

ARCHITECTURE (ARCH)

ARCH 1510 Introduction to the Built Environment (3 credits)

General Education: Humanistic and Artistic Ways of Knowing
Cross-listed with LARC 1510

Introduction to the complexities and wonders of the built environment, and the role of the humanities in successful designs. From the regional landscapes to urban design and architecture, to the intimacy of interiors and dwellings, to place making and space making, student perspectives are broadened on how the built environment is shaped by and contributes to an evolving human story. The built environment is also examined as a product of a multitude of forces that include place, climate, conservation, culture, economics, beliefs, and aspirations for well-being. Typically Offered: Fall.

ARCH 1540 Introduction to Architectural Graphics (3 credits)

Introduction to architectural graphics; two 1-hour lecture sessions per week, plus two 1-hour studio sessions per week; weekly assigned drawing projects, readings, and sketchbook projects; periodic quizzes. Cooperative: open to WSU degree-seeking students.

ARCH 2000 (s) Seminar (1-16 credits, max 99)

Credit arranged

ARCH 2030 (s) Workshop (1-16 credits, max 99)

Credit arranged

ARCH 2040 (s) Special Topics (1-16 credits, max 99)

Credit arranged

ARCH 2530 Architectural Design I (4 credits)

Introduction to architectural design fundamentals including formal principles, ordering systems, conceptualization, experimentation, design making, and design communication for the resolution of given architectural design problems. Two 3-hour studio sessions per week; course includes lectures, workshops, project development, presentations, and readings.

ARCH 2540 Architectural Design II (4 credits)

Cross-listed with IAD 2540

Basic integration of principles and concepts for architectural design, both interior & exterior. Two 3-hour studios per week and assigned work. Typically Offered: Spring.

Prereqs: ARCH 2530 or Permission

ARCH 2570 Architectural Design Bootcamp (7 credits)

Intensive introduction to various design processes from concept to schematic to design development. Acquisition of a beginning level of both graphic and architectural design literacy, design thinking strategies, and aesthetic awareness. Development of basic design communication skills.

Prereqs: Architecture Permission

ARCH 2660 Materials and Methods (3 credits)

Introduces physical and performance characteristics of materials, and concepts, conventions and processes of construction methods. Provides a foundation for subsequent courses in architectural technology and design.

ARCH 2990 (s) Directed Study (1-16 credits, max 99)

Credit arranged

ARCH 3430 Media in Architecture (3 credits)

Introduction to techniques for hybridizing manual & digital design tools for workflows relative to the architectural design process; includes virtual modeling, CNC fabrication, 2D/3D printing, manual drafting, manual modeling, various software. Two 75-minute sessions per week; in class lectures and workshops; tools & techniques. Typically Offered: Fall.

ARCH 3530 Architectural Design III (6 credits)

Development of architectural design process and projects that cultivate an understanding of structures, properties of materials and building tectonics. Emphasis is also placed on precedent analysis, basic code, and site related issues. Three 3-hour studios per week and assigned work; field trips required at student expense outside scheduled hours; some class critique sessions may meet outside scheduled hours.

Prereqs: ARCH 2540 or equivalent. Application Required.

ARCH 3540 Architectural Design IV (6 credits)

Continued development of architectural projects and design process that cultivate understanding of the properties of materials and building tectonics. Three 3-hour studios per week and assigned work; field trips will be required at student expense outside scheduled hours; some class critique sessions will meet outside scheduled hours.

Prereqs: ARCH 3530

ARCH 3610 Structural Systems I (3 credits)

Project based introduction to the physical principles that govern statics and strength of materials. Graphical and numerical methods for designing and analyzing structures are used.

Prereqs: PHYS 1111, PHYS 1111L, MATH 1143, ARCH 2660

ARCH 3620 Structural Systems II (3 credits)

Project-based course with focus on the overall building behavior of framing systems. Graphical and numerical methods for designing and analyzing structures are used. Typically Offered: Spring.

ARCH 3850 Global History of Architecture (3 credits)

A global survey of architecture and urban design from its beginnings through the seventeenth century, considered within the social, cultural, religious, and political contexts that shape it. Recommended Preparation: ARCH 1510.

ARCH 3860 Global History of Architecture II (3 credits)

A global survey of architecture and urban design from the Enlightenment to the present, considered within the social, cultural, political and technological contexts that shape it.

ARCH 3880 Architectural Theory (3 credits)

This course is aimed at familiarizing students with key movements, thinkers, and developments in architectural theory's continued evolution, so that they are prepared to go into the world and produce thoughtful work and well-crafted thought.

Prereqs: ARCH 1510

ARCH 4000 (s) Seminar (1-16 credits, max 99)

Credit arranged

ARCH 4030 (s) Workshop (1-16 credits, max 99)

Credit arranged

ARCH 4040 (s) Special Topics (1-16 credits, max 99)

Credit arranged

ARCH 4100 Sketching for Architecture (3 credits)

Instruction in intermediate through advanced architectural sketching, painting, and place-recording techniques. A variety of media techniques will be employed, including graphite, charcoal, colored pencil, pen & ink, and watercolor. The majority of work will be completed in class, with additional homework assignments outside class and on field trips. Recommended Preparation: Basic sketching abilities, as developed in ARCH 1540 and subsequent architectural design studios.

ARCH 4110 Native American Architecture (3 credits)

General Education: American Experience

Cross-listed with AIST 4110

Joint-listed with ARCH 5110

An exploration of Native American architecture in North America, including ancient, historic, and contemporary buildings and settlements within their diverse social, cultural, and physical contexts. Additional assignments required for graduate credit. Typically Offered: Spring.

ARCH 4150 Instructional Assistant (1-3 credits, max 6)

Assist instructors in delivering courses including classroom and teaching technology set up, taking roll, and other administrative or logistical tasks. Assistants may also (at instructor direction) work with students on design studio critiques, discussion, or other related activities. Instructional assistants cannot award or enter grades.

Prereqs: Fourth-year standing in architecture programs

ARCH 4160 Social Sustainability in Contemporary Cities (3 credits)

Joint-listed with ARCH 5160

Seminar provides an overview of the social dimension of sustainability and its related issues in contemporary cities in the world. Exploration of concepts and strategies of social urban sustainability through case studies to critically evaluate urban governance and policies in both developed and developing countries, and assessment of struggles for social justice and equality. Additional projects/assignments required for graduate credit. Typically Offered: Spring.

ARCH 4170 Designing Net-Zero Spaces (3 credits)

This course examines how we design and operate buildings that can produce as much energy as they consume. Students will learn the principles of integrated design and how to use energy modeling to estimate building energy consumption. Students will understand the basics of calculating the solar, wind, and hydro resources that are required to power buildings. Typically Offered: Fall.

Prereqs: ARCH 4630 Prereqs or

Coreqs: ARCH 4640

ARCH 4210 Asia Program Preparation Seminar (2 credits)

Joint-listed with ARCH 5210

Seminar course preparing students for summer study abroad program in Asia. This course will introduce architecture in the region, guides of travelling, money management, safety, visa application, and some basic cultural introductions. Also, this class will introduce the academic courses to be undertaken in summer and prepare research data collection. Required for all students enrolled in the Asia program. Typically Offered: Spring.

Prereqs: ARCH 3530 or LARC 3530 Cooperative: open to WSU degree-seeking students.

ARCH 4220 Asia Urbanization Seminar (2 credits)

Joint-listed with ARCH 5220

Seminar course focusing on understanding the complicated challenges in today's cities in Asia and the process of urbanization in the region. Typically Offered: Spring.

Prereqs: ARCH 3540 or LARC 3650

ARCH 4230 Cultural & Ethical Issues in Global Architectural Practice (2 credits)

Joint-listed with ARCH 5230

Study of the phenomenon of architectural practice under the impact of globalization using the market of China as an example. Focus on the development of model architectural practice in China as well as the associated social and cultural issues of global architectural practice.

Prereqs: ARCH 3540 or LARC 3650

ARCH 4300 Rome Preparatory Seminar (2 credits)

Seminar preparing students for summer study abroad in Rome, Italy.

Introduces academic courses to be taken in Rome, and begins research and information-gathering tasks for Design Studio and Rome Design History courses. Also includes practical matters such as travel planning, money, safety, and basic language skills. Typically Offered: Spring.

Cooperative: open to WSU degree-seeking students.

ARCH 4310 Rome Design History (3 credits)

Lecture course conducted in Rome, Italy, focused on the essential eras of Roman history related to design (art, architecture, urban planning, etc.): Republican & Imperial Rome; Early Christian Rome; Renaissance & Baroque Rome; the "Third Rome" of the Risorgimento and Mussolini; Contemporary Rome of the late-20th and early-21st Centuries.

Prereqs: ARCH 4300

ARCH 4330 Drawing Form from Fiction (3 credits)

Joint-listed with ARCH 5330

Students create original analyses and designs of selected literary works – models, diagrams, and drawings – investigating spatial structures within modern literature and exploring conceptual relations between and among image, text, and design. Additional work required for graduate credit. Typically Offered: Fall.

ARCH 4370 Design Build Practicum (3 credits, max 6)

Joint-listed with ARCH 5370

Practicum experience in design build as an integrated project delivery method. Students undertake applied research through immersive education as members of the design and construction team completing a live architectural project. Additional work required for graduate credit. Typically Offered: Varies.

Prereqs: Instructor permission required for registration.

ARCH 4540 Architectural Design: Vertical Studio (6 credits, max 12)

General Education: Capstone Experience

Joint-listed with ARCH 5540

Studio-based and/or international studies exploring architecture and/or urban design. Typically Offered: Fall.

Prereqs: ARCH 3530 and ARCH 3540; or Permission

ARCH 4610 Building Assemblies (3 credits)

Advanced building construction with focus on building enclosure systems and assemblies. Recommended course preparation: ARCH 3620 or ARCH 4630. Typically Offered: Spring.

ARCH 4630 Principles of Environmental Building Design (4 credits)

This course emphasizes building practices that regard sustainable architecture as the only viable approach to future architectures. This course teaches the principles of thermal comfort, regional design strategies, and ecological design process with an emphasis on the technical development of architectural assemblies. It places focus on understanding the building envelope in relation to site and climate issues, water conservation, embodied energy, carbon footprint, and thermal performance. The course also touches upon the importance of biomaterials, materials lifecycle assessment, and circular economies, and it introduces the social, economic, and technological factors that lead to unsustainable building practices and the need for climate justice in order to move towards a global vision of sustainability. Typically Offered: Fall.

ARCH 4640 Environmental Building Performance (4 credits)

This course introduces the practices, metrics, and tools required for measuring the ecological impacts of architecture. Students will learn effective design strategies for maximizing indoor environmental quality through analyzing acoustics, daylight, thermal comfort, and indoor air quality. The course will cover the energy consumption and lifecycle costs of these design choices. Three 1-hour lectures per week plus independent project development. Typically Offered: Spring.

ARCH 4750 Professional Practice (3 credits)

Joint-listed with ARCH 5750

Overview of professional standards and practices in the architecture and interior design professions. Including duties and responsibilities in practice (construction documents and contracts, code analysis, ethics, and professional organizations and alliances), project management, office administration, and comprehensive services; specification writing, unit costs, and building estimation. Additional assignments/projects required for graduate credit.

ARCH 4830 Urban Theory and Issues (3 credits)

History and theory of city planning and problems associated with urban growth.

ARCH 4980 (s) Internship (1-16 credits, max 99)

Credit arranged

ARCH 4990 (s) Directed Study (1-16 credits, max 99)

Credit arranged

ARCH 5000 Master's Research and Thesis (1-16 credits, max 99)

Credit arranged

ARCH 5010 (s) Seminar (1-16 credits, max 99)

Credit arranged

ARCH 5020 (s) Directed Study (1-16 credits, max 99)

Credit arranged

ARCH 5030 (s) Workshop (1-16 credits, max 99)

Credit arranged

ARCH 5040 (s) Special Topics (1-16 credits, max 99)

Credit arranged

ARCH 5050 Architectural Research Methods (3 credits)

Quantitative and qualitative research designs, procedures, instruments, and techniques for use in architectural research, programming and design.

Prereqs: Grad standing in M. Arch. /M. A. program

ARCH 5100 Graduate Project Seminar (3 credits)

Specialized research and program writing in preparation for ARCH 5560 as well as schematic design proposals. **Prereqs** or

Coreqs: ARCH 5530

ARCH 5110 Native American Architecture (3 credits)

Joint-listed with AIST 4110, ARCH 4110

An exploration of Native American architecture in North America, including ancient, historic, and contemporary buildings and settlements within their diverse social, cultural, and physical contexts. Additional assignments required for graduate credit. Typically Offered: Spring.

ARCH 5140 Introduction to Graduate Architecture Research (1 credit)

This course is a discussion-based class aimed at familiarizing new architecture graduate students with possible research directions for their graduate project. Typically Offered: Summer.

ARCH 5160 Social Sustainability in Contemporary Cities (3 credits)

Joint-listed with ARCH 4160

Seminar provides an overview of the social dimension of sustainability and its related issues in contemporary cities in the world. Exploration of concepts and strategies of social urban sustainability through case studies to critically evaluate urban governance and policies in both developed and developing countries, and assessment of struggles for social justice and equality. Additional projects/assignments required for graduate credit. Typically Offered: Spring.

ARCH 5170 Graduate Instructional Assistant (1-3 credits, max 6)

Assist instructors in delivering undergraduate courses including classroom and teaching technology set up, taking roll, and other administrative or logistical tasks. Assistants may also (at instructor direction) work with students on design studio critiques, discussions or other related activities. Graduate Instructional assistants may also contribute to the evaluation and grading process, but final grade is the responsibility of the instructor of record.

Prereqs: Graduate standing in architecture program.

ARCH 5200 Architectural Research Methods (3 credits)

Philosophy of research in architecture, research design, data gathering and interpretation, and thesis preparation.

ARCH 5210 Asia Program Preparation Seminar (2 credits)

Joint-listed with ARCH 4210

Seminar course preparing students for summer study abroad program in Asia. This course will introduce architecture in the region, guides of travelling, money management, safety, visa application, and some basic cultural introductions. Also, this class will introduce the academic courses to be undertaken in summer and prepare research data collection. Required for all students enrolled in the Asia program. Typically Offered: Spring. Cooperative: open to WSU degree-seeking students.

ARCH 5220 Asia Urbanization Seminar (2 credits)

Joint-listed with ARCH 4220

Seminar course focusing on understanding the complicated challenges in today's cities in Asia and the process of urbanization in the region. Typically Offered: Spring.

ARCH 5230 Cultural & Ethical Issues in Global Architectural Practice (2 credits)

Joint-listed with ARCH 4230

Study of the phenomenon of architectural practice under the impact of globalization using the market of China as an example. Focus on the development of model architectural practice in China as well as the associated social and cultural issues of global architectural practice.

ARCH 5330 Drawing Form from Fiction (3 credits)

Joint-listed with ARCH 4330

Students create original analyses and designs of selected literary works – models, diagrams, and drawings – investigating spatial structures within modern literature and exploring conceptual relations between and among image, text, and design. Additional work required for graduate credit. Typically Offered: Fall.

ARCH 5370 Design Build Practicum (3 credits, max 6)

Joint-listed with ARCH 4370

Practicum experience in design build as an integrated project delivery method. Students undertake applied research through immersive education as members of the design and construction team completing a live architectural project. Additional work required for graduate credit. Typically Offered: Varies.

ARCH 5440 Treefort Design/Build (3 credits, max 6)

The course advances student design/build abilities by providing services for the design and construction of re-usable architectural object(s) for the Treefort Music Festival. Typically Offered: Spring.

ARCH 5520 Alternate Graduate Design Experience (6 credits)

Immersive design explorations in architecture outside of the vertical studio experience. Typically Offered: Varies.

Prereqs: Architecture department permission

ARCH 5530 Integrated Architectural Design (6 credits)

Integrative design of an architectural project including all phases of the design process with particular emphasis on schematic design and design development. Demonstration of ability to develop spatial details and construction systems concepts in support of design goals. Three 3-hour studios per week and assigned work; field trips required at student expense outside scheduled hours; some class critique sessions will meet outside scheduled hours.

Coreqs: ARCH 5680

ARCH 5540 Architectural Design: Vertical Studio (6 credits, max 12)

General Education: Capstone Experience

Joint-listed with ARCH 4540

Studio-based and/or international studies exploring architecture and/or urban design. Typically Offered: Fall.

ARCH 5560 Graduate Project (6 credits)

Graduate terminal project - a self-directed architectural design study with faculty consultation within a studio context. Students demonstrate their capacity to apply appropriate programming and research methods in pursuit of a focused design topic. The project culminates with a project book prepared by the student.

Prereqs: ARCH 5100, ARCH 5530, and ARCH 5540

ARCH 5680 Technical Integration in Design (3 credits)

Strategies for integrating structure, enclosure, services, site, and interior systems in the design and development of an architectural concept.

Prereqs: ARCH 4610, ARCH 4630, ARCH 4640, or equivalent

ARCH 5700 Natural Lighting (3 credits)

Natural lighting seminar/workshop including hands-on experience with physical and digital modeling techniques. The course includes a term-long investigation of the nature of Palouse light, and a redesign problem of a real space on-campus or nearby, which will be measured, modeled, redesigned, predicted, and evaluated.

ARCH 5710 Building Performance Evaluation (3 credits)

This case-study based course focuses on evaluation methods for occupied buildings. A full-range of physical measurement and user surveying techniques are presented and employed on local buildings.

ARCH 5740 Building Performance Simulation for Integrated Design (3 credits)

Cross-listed with ME 5710

This course focuses on design decisions that impact energy, thermal, visual and acoustic comfort with a strong emphasis on building simulation tools. This course provides students with the understanding of the nature of building thermal comfort, building envelope behavior, ventilation requirements, indoor air quality, passive cooling systems, energy conservation, and the importance of iterative building simulation in achieving high performance buildings.

ARCH 5750 Professional Practice (3 credits)

Joint-listed with ARCH 4750

Overview of professional standards and practices in the architecture and interior design professions. Including duties and responsibilities in practice (construction documents and contracts, code analysis, ethics, and professional organizations and alliances), project management, office administration, and comprehensive services; specification writing, unit costs, and building estimation. Additional assignments/projects required for graduate credit.

ARCH 5800 British Green Architecture (2 credits)

Preparation for students who will participate in the summer studies abroad program in London, including basic research on green building in the UK and helping plan the itinerary. All logistical preparations for studies abroad will be discussed and students are familiarized with both green approaches to design and British culture. Typically Offered: Spring. Cooperative: open to WSU degree-seeking students.

ARCH 5980 (s) Internship (1-3 credits, max 6)

Work in an architectural office under the supervision of a licensed architect.

Prereqs: Permission

ARCH 5990 (s) Non-thesis Master's Research (1-16 credits, max 99)

Credit arranged. Research not directly related to a thesis or dissertation.

Prereqs: Permission