# USC School of Architecture

*Integral to undergraduate and graduate studies at the USC School of Architecture, students have the opportunity to participate in wide-ranging global design culture with programs spanning North and South America, Asia and Europe. In spring 2014, students toured the Three Powers Plaza in Brasilia, Brazil.*

The USC School of Architecture offers undergraduate, graduate and doctoral education in architecture and architectural studies, landscape architecture, heritage conservation and building science. Its faculty is active in professional practice, in design research, in the supervision of programs at the Gamble House and Freeman House and in extended professional education.

Work in the school is conducted in an intellectual climate, which promotes inquiry, introduces principles and values and teaches the disciplines necessary to work in collaboration with other professionals to develop design and research excellence.

The school is located in the center of Los Angeles, the second largest urban region in the country, which offers a unique understanding of 21st century growth and change. In such an environment the possibilities for teaching and learning are extraordinary.

The school is highly selective in its admissions and enjoys the strong support of alumni and the professions it serves. The opportunity exists for students to have close contact with faculty, other students and practicing architects.

An architecture curriculum was initiated at USC in 1914. In 1919, a Department of Architecture was created and a separate School of Architecture was organized in 1925. The school shares Watt and Harris Halls with the USC Roski School of Art and Design and the Fisher Museum of Art.

**USC School of Architecture**
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## Administration

Qingyun Ma, M.Arch., *Dean*

Marc Schiler, M.S., Arch.Sci., *Vice Dean*

Gail Peter Borden, M.Arch., *Discipline Head of Architecture Programs*

Douglas E. Noble, Ph.D., *Chair, Ph.D. Program, Discipline Head, Chase L. Leavitt Graduate Program of Building Science*

Trudi Sandmeier, M.A., *Discipline Head of Heritage Conservation Programs*

Robert S. Harris, MFA (Arch.), *Discipline Head of Landscape Architecture Programs*

Edward R. Bosley, MBA, *James N. Gamble Director of the Gamble House*

## Faculty

*Della and Harry MacDonald Dean's Chair in Architecture:* Qingyun Ma, M.Arch.

*Jon Adams Jerde, FAIA Chair in Architecture:* Thomas Phifer, FAIA, FAAR, M.Arch.

*MacDonald and Diane Rusling Becket Professor of Community Design:* Charles A. Lagreco, MFA (Arch.)

*Judge Widney Professor of Architecture:* Frank O. Gehry, FAIA, M.Arch.

*Nancy M. and Edward D. Fox Urban Design Critic:* Brad Cloepfil, AIA, M.Arch.

*Professors:* Kim Coleman, M.Arch.; Diane Ghirardo, Ph.D.; John V. Mutlow, M.Arch. (U.D.); Victor Regnier, M.Arch.*; Goetz Schierle, Ph.D.; Marc Schiler, M.S., Arch.Sci.; James Steele, Ph.D.; John Wilson, Ph.D.

*Associate Professors:* Gail Peter Borden, M.Arch.; Charles Lagreco, MFA (Arch.); Graeme M. Morland, Dipl.Arch.; Amy Murphy, MFA; Douglas E. Noble, Ph.D.

*Assistant Professors:* Rachel Berney, Ph.D.; Kenneth Breisch, Ph.D.; Anders Carlson, Ph.D.; Joon-Ho Choi, Ph.D.; Vittoria di Palma, Ph.D.; David Gerber, D.Des.; Alison Hirsch, Ph.D.; Alvin Huang, M.Arch.; Victor Jones, M.Arch.; Karen M. Kensek, M.Arch.; Kyle Konis, Ph.D.; Alex Robinson, M.L.Arch.; José Sanchez, M.Arch.; Doris Sung, M.Arch.

*Visiting Professors:* Manuel Delanda, Ph.D.; Mia Lehrer, FASLA, M.L.Arch.

*Associate Professors of the Practice of Architecture:* Alice Kimm, M.Arch.; Lee Olvera, M.Arch.; Trudi Sandmeier, M.A.; Selwyn Ting, M.Arch.

*Assistant Professors of the Practice of Architecture:* Lauren Matchison, M.A.; Dimitry Vergun, M.S.

*Adjunct Professors:* Mark Cigolle, M.Arch.; Peyton Hall, M.E.D.; Scott Johnson, M.Arch.; Neil Leach, Ph.D.; David C. Martin, M.Arch.; Murray Milne, M.Arch., M.S.; Lorcan O'Herlihy, M.Arch.; Robert Perry, MLA; Lawrence Scarpa, M.Arch.

*Adjunct Associate Professors:* T. Jeff Guh, Ph.D.; Yo-ichiro Hakomori, Ph.D.; Michael Hricak, M.Arch.; Andrew Liang, M.Arch.; Travis Longcore, Ph.D.; Warren Techentin, M.Arch.; Olivier Touraine, Dipl. Ing. (Arch.); Edwin Woll, Ph.D.

*Adjunct Assistant Professors:* Valery Augustin, M.Arch.; Tigran Ayrapetyan, M.S.; Mario Cipresso, M.Arch.; Janek Dombrowa, B.S. (Arch); Anthony Guida, M.Arch.; Eric Haas, M.Arch.; Christoph Kapeller, M.Arch.; Erik Mar, M.Arch.; Aaron Neubert, M.Arch.; Jennifer Siegal, M.Arch.; Peter Simmonds, Ph.D.; Christopher Warren, M.Arch.

*Senior Lecturers:* Michael Arden, M.A.; Miller Fong, B.A.Arch.; Sophia Gruzdys, M.Arch.; Edward Lifson, M.A.; Gary Paige, B.Arch.; Susanna Seierup, M.Arch.

*Lecturers:* Ric Abramson, M.Arch.; Carlo Aiello, M.S. (Arch.); Charles Anderson, MLA; Rosalio Arellanes, M.Arch.; Dana Bauer, M.Arch.; Victoria Turkel-Behner, Ph.D.; Leigh Ann Belloli, B.S. (L.Arch); Rob Berry, M.Arch.; Vinayak Bharne, M.Arch.; Biayna Bogosian, M.S. (Arch.); Justin Brechtel, M.S. (Arch.); Laurel Broughton, M.Arch.; Nefeli Chatzimina, M.S. (Arch.); Mina Mei-Szu Chow, M.Arch.; Victoria Coaloa, M.Arch.; Tony Cocea, M.S.; Lauren Dandridge Gaines, B.S.; John Dutton, M.Arch.; Steven Ehrlich, M.Arch.; Liz Falletta, M.Arch.; Russell Fortmeyer, M.A. (Arch); John Frane, M.Arch.; Emily Gabel-Luddy, MLA; Aroussiak Gabrielian, MLA, M.Arch.; Richard Gooding, M.Arch.; Katherine Harvey, MLA; Jerry Hastings, B.S.; Kathryn Horak, MHP; Ying-Yu Hung, M.L.Arch.; Jason Kerwin, M.Arch.; Jeffrey Kim, M.S.; Tim Kohut, M.Arch.; Andy Ku, M.Arch.; John Lesak, M.Arch.; Lisa Little, M.Arch.; Esther Margulies, M.L.Arch.; Leonard Marvin, MBA; Scott Mitchell, M.Arch.; Kristine Mun, Ph.D.; Eric Nulman, M.Arch.; Jay Platt, M.S.; Mary Ringhoff, M.A.; Michele Saee, M.A. (Arch); Marcos Sánchez, M.Arch.; Kris Sandheinrich, MFA; Lee Schneider; F. Myles Sciotto, M.Arch.; Shannon Scovell, MLA; Colin Sieburgh, M.Arch.; Takako Tajima, MLA; Brian Tichenor, M.L.Arch.; David Ulin, MFA; John Uniack, B.Arch.; Scott Uriu, B.Arch.; Elizabeth Valmont, MBS; Geoffrey von Oeyen, M.Arch.; Roland Wahlroos-Ritter, Dipl.Ing.; Takashi Yanai, M.Arch.; Hraztan Zeitlian, M.Arch.

*Emeritus Professors:* James Ambrose, M.S.; Frank Dimster, M.Arch.; Robert Harris, MFA (Arch.); Samuel T. Hurst, M.Arch.; Ralph Knowles, M.Arch.*; Roger Sherwood, M.S.Arch., M.C.R.P.

*\*Recipient of university-wide or school teaching award.*

## Degree Programs

The School of Architecture offers curricula leading to the following degrees.

*Bachelor of Architecture:* a five-year undergraduate accredited professional degree program.

*Bachelor of Science in Architectural Studies:* a four-year undergraduate non-professional architectural studies degree program providing specialization in related fields and an alternative path to graduate studies in architecture and other design fields.

*Minor in Architecture:* provides the flexibility of complementing a student's major with an area of specialization. Not available for architecture majors.

*Minor in Landscape Architecture:* provides students with the ability to integrate the natural and cultural profession of landscape architecture into their course of study. Not available for architecture majors.

*Master of Advanced Architectural Studies:* a 48-unit, three-semester program for students who hold a first professional degree from an accredited school of architecture.

*Master of Architecture:* a 102-unit, three-year accredited degree for students who have completed a bachelor's degree with a major other than one of the design professions; a 64-unit, two-year accredited degree for students holding a pre-professional degree with a major in architecture.

*Master of Heritage Conservation:* a 48-unit program designed to prepare individuals for work in heritage conservation and its allied disciplines, including architecture, urban planning, cultural resource management, real estate development, construction and materials conservation.

*Master of Landscape Architecture:* a 96-unit, six-semester curriculum for students with no prior degree in architecture, landscape architecture or environmental design; a 64-unit, four-semester curriculum for students who hold a first non-accredited degree in architecture, landscape architecture or environmental design; a 48-unit, three-semester curriculum for students who hold an accredited Bachelor of Landscape Architecture degree or the equivalent.

*Master of Building Science:* a 48-unit, two-year program for applicants who hold an architecture, engineering or science-related degree (e.g., Bachelor of

Architecture, Bachelor of Architectural Engineering, Bachelor of Science in Engineering, Environmental Studies, Physics or Mathematics). Students with five-year professional degrees in architecture and a minimum of five years of experience may be given advanced standing.

*Dual Degree in Architecture and Planning:* a 72-unit program leading to the post-professional Master of Architecture and the Master of Planning degrees. Admission to both degree programs is required.

*Dual Degree in Heritage Conservation and Planning:* a 60-unit program leading to the Master of Heritage Conservation and Master of Planning degrees. Admission to both degree programs is required.

*Dual Degree in Landscape Architecture and Planning:* a 66-, 82- or 108-unit program leading to the Master of Landscape Architecture and Master of Planning degrees. Admission to both degree programs is required.

*Doctor of Philosophy in Architecture:* This program is designed to prepare individuals for university level teaching and professional research and for leadership positions in industry and professional architectural practice.

*Certificate in Architecture:* The focus of this program is on understanding the broad and complex role of architecture within the urban and cultural context. Studies focus on cities and architecture throughout the world where conditions of increasing density, environmental challenges and cultural complexity require design initiatives that support amenity, sustainability and cultural meaning. The certificate is open to graduate students not pursuing a Master of Architecture degree.

*Certificate in Building Science:* This program is intended as a supplementary credential for students enrolled in graduate course work in architecture, landscape architecture, historic preservation, urban planning or related disciplines, and also for practicing design and planning professionals with undergraduate or graduate degrees and related experience.

*Certificate in Heritage Conservation:* This program is for those who wish to augment their current work in heritage conservation, and for graduate students who wish to obtain a complementary specialization in conjunction with their degree.

*Certificate in Landscape Architecture:* This program provides an opportunity for professionals and graduate students to develop understandings and skills related to the basic subjects inherent in the field of landscape architecture.

*Certificate in Sustainable Design:* This certificate provides students with the tools necessary to understand and quantify sources of energy use in buildings and landscapes and to use design of natural and man-made systems to reduce their energy use. Environmental, economic and socially responsible solutions will be explored through the course work.

### National Architecture Accrediting Board Statement

In the United States, most registration boards require a degree from an accredited professional degree program as a prerequisite for licensure. The National Architectural Accrediting Board (NAAB), which is the sole agency authorized to accredit professional degree programs in architecture offered by institutions with U.S. regional accreditation, recognizes three types of degrees: the Bachelor of Architecture, the Master of Architecture and the Doctor of Architecture. A program may be granted an eight-year, three-year or two-year term of accreditation, depending on the extent of its conformance with established educational standards.

Doctor of Architecture and Master of Architecture degree programs may require a pre-professional undergraduate degree in architecture for admission. However, the pre-professional degree is not, by itself, recognized as an accredited degree.

The University of Southern California School of Architecture offers the following NAAB-accredited degree programs:

Bachelor of Architecture (160 undergraduate credits)

Master of Architecture (pre-professional degree + 64 graduate credits)

Master of Architecture (non-professional degree + 102 graduate credits)

Next accreditation visit for all programs: 2022

### National Landscape Architecture Accreditation Board Statement

*The USC Master of Landscape Architecture first professional curricula (three-year and two-year curricula) are accredited by the American Society of Landscape Architects Landscape Architecture Accreditation Board (LAAB). The LAAB conditions of accreditation (including the student performance criteria) are posted on the ASLA Website,* asla.org/AccreditationLAAB.aspx.

# Undergraduate Degrees

## Bachelor of Architecture

The bachelor's degree program begins intensively with architectural studies in the first year and provides for a mix of architectural and general university studies throughout the program. The curriculum includes two cycles of development. The first cycle of six semesters provides a foundation in understanding architecture, concluding with integrative studies after two years of introductory work. The second cycle, four semesters, provides the opportunity to explore many aspects of architecture and to develop individual strengths and interests. During this period, a comprehensive design studio project is undertaken in the fall of the fifth year. The spring of the fifth (and final) year culminates in the development of that comprehensive building project in the context of a professional practice course, coupled with a research design studio taken along the lines of the students' own interests.

### Admission as a First Year Student

All applicants to the School of Architecture must complete the university application and submit it to the USC Office of Admission along with Scholastic Aptitude Test (SAT) or other test scores. All applicants, including international students, must submit a portfolio.

### Admission with Advanced Placement

It is possible, in selected instances, that a transfer student from an accredited community college or other university may be eligible for advanced placement at the second-year level if previous work includes a minimum of 32 semester units of acceptable academic credit in a pre-architecture program. The academic credit must include 8 semester units in architectural design or environmental design. Students accepted for advanced placement must still comply with all requirements for the degree.

Advanced placement applicants are required to submit a design portfolio to the School of Architecture.

### Summer Transfer Courses

A summer design studio and drawing course allows highly qualified students transferring from community college or other university programs to be evaluated for advanced placement in the fall semester. Applicants must submit a university application and portfolio by February 1 for consideration. During the summer transfer courses, students must demonstrate significant design and drawing skills to justify advanced placement. Successfully completing these summer transfer courses allows students to reduce the required 10-semester design sequence by two semesters, reducing USC residency to four years. This either provides for advanced placement into the second year or gives credit for ARCH 102abL and ARCH 105L if these courses are passed with grades of B or above. For more information, contact the school at (213) 740-2420.

Transfer students who are admitted with fewer than 32 units of college level work and who have only limited drawing or design skills may be considered for placement in the first year of the five-year design sequence. Previous academic work may in part be applied toward required and elective courses for the five-year Bachelor of Architecture program.

### Advisement

The School of Architecture maintains student advisers for the benefit of all students in the school. Soon after being accepted, new students are advised to make an appointment for pre-registration advisement. A complete record is kept of the progress for each student while in attendance. An individual appointment with an adviser may be scheduled at any time during the academic year. In addition, students are strongly encouraged to attend a university orientation session.

### Degree Requirements

Accredited degree programs awarding the B.Arch. degree must require a minimum of 150 semester credit hours or the quarter-hour equivalent, in academic course work in general studies, professional studies and electives. The curriculum leading to the architecture degree must include at least 45 credit hours, or the quarter-hour equivalent, outside of architectural studies either as general studies or as electives with content other than architectural.

### Design Studio Grade Point Average Requirement

Less than average work in design is not considered sufficient for a professional degree. Students must receive a grade of C (2.0) or above in each semester of design (ARCH 102abL, ARCH 202abL, ARCH 302abL, ARCH 402abL, ARCH 500aL, ARCH 502aL) in order to continue in the design sequence and to graduate. Students will be required to repeat the course until such a grade is achieved.

### Transfer Limit for Design Studio Credit

School of Architecture majors enrolling for a semester of study off campus are limited to the transfer of only one design studio course within the ARCH 402abL sequence. Approval of transfer credit will be dependent upon portfolio review by an appointed faculty review committee.

### Pass/No Pass Courses

Architecture students are permitted to take a maximum of 24 units of non-architecture electives, exclusive of the writing requirements, MATH 108 and the PHYS 125L requirement, on a pass/no pass basis. No more than 4 units of pass/no pass courses may be applied to general education requirements; no more than 4 units may

be taken in one semester. Students who have taken non-architecture courses pass/no pass in the past (i.e., before admission to architecture) may count such pass/no pass courses toward, but not in addition to, the maximum of 24 units.

## Schedule Choices

Students in upper division (ARCH 402abL) may substitute any fall or spring semester by completing degree requirements, including design studio, by enrolling during summer session. This substitution does not provide for acceleration of the degree but does allow for make up so that students may get back on schedule for the five-year degree.

## Time Limits

While there are no specific time limits for completing the bachelor's degree (except in the case of discontinued programs) the School of Architecture may require additional course work of students who remain in the degree program beyond six years.

## Five-Year Curriculum for the Bachelor of Architecture Degree

| First Year, First Semester | | Units |
|---|---|---|
| ARCH 102aL | Architectural Design I | 4 |
| ARCH 105L | Fundamentals of Design Communication | 2 |
| ARCH 114 | Architecture: Culture and Community | 2 |
| General Education | Social Issues | 4 |
| MATH 108* | Introductory College Mathematics, or | |
| WRIT 150* | Writing and Critical Reasoning — Thematic Approaches | 4 |
| | | 16 |
| First Year, Second Semester | | Units |
| ARCH 102bL | Architectural Design I | 4 |
| ARCH 214a | World History of Architecture | 3 |
| PHYS 125L** | Physics for Architects General Education, or | 4 |
| WRIT 130* | Analytical Writing | 4 |
| | | 15 |
| Second Year, First Semester | | Units |
| ARCH 202aL | Architectural Design II | 6 |
| ARCH 213a | Building Structures and Seismic Design | 3 |
| ARCH 214b | World History of Architecture | 3 |
| General Education | | 4 |
| | | 16 |
| Second Year, Second Semester | | Units |
| ARCH 202bL | Architectural Design II | 6 |
| ARCH 211 | Materials and Methods of Building Construction | 3 |
| ARCH 213b | Building Structures and Seismic Design | 3 |
| General Education | | 4 |
| | | 16 |
| Third Year, First Semester | | Units |
| ARCH 215 | Design for the Thermal and Atmospheric Environment | 3 |
| ARCH 302aL | Architectural Design III | 6 |
| ARCH 313 | Design of Building Structures | 3 |
| General Education | | 4 |
| | | 16 |
| Third Year, Second Semester | | Units |
| ARCH 302bL | Architectural Design III | 6 |
| ARCH 315 | Design for the Luminous and Sonic Environment | 3 |
| ARCH 411 | Architectural Technology | 3 |
| General Education | | 4 |
| | | 16 |
| Fourth Year, First Semester | | Units |
| ARCH 314 | History of Architecture: Contemporary Issues | 3 |
| ARCH 402aL | Architectural Design IV | 6 |

| ARCH 525 | Professional Practice: Pre-Design, Project and Office Administration | 3 |
|---|---|---|
| Electives | | 4 |
| | | 16 |
| Fourth Year, Second Semester | | Units |
| ARCH 402bL | Architectural Design IV | 6 |
| Architecture history electives | | 2-4 |
| Electives | | 7-9 |
| | | 17 |
| Fifth Year, First Semester | | Units |
| ARCH 500aL | Comprehensive Architectural Design | 6 |
| ARCH 501 | Critical Topics in Architecture | 2 |
| WRIT 340 | Advanced Writing | 4 |
| Electives | | 4 |
| | | 16 |
| Fifth Year, Second Semester | | Units |
| ARCH 502aL | Architectural Design V | 6 |
| ARCH 526 | Professional Practice: Legal and Economic Context, Project Documentation | 3 |
| Electives | | 7 |
| | | 16 |

*All students must enroll in WRIT 150 in the fall except those who are required to take MATH 108. These students must take WRIT 130 the following spring.*

*** PHYS 125L fulfills the General Education requirement in Category III. The PHYS 125L requirement may also be fulfilled by PHYS 135abL; 4 units will be applied toward the B.Arch. and 4 will count as electives.*

## Core Requirements

In order to take advantage of elective opportunities in the advanced program, students must complete the following courses before the end of the special integrative semester (third year, first semester): ARCH 102abL, ARCH 105L, ARCH 114, ARCH 202abL, ARCH 211, ARCH 213ab, ARCH 214ab, ARCH 215; MATH 108; PHYS 125L; and WRIT 150 or WRIT 130.

## Allocation of Elective Units

A total of 20 units of electives and a 4-unit diversity course is included toward completion of the 160 units for the degree.

### Professional Electives

A minimum of 12 units in architecture is required.

### Free Electives

An additional 12 units in any category of professional courses, humanities, social sciences and communication and natural sciences. Natural sciences include astronomy, biological sciences, chemistry, computer science, geological sciences, mathematics (excluding MATH 108) and physics (excluding PHYS 125L or PHYS 135abL). One of these courses must satisfy the diversity requirement.

## General Education Requirements

The university's general education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program requires six courses in different categories, plus writing and diversity requirements, which together comprise the USC Core. See The USC Core and the General Education Program for more information.

Students who are required to take MATH 108 during the freshman year may take their Social Issues course in the fall and WRIT 130 separately in the spring.

# Bachelor of Science, Architectural Studies

The Bachelor of Science in Architectural Studies program begins intensively with architectural studies in the first two years and provides a mix of architectural and general university studies throughout the program. The curriculum includes a core program in the first two years identical to the Bachelor of Architecture professional degree program. The last two years provide the opportunity to explore many aspects of architecture and related fields and to develop individual strengths and interests. Students take an introductory course in specialization in the second year, which provides an introduction to related fields and alternative degree options. Students can elect to move into the four-year non-professional B.S. in Architectural Studies program with a degree plan identifying electives fulfilling an area of concentration. The program is concluded with a seminar with all degree candidates, allowing for collaborative work on areas of common interest.

## Admission as a First-year Student

All applicants to the School of Architecture must complete the university application and submit it to the USC Office of Admission along with Scholastic Aptitude Test (SAT) or other test scores. All applicants, including international students, must submit a portfolio.

## Admission with Advanced Placement

It is possible, in selected instances, that a transfer student from an accredited community college or other university may be eligible for advanced placement at the second-year level if previous work includes a minimum of 32 semester units of acceptable academic credit in a pre-architecture program. The academic credit must include 8 semester units in architectural design or environmental design. Students accepted for advanced placement must still comply with all requirements for the degree.

Advanced placement applicants are required to submit a design portfolio to the School of Architecture.

## Summer Transfer Studio

A summer design studio allows highly qualified students transferring from community college or other university programs to be evaluated for advanced placement in the fall semester. Applicants must submit a university application and portfolio by February 1 for consideration. During the summer studio, transfer students must demonstrate significant design and drawing skill to justify advanced placement. Transfer students who are admitted with fewer than 32 units of college level work and who have only limited drawing or design skills may be considered for placement in the first year of the four-year program. Previous academic work may in part be applied toward required and elective courses for the four-year B.S. in Architectural Studies program. For more information about this program, contact the school at (213) 740-2420.

## Advisement

The School of Architecture maintains student advisers for the benefit of all students in the school. Soon after being accepted, new students are advised to make an appointment for pre-registration advisement. A complete record is kept of the progress for each student while in attendance. Appointments with an adviser may be scheduled at any time during the academic year.

## Design Studio Grade Point Average Requirement

Less than average work in design studio is not considered sufficient for a continuation in the design

studio sequence. Students must receive a grade of C (2.0) or above in each semester of design in order to continue in the design sequence. Students in the first two years of the program are required to repeat the course until such a grade is achieved.

## Pass/No Pass Courses

Architecture students are permitted to take a maximum of 24 units of non-architecture electives, exclusive of the writing requirements, MATH 108 and the PHYS 125L requirement, on a pass/no pass option. No more than 4 units of pass/no pass courses may be applied to general education requirements; no more than 4 units may be taken in one semester. Students who have taken non-architecture courses pass/no pass in the past (i.e., before admission to architecture) may count such pass/no pass courses toward, but not in addition to, the maximum of 24 units.

## Time Limits

While there are no specific time limits for completing the B.S. in Architectural Studies degree (except in the case of discontinued programs) the School of Architecture may require additional course work of students who remain in the degree program beyond six years.

## Four-Year Curriculum for the Bachelor of Science in Architectural Studies Degree

| FIRST YEAR, FIRST SEMESTER | | UNITS |
|---|---|---|
| ARCH 102aL | Architectural Design I | 4 |
| ARCH 105L | Fundamentals of Design Communication | 2 |
| ARCH 114 | Architecture: Culture and Community | 2 |
| MATH 108* | Precalculus, or | |
| WRIT 150* | Writing and Critical Reasoning — Thematic Approaches | 4 |
| General Education | Social Issues | 4 |
| | | 16 |
| FIRST YEAR, SECOND SEMESTER | | UNITS |
| ARCH 102bL | Architectural Design I | 4 |
| ARCH 214a | World History of Architecture | 3 |
| PHYS 125L** | Physics for Architects | 4 |
| WRIT 130*** | Analytical Writing, or General Education | 4 |
| | | 15 |
| SECOND YEAR, FIRST SEMESTER | | UNITS |
| ARCH 202aL | Architectural Design II | 6 |
| ARCH 213a | Building Structures and Seismic Design | 3 |
| ARCH 214b | World History of Architecture | 3 |
| General Education | | 4 |
| | | 16 |
| SECOND YEAR, SECOND SEMESTER | | UNITS |
| ARCH 202bL | Architectural Design II | 6 |
| ARCH 211 | Materials and Methods of Building Construction | 3 |
| ARCH 213b | Building Structures and Seismic Design | 3 |
| General Education | | 4 |
| | | 16 |
| THIRD YEAR, FIRST SEMESTER | | UNITS |
| ARCH 215 | Design for the Thermal and Atmospheric Environment | 3 |
| ARCH 313 | Design of Building Structures | 3 |
| ARCH 370 | Architectural Studies — Expanding the Field | 2 |
| WRIT 340 | Advanced Writing, or | |
| General Education | | 8 |
| | | 16 |
| THIRD YEAR, SECOND SEMESTER | | UNITS |
| ARCH 315 | Design for the Luminous and Sonic Environment | 3 |
| ARCH 411 | Architectural Technology | 3 |
| Diversity | | 4 |
| Professional electives | | 6 |

| | | 16 |
|---|---|---|
| FOURTH YEAR, FIRST SEMESTER | | UNITS |
| ARCH 314 | History of Architecture: Contemporary Issues | 3 |
| ARCH 525 | Professional Practice: Pre-Design, Project and Office Administration | 3 |
| Professional electives | | 10 |
| | | 16 |
| FOURTH YEAR, SECOND SEMESTER | | UNITS |
| ARCH 470 | Capstone Seminar | 4 |
| Electives | | 8 |
| Professional electives | | 5 |
| | | 17 |

Total minimum units required: 128

*All students must enroll in WRIT 150 in the fall except those who are required to take MATH 108. These students must take WRIT 130 the following spring.*

**PHYS 125L fulfills the General Education requirement in Category III. The PHYS 125L requirement can also be fulfilled by PHYS 135abL; 4 units will be applied toward the B.S. and 4 will count as electives.*

***Students who take WRIT 130 are advised to fulfill their sixth General Education requirement concurrently with the Diversity requirement or with a Professional Architecture elective, or with their free electives.*

## Requirements for B.S. in Architectural Studies Degree

A total of 25 units of professional electives, including ARCH 470 Capstone Seminar, are required in an area of specialization, which must be selected from the accepted professional elective offerings in the School of Architecture or with consultation and approval of the program adviser. This is in addition to the core, elective and general education requirements of the Bachelor of Architecture degree, which are identical for the first two years of the Bachelor of Science in Architectural Studies.

In the third and fourth year of the program, the requirements for the Bachelor of Architecture design studios, ARCH 302abL and ARCH 402ab – 24 units – are changed to the professional electives requirement. The full degree requirements are described above.

### Core Requirements

Students must complete the following core courses as a prelude to the upper division professional electives and degree requirements: ARCH 102abL, ARCH 105L, ARCH 114, ARCH 202abL, ARCH 211, ARCH 213ab, ARCH 214ab, and ARCH 370, MATH 108, PHYS 125L, and WRIT 150 or WRIT 130.

### General Education Requirements

The university's general education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program requires six courses, in different categories, plus writing and diversity requirements, which together comprise the USC Core. See The USC Core and the General Education Program for more information. Students who are required to take MATH 108 during the freshman year may take their Social Issues course in the fall and WRIT 130 separately in the spring. Others will take WRIT 150 in the fall and will take Social Issues with it.

## Minors in Architecture

## Minor in Architecture

The minor in architecture provides the flexibility of complementing a student's major with an area of specialization. Taking a minor in architecture is a unique opportunity for a student to stimulate his or her imagination and learn creative approaches to problem solving.

### Admission Requirements

Students in good academic standing who have completed the freshman year are eligible.

### Course Requirements

The requirements for the minor include three required courses (8 units) and a minimum of 12 units of upper division courses.

| Required courses | | Units |
|---|---|---|
| ARCH 106x | Workshop in Architecture | 2 |
| ARCH 114 | Architecture: Culture and Community | 2 |
| ARCH 304x | Intensive Survey: Prehistory to the Present | 4 |

Students may elect to take the upper division courses in an area of specialization, such as architectural history and theory, historic preservation, computers and design, visual communication, landscape architecture, public places – urban spaces, housing or practice management. This minor is not available to architecture majors.

## Minor in Landscape Architecture

The minor provides students with the ability to integrate the ecological and cultural dimensions of landscape architecture into their course of study. Studies are about repairing and sustaining natural systems in cities, about the history of human settlements, places, and gardens in urban landscapes, and about the cultural and aesthetic meanings of landscape architecture design. This is an excellent emphasis for students in environmental studies, civil engineering, planning and anthropology. This minor is not available to architecture majors.

### Admission Requirements

Students in good academic standing who have completed the freshman year are eligible.

### Course Requirements

The minor in landscape architecture consists of three required courses (9 units) and a minimum of 12 units of upper division courses.

| Required Courses | | Units |
|---|---|---|
| ARCH 106x | Workshop in Architecture | 2 |
| ARCH 361L | Ecological Factors in Design | 3 |
| ARCH 465 | History of Landscape Architecture (Western Tradition) | 4 |

| Upper Division Courses (12 units) | | Units |
|---|---|---|
| ARCH 363 | Plant Material Identification: Horticulture | 4 |
| ARCH 432 | People, Places and Culture: Architecture of the Public Realm | 4 |
| ARCH 463 | Plant Materials Identification: California Plan Communities | 4 |
| ARCH 531 | The Natural Landscape | 3 |

| ARCH 536 | The Landscape Planning Process | 3 |
|---|---|---|
| ARCH 544 | Urban Landscape: Process and Place | 3 |
| ARCH 545 | Urban Landscape: Contemporary History and Prospect | 3 |
| ARCH 547 | Urban Nature | 3 |
| ARCH 565 | Global History of Landscape Architecture | 3 |
| ARCH 566 | Cross-Cultural Topics in Landscape Architecture History | 3, max 6 |

Non-architecture students must obtain written approval from their academic unit in order to take a 500-level course. For more information, contact an architecture advisor, archadvs@usc.edu.

## Global Programs and Other Enrichment Opportunities

Each year, a set of different global programs are offered to our fourth-year undergraduate students during their topic studio semesters. There are typically one to two programs offered each semester (fall, spring and summer), with recent locations being in Italy, China, France and Spain.

Each offering consists of a coordinated 17-unit, full semester program which includes a studio course in design and required seminars in history and theory; technology; and cultural studies. Students must be in good academic standing to be considered and to participate.

Some examples of recent programs include:

### Spring Program in Italy: Milan-Como

For many years, selected students have been able to participate in the Anthony A. Marnell II Italian Architecture Studies Program, located in Milan, a city at the forefront of Italian modern architecture and the center of Italian design. Students are housed and have classroom and studio space in Como, a small and pleasant lakeside town about 30 miles from Milan. The Milan-Como Program is one of only two U.S. school of architecture programs in this part of Italy. Strong relationships are fostered with the place, its people and its culture. Visits are planned within Italy and throughout Europe to expose the students to the full range of historical and contemporary architecture.

### Fall Program in Spain: Barcelona

The School of Architecture's study abroad program in Barcelona provides a place for fourth year architecture students in a course of study in urbanism and architecture of the city. The goal is to provide a broad overview of that city's major urban and architectural sites, topography and systems of urban organization. Students will be immersed in the issues of urban design and architecture that have shaped the city, and will develop critical thinking and methodologies of analysis by designing in the urban context. The course of study will examine this fascinating culture that is committed to design and architectural practices that engage and challenge European traditional and modernist orthodoxies.

Barcelona is both a modern and historical site, beginning as a small Roman colony from the time of Augustus, and surviving Visigothic, Moorish and Frankish invasions. Its political and economic history has shaped the city, with the most forceful expression of its national aspiration occurring in the 19th century, the time most associated with the architect Antonio Gaudí. It is city committed to a culture of visual design that has realized many ambitious urban plans, growing from its commitment to representing national pride. It is a dynamic site for the study of ancient and contemporary urbanism as it has achieved word-class status among cities as a locus for new world architecture. The program will combine field work, precedent analysis and discussions with the broader design community in Barcelona.

Examples of public space and architecture from antiquity to the 21st century will be studied as part of the context of a city that has successfully projected its future without neglecting its past and present. Visits are planned within Spain and throughout Europe to expose students to the full range of historical and contemporary architecture.

### Fall Program in Asia: Emphasis on China and Urbanism

The Asian Architecture and Landscape Urbanism program provides participating students the opportunity to engage and comprehend the full depth and global ramifications of the rapid changes that are taking place in China and other cities in Asia. The complex and multiple factors that inform urbanism and define the built environment will be explored and analyzed both in terms of historical cultural source and contemporary manifestation. Participants in these academic engagements will include regional as well as international professionals, academics, historians, economists and local inhabitants through direct engagements required of the course curriculum. Students will bring this knowledge and point of view back to the school after their semester away to expand the discussion of urbanism to the larger community of students and faculty at the School of Architecture.

### Summer Semester in South America: Emphasis on Architecture and Development

The School of Architecture offers a summer program based at the Fundação Armando Alvares Penteado (FAAP), which includes travel throughout Mexico, Argentina and Peru before arriving at São Paolo at the midterm point. USC students work on a studio project in collaboration with students from the FAAP and the Universidad Iberoamericana.

The purpose of this program is to offer students the opportunity to:

- work on a real project in a country where development is a prime goal of the government and where opportunities for architecture students to complete internships and gain employment after graduation are expanding;

- work with the physical requirements, governmental regulations and economic situations that affect the design of projects that can be realized;

- become familiar with local practitioners in order to learn about architectural practice in these areas; and

- expand appreciation of the importance of the rising status of Brazil as a world power in the current market and introduces USC students to current practitioners there.

### Summer Graduate Studies Abroad

The School of Architecture offers programs for summer graduate study abroad. The purpose of the programs is to offer graduate architecture students the opportunity to study the built fabric of another culture firsthand and engage in a focused urban studies problem in that culture. The programs also strive to expand appreciation of the importance of development in the current world market and show practitioners USC graduates' ability to engage in and contribute to international development.

## Exhibits of Student Work

*Throughout the year, selected students are given the opportunity to show work in organized exhibitions, as well as to be included in our ongoing student work publication INDEX.* The school seeks multiple formats and opportunities to have student work shown in the community at large and at cultural institutions throughout the city and the world, with recent exhibits in Shanghai, France, Italy and Washington, DC.

## Field Trips

Many field trips are organized each year in support of various aspects of the academic program. During the past several years, students have made trips to locations in the larger California region (such as San Francisco, La Jolla to see the Salk Institute) as well as throughout the United States, including New Orleans and other important cities. In addition, students regularly visit the many sites of significance in the local Los Angeles area on an almost weekly basis for their general course work and personal interest.

## Lectures and Exhibitions

The school provides significant service to the community and profession through public programs, and the participation of faculty members in community and professional activities. With the support and cooperation of the Architectural Guild, the school generates a vigorous program of lectures, exhibitions and tours.

Some of the world's most distinguished and emerging architects, landscape architects and designers have lectured at USC. These include Frank Gehry, Mario Botta, Yona Friedman, Peter Cook,Yung Ho Chang, Thom Mayne, Michael Maltzan, Hitoshi Abe, Mia Lehrer, Fumihiko Maki, Jean Nouvel, Will Bruder, Francois Roche, Enrique Norten, Adriaan Geuze, Kazuyo Sejima, Ai Wei Wei, Rem Koolhaas, Shigeru Ban, Hans Hollein, Charles Waldhem, Nader Tehrani, Cesar Pelli, Javier Sanchez, Laurie Olin, Eric Owen Moss and Pei Zhu.

The school also provides the Helen Lindhurst Architecture Gallery for major architectural exhibitions. Recent shows have included important international architects such as Christoph Kapeller, Renzo Piano, Santiago Calatrava, Herman Hertzberger and Alvaro Siza, as well as USC faculty, students and alumni.

## Other Programs

### Exploration of Architecture Summer Program for High School Students

The School of Architecture offers two- and four-week programs for high school students (must have completed ninth grade by the start of the program) who have no previous experience but are interested in architecture. The program, which began in 1983, is particularly rewarding for students who are contemplating a career in architecture. However, all students find the exposure to the unique problem-solving methodologies of architecture a benefit regardless of their final career choice. Living on campus in a USC residence hall, high school students experience what it is like to be a university student. They participate in studio classes with professional critics and present their ideas in reviews attended by parents and friends.

The program also exposes them, through case studies, sketching exercises and field trips, to some of the most dramatic and impressive historical and modern architecture of Los Angeles. International students have especially appreciated the opportunity to pursue this summer program of study that is not highly dependent on

English language skills. Limited financial assistance is available.

Obtain program details by visiting the School of Architecture Website or by calling (800) 281-8616.

## Summer Program in Heritage Conservation

This program offers three weeks of classes with noted experts from Southern California and the United States. Taken together the courses act as a general introduction to the field of heritage conservation. In addition to examining the history and philosophy of the conservation movement as it has evolved during the past century, lectures and field trips to historic sites throughout the Los Angeles area will introduce students to a broad range of legal, economic, aesthetic and technical issues associated with the documentation, conservation and interpretation of historic structures, landscapes and communities.

For more information, call (213) 821-2168.

## The Building Science Program in Civil Engineering

The Sonny Astani Department of Civil Engineering offers an undergraduate program leading to the degree of Bachelor of Science in Civil Engineering, with an emphasis in building science. The curriculum includes most of the work which is required for the major in structures, plus 30 units in architectural studies offered by the School of Architecture. See the USC Viterbi School of Engineering, Civil Engineering section of this catalogue for further information.

# Graduate Programs

The school offers interrelated graduate programs in architecture, landscape architecture, building science and historic preservation as well as two dual degree programs with the USC Price School of Public Policy.

## Admission to Graduate Programs

Credentials for admission must include a complete record of all previous college or university work. The applicant must request the registrar of each college or university attended to forward official transcripts of record directly to the Office of Admission.

Following are the basic requirements for admission to the graduate programs: (1) the appropriate degree from an accredited college or university; (2) satisfactory scores on the verbal, analytical and quantitative portions of the aptitude test of the Graduate Record Examinations; (3) intellectual promise and clear study intentions that indicate an ability to do acceptable graduate work; (4) a portfolio of design work*; (5) strong personal qualifications.

All students must speak and write English. Foreign students must demonstrate such ability by taking the TOEFL or IELTS test before leaving their home countries, and, if necessary, by further tests upon arrival on campus.

International students may be required to enroll in American Language Institute (ALI) English courses, based on scores on the English Placement Tests. The cost of these additional courses is the responsibility of the student. In addition, international students should be aware that they may have to defer enrollment in some major courses because of the ALI courses, extending the number of semesters required to complete the program and increasing the overall tuition expense. International students are urged to read with care all information sent to them about English requirements and to take as many English language courses as possible prior to coming to the United States.

*The Master of Building Science and Master of Heritage Conservation programs accept computer programs, papers and other work as portfolio work.*

*Correspondence with the dean or individual faculty members does not constitute admission to the Graduate School or to the School of Architecture. Only a letter from the Director of Admissions grants official admission.*

## Graduate Program Policies

Graduate students are expected to complete between 12 and 16 units per semester, spring and fall, depending on the program in which they are enrolled.

A minimum grade of C (2.0) is required in a course to receive graduate credit. A grade point average of at least B (3.0) on all units attempted at USC toward a graduate degree is required for graduation. A total grade point average of at least a B (3.0) in all courses applied toward completion of a certificate is required prior to being awarded a particular certificate. Course work taken on a pass/no pass basis cannot be applied toward a graduate degree or a certificate. If a student does not meet these minimum grades the faculty member should meet with the student to provide timely advisory reviews.

Failure to complete program course work on schedule will result in the loss of financial awards from the School of Architecture and/or may result in suspension from the program upon recommendation from the program director and approval by the Dean of the School of Architecture and the Associate Vice Provost for Graduate Programs. Additional semesters may be taken to complete the thesis or directed design research when appropriate.

All appeals will be reviewed initially by the director(s) of the appropriate graduate program and then by a committee consisting of all graduate program directors (with the exception that design courses will be reviewed by the design review committee). Their recommendation(s) will be forwarded to the dean for consideration and action, and then forwarded to the Associate Vice Provost for Graduate Programs. All communications must be in writing.

## Thesis Committees

In the School of Architecture's master's programs, thesis committees must include a minimum of three members. The chair will be a full-time faculty member in the student's discipline in architecture. The second member must be a full- or part-time USC faculty member, not necessarily from the School of Architecture. The third member may be either a USC faculty member or a practitioner with a special expertise in the field; she or he may be full-time or part-time, tenure track, non-tenure track, or a non-academic practitioner. Thesis committees are ultimately subject to approval by the school dean.

## Certificate in Architecture

The focus of this program is on understanding the broad and complex role of architecture within the urban context. Studies focus on cities throughout the world where conditions of increasing density, environmental challenges and cultural complexity require design initiatives that support amenity, sustainability and cultural meaning. The certificate is open to graduate students not pursuing a Master of Architecture degree.

### Course Requirements

Completion of the certificate program requires a minimum of 16 units.

For current USC graduate students not enrolled in a master's degree program in the School of Architecture

| Core Courses | | Units |
|---|---|---|
| ARCH 553* | History of American Architecture and Urbanism | 3 |
| ARCH 561 | Urbanism Themes and Case Studies | 2 |
| ARCH 562 | Architecture Themes and Case Studies | 2 |
| ARCH 563 | Contemporary Architectural Theory | 2 |
| Electives | | 7 |

| Sample Electives (or as approved by program faculty adviser or director) | | Units |
|---|---|---|
| ARCH 515L | Seminar: Advanced Environmental Systems | 4 |
| ARCH 519 | Sustainability in the Environment: Infrastructures, Urban Landscapes, and Buildings | 3 |
| ARCH 550 | Heritage Conservation Policy and Planning | 3 |
| ARCH 564 | Descriptive and Computational Architectural Geometry | 2 |
| ARCH 606 | Advanced Architectural Theory | 2 |
| ARCH 607 | Advanced Computation | 2 |
| ARCH 608 | Urban Theory: Los Angeles Case Study | 2 |
| ARCH 609 | Advanced Fabrication | 2 |
| ARCH 611 | Advanced Building Systems Integration | 4 |
| ARCH 614 | Contemporary Issues in Architecture: A Critical Dialectic | 3 |

*Students from outside the School of Architecture are required to take ARCH 543 Research Methods (1) as one of their 16 units.*

*\* Students in the Master of Heritage Conservation Program should substitute core class ARCH 553 with another elective.*

## Certificate in Building Science

Building science at USC recognizes that exemplary architecture requires a creative response to natural forces, based on informed good judgment in the areas of architectural technology. The Certificate in Building Science is intended as a supplement for students enrolled in graduate course work in architecture, landscape architecture, historic preservation, urban planning or related disciplines.

### Course Requirements

Completion of the certificate requires a minimum of 16 units. Students must take three core courses. Electives in building science may be taken to complete the program requirements.

| Required courses | | Units |
|---|---|---|
| Choose three of the following six courses: | | |
| ARCH 511L | Building Systems: Materials and Construction, or | |
| ARCH 611 | Advanced Building Systems Integration | 4 |
| ARCH 513L | Seminar: Advanced Structures, or | |
| ARCH 613L | Seminar: Structures Research | 4 |
| ARCH 515L | Seminar: Advanced Environmental Systems, or | |

| ARCH 615L | Seminar: Environmental Systems Research | 4 |
|---|---|---|
| Elective(s) in Building Science | | 4 |

| Sample Electives (or as approved by program faculty adviser or director) | | Units |
|---|---|---|
| ARCH 507 | Theories of Computer Technology | 3 |
| ARCH 517 | Current Topics in Building Science | 1, max 6 |
| ARCH 519 | Sustainability in the Environment: Infrastructures, Urban Landscapes, and Buildings | 3 |
| ARCH 573 | Seismic Design | 2 |
| ARCH 577L | Lighting Design | 4 |
| One from the list of required courses that was not yet selected | | 4 |

*Note: Required courses for this certificate cannot also be required courses in the student's major in the School of Architecture.*

## Certificate in Heritage Conservation

This program is directed at professionals who wish to augment their academic credential for their involvement in heritage conservation projects and at graduate students who wish to complement a degree in architecture, landscape architecture, planning, public art administration, geography, anthropology or other related disciplines.

| Required courses (16 units) | | |
|---|---|---|
| ARCH 549 | Fundamentals of Heritage Conservation | 3 |
| ARCH 550 | Heritage Conservation Policy and Planning | 3 |
| ARCH 551 | Conservation Methods and Materials | 3 |
| ARCH 553 | History of American Architecture and Urbanism | 3 |
| Electives* | | 4 |

| SAMPLE ELECTIVES (or as approved by program faculty adviser or director) | | units |
|---|---|---|
| ARCH 554 | Heritage Conservation Practicum — Advanced Documentation | 3 |
| ARCH 556 | Readings in Heritage Conservation Theory | 2 |

## Certificate in Landscape Architecture

This program is intended to introduce at the graduate level the basic subjects inherent to the field of landscape architecture: plant materials suitable to urban conditions; urban utility and transportation systems in relation to topography, natural drainage and pathways; plant and wildlife communities; as well as inquiries about landscape infrastructure and ecology, and the history of human settlement in the evolution of urban landscapes. Southern California and Los Angeles provide an exceptionally valuable natural and socio-cultural laboratory for landscape architecture studies.

*Course Requirements*

Completion of the certificate program requires a minimum of 16 units. Students must take four core courses and select 3 units of electives from the approved list approved by the director of the graduate landscape architecture program.

| Required Courses | | Units |
|---|---|---|
| ARCH 531 | The Natural Landscape | 3 |

| ARCH 537L | Urban Plant Ecology: Environmental Perspectives | 4 |
|---|---|---|
| ARCH 544 | Urban Landscape: Process and Place | 3 |
| ARCH 565 | Global History of Landscape Architecture | 3 |
| Electives* | | 3 |

| Sample Electives (or as approved by program faculty adviser or director) | | Units |
|---|---|---|
| ARCH 530 | Landscape Architecture Practice | 3 |
| ARCH 534 | Landscape Construction: Topographic Design | 3 |
| ARCH 535 | Landscape Construction: Performance Approaches | 3 |
| ARCH 536 | Landscape Planning Process | 3 |
| ARCH 538L | Urban Plant Ecology: Cultural Perspectives | 4 |
| ARCH 545 | Urban Landscape: Contemporary History and Prospect | 3 |
| ARCH 566 | Cross-Cultural Topics in Landscape Architecture History | 3 |

*\* Students from outside the School of Architecture are required to take ARCH 543 Research Methods (1) as one of their 16 units.*

## Sustainable Cities Graduate Certificate

This multidisciplinary certificate program is open to USC students pursuing graduate degrees in disciplines including anthropology, architecture, biology, chemistry, communication, earth sciences, economics, education, engineering, geography, international relations, political science, public policy, sociology, urban planning and others. See the USC Price School of Public Policy for course requirements.

## Graduate Certificate in Sustainable Design

The Sustainable Design Graduate Certificate is a multidisciplinary program open to USC students pursuing graduate degrees in many disciplines that may be interested in the sustainability of the built environment.

Sustainability is an imperative for our planet as climate change, population growth and dwindling oil supplies are all reminders that our resources are finite and we need a new paradigm to adjust to these global changes. The built environment represents the majority of our energy use and design can help reduce both the embodied and operational energy of our buildings and urban landscape.

This certificate provides students with the tools necessary to understand and quantify sources of energy use in buildings and landscapes and to use design of natural and man-made systems to reduce their energy use. This certificate will give students the background to help them make sustainable design choices through informed decision-making that considers the performance of the built environment related to the energy required to make it, the energy it absorbs or releases, the energy required to maintain it, and the energy required to replace it. Environmental, economic and socially responsible solutions will be explored through the course work.

Applicants for the Certificate in Sustainable Design who are currently enrolled in a program at USC and are in good standing with a 3.0 GPA only need to submit the appropriate paperwork for adding the certificate program, which may be obtained from the student services adviser.

Applicants for the Certificate in Sustainable Design who are not matriculated in a master's-level program at USC must submit a formal application for admission to the certificate program, provide transcripts of all college work, a resume and one letter of recommendation.

*Course Requirements*

Completion of the certificate program requires a minimum of 16 units.

| Core Courses | | Units |
|---|---|---|
| ARCH 515L | Seminar: Advanced Environmental Systems, or | |
| ARCH 615L | Seminar: Environmental Systems Research | 4 |
| ARCH 519 | Sustainability in the Environment: Infrastructures, Urban Landscapes, and Buildings | 3 |
| ARCH 579 | Sustainable Building and Environment using LEED metrics | 3 |
| Electives* | | 6 |

| Sample Electives ** (or as approved by the program faculty adviser or director) | | Units |
|---|---|---|
| ARCH 515L | Seminar: Advanced Environmental Systems, or | |
| ARCH 615L | Seminar: Environmental Systems Research (whichever one not used above) | 4 |
| ARCH 517*** | Current Topics in Building Science | 1 |
| ARCH 531 | The Natural Landscape | 3 |
| ARCH 537L | Urban Plant Ecology: Environmental Perspectives | 3 |
| ARCH 557 | Sustainable Conservation of the Historic Built Environment | 3 |
| ARCH 511L | Building Systems: Materials and Construction, or | |
| ARCH 611 | Advanced Building Systems Integration | 4 |
| ARCH 599*** | Special Topics | 1-4 |
| ENE 505 | Energy and the Environment | 3 |
| PPD 644 | Shaping the Built Environment | 4 |
| PPDE 632 | Sustainable Cities | 4 |

*\* Students from outside the School of Architecture are required to take ARCH 543 Research Methods (1 unit) as one of their 16 units.*

*\*\* Electives for the certificate may not include courses required by the student's other degree programs.*

*\*\*\* When approved by the director of the Chase L. Leavitt Graduate Program of Building Science*

*For current USC students enrolled in the Master of Building Science program*

| Core Courses | | Units |
|---|---|---|
| ARCH 511L* | Building Systems: Materials and