRAS8	Professional Practice and Ethics	2 Cr.
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This course introduces students to the missions and responsibilities of the architect, with particular focus on project management (*maîtrise d'œuvre*) from conceptual design through project delivery.

The course covers:

Project Phases: Design, development, construction documentation, tendering, execution, and delivery.

Roles and Legal Responsibilities: Duties of the architect, legal liabilities, and obligations.

Project Stakeholders: Identification of all participants in a project (clients, contractors, consultants) and their respective roles.

Contracts and Permits: Structure of project management contracts, the role of the Order of Engineers and Architects, internal procedures, and the process for preparing and submitting a building permit application.

Architecture Practice Management: Basic introduction to running an architectural office, including company structures, client relations, accounting and fiscal obligations, team management, and collaboration practices.

The course also emphasizes professional ethics and deontology, encouraging students to integrate ethical considerations into their practice and decision-making.

538GMPAS9	Project Management	4 Cr.
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This course equips students with basic project management tools both for both the study and construction phases. It familiarizes them with task and resource planning, specifications, measurements, contractual documents, budget estimation, and cost management.

538GSPAS7	Professional Internship	4 Cr.
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This summer internship, lasting a minimum of 8 weeks, provides students with their first professional experience in an architecture firm or design office. The internship will be documented through a report and presentation.

538ANGAS8	English	4 Cr.
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This course provides students with the linguistic skills needed to communicate effectively in scientific English.

538ETAAS5	Ethics and Architecture	4 Cr.
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This course addresses bioethics and broader social and collective issues. It aims to equip students with practical skills for ethical decision-making, communication, and conflict resolution, while introducing the principles of professional ethics in engineering and the responsibilities of engineers toward one another and the Order of Engineers and Architects.

Key Concepts: Ethics, morality, deontology, law, human rights, conscience, freedom.

Plurality of Ethics: Cultural differences, value-based ethics, ethics and spirituality, ethics and religion.

Contemporary Ethical Issues (Individual): Bioethics in the 21st century.

Contemporary Ethical Issues (Society): Social, political, economic, and entrepreneurial ethics; relations among engineers; relations with the national engineering association.

538TECASo	Communication Skills	4 Cr.
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This course equips students with practical communication skills applicable to both their personal and professional lives. It develops oral, written, and non-verbal communication skills, enabling students to communicate clearly and effectively. The course also addresses the ability to adapt communication to specific contexts while exploring the fundamental concepts of communication.

538RPEAS3	Photographing Space	3 Cr.
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This course introduces students to the concepts and practices of photography and develops their visual sensibility. It covers the history of analog photography and provides hands-on experience with basic digital photography techniques in black and white and color. The course includes darkroom practice and emphasizes architectural photography, including the representation of buildings, sites, materials, and landscapes.

It also introduces basic digital photo-editing tools and videography, enabling students to experiment with visual storytelling and explore the relationship between still and moving images.

Institution's Elective Courses:

538CAIAS9	Interior Architecture	2 Cr.
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This course introduces students to the design of small-scale interior spaces (up to 120 m²), including residential projects such as chalets and studios, commercial spaces such as points of sale and offices, and hospitality spaces such as restaurants. Students will develop a well-researched design concept through a methodology based on research and readings. Analysis will inform appropriate spatial solutions and atmospheres while addressing the functional and aesthetic needs of future users.

538CAEAS3	Art and Space: Exhibition Practices	2 Cr.
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This workshop invites architecture students to explore and experiment with artistic media, including photography, video, sculpture, and installations, while addressing contemporary and contextual themes related to architecture and urbanism. Students will develop a complete artistic project for exhibition at the end of the workshop.

538SAMAS4	Materials and Making Workshop	2 Cr.
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This workshop offers architecture students hands-on experience with materials and manufacturing techniques. Through practical sessions in woodworking, welding, and other artisanal skills, students will explore material implementation, from technical gestures to the construction of architectural elements. The workshop develops material sensitivity, an understanding of joinery, and proficiency with tools, while fostering creativity and experimentation.

538CBSASo	Sublime Beirut	2 Cr.
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This course explores the notion of the “sublime” through Beirut’s urban landscape, using artificial intelligence as a tool for exploration and storytelling. Ruins, remnants overgrown with vegetation, and unfinished structures, witnesses to an aesthetic where memory, resilience, and the immeasurable intertwine, provide the setting for this experimental work. The course introduces students to dreamlike and speculative visual narratives while raising awareness of the interdisciplinary, ethical, and responsible use of AI. Through this combination of meaning, innovation, and transdisciplinarity, students will develop a critical perspective on these tools and produce a short immersive film of approximately two minutes rooted in Beirut’s urban imaginaries.

538CDDAS7	Final Dwellings	4 Cr.
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Title borrowed from the work of Robert Auzelle

This seminar explores funerary architecture, burial practices, and their integration into the landscape of the living, examining the beliefs and mourning processes that shape them. Across civilizations, structures dedicated to the deceased and the preservation of their memory have often been designed with greater permanence and elaboration than those intended for everyday life. This enduring architecture reflects the desire to preserve the memory of the departed, accompany the transition toward an “afterworld,” and inscribe individual existence within the historical and cultural continuity of society. The seminar offers a historical and anthropological exploration of funerary forms across time. It examines their relationship to cultural practices and the ways in which architecture gives form to the metaphysical concepts specific to different cultures. It also considers the relationship between funerary spaces and the grieving process, as well as the traces left by the deceased in the memory of the living. The course provides conceptual and analytical tools for understanding the architectural, urban, landscape, and anthropological dimensions of funerary spaces in both urban and rural contexts. Through critical reflection on their design within specific cultural contexts, including Lebanon and other settings, students will examine their relevance and evolution in the contemporary world.

538RDDASo	Developed Digital Tools	2 Cr.
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This course provides an in-depth exploration of Unity and its applications in architecture. Students will learn to use Unity for interactive visualization, three-dimensional modeling, and virtual environment creation. The course develops technical skills while integrating architectural creativity.

538CANAS7	Anarchitecture	4 Cr.
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This course re-examines the notion of “anarchitecture” in the context of artificial intelligence. Drawing on the radical gestures of Gordon Matta-Clark – who transformed built structures into critical material through cuts and voids – anarchitecture emerged as a practice of constructive disobedience. It questions architecture at the point where it fractures or decomposes, revealing its social, political, and poetic tensions.

Artificial intelligence extends this inquiry through its capacity to hybridize opposites and generate unpredictable visual outcomes. As tools for disruption and speculation, AI technologies enable experimental, subversive, and deconstructed architectural narratives. Students will use these tools to subvert, fracture, and recombine the hierarchical order of the built environment, generating speculative worlds in which architecture is reinvented through accident, deviation, and the unforeseen. The course also develops a critical and reflective approach to AI within a society in which accelerating media flows and social networks contribute to the dissolution of the material world and its recomposition within an unstable digital realm. As architecture is increasingly detached from its constructive and tectonic essence, it becomes image, simulacrum, and narrative. The final short film, developed from generated imagery, will serve as a testimony to this reimagined anarchitecture, oscillating between physical collapse and artificial mutation.

538CURFS7	Urban Foresight	2 Cr.
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This course aims to develop an understanding of future urban dynamics. Through case studies, students will examine successful and unsuccessful urban foresight initiatives, gaining familiarity with the fundamental concepts of foresight and various urban planning methodologies. Through hands-on exercises based on real-world projects, students will explore key issues in urban studies, identify the challenges and constraints specific to the urban contexts, and apply their newly acquired knowledge by developing scenarios.

Content overview: Challenges – Issues – Planning – Environment – Society – Urban Space – Development.

This course offers a sensory and theoretical exploration of materiality as a fundamental component of the architectural project. It examines materials, surfaces, textures, and patterns, and their role in constructing atmospheres and shaping the perception of space. Materiality is approached not as a decorative attribute, but as a design instrument capable of modulating the perception of volume, comfort, temporality, and the embodied experience of space.

The course is structured around three complementary entry points: (1) materials and their sensory properties, including weight, grain, sheen, sonority, and tactile temperature; (2) surfaces, textures, and patterns as devices of architectural expression and as perceptual modulators of scale and light; and (3) atmospheres as the result of the interaction among matter, light, and the body. Particular attention is given to interior architecture, where the mastery of materials and surfaces directly influences spatial quality, intimacy, and the identity of place.

Drawing on architectural phenomenology, including Juhani Pallasmaa's "The Eyes of the Skin" and Peter Zumthor's "Atmospheres," the course combines theoretical lectures, readings, case studies, sensory exercises, and an applied interior architecture project. The pedagogy follows a "perceive, analyze, compose, and represent" sequence.

Learning outcomes: By the end of this course, students will be able to identify the main families of materials and their sensory properties; analyze the role of textures, patterns, and surfaces in the perception of space; relate materiality, light, and atmosphere; design a coherent interior space through the considered use of surfaces and materials; justify material choices in relation to the intended bodily and sensory experience; and represent a material intention through appropriate tools, including samples, material boards, tactile models, and atmosphere perspectives.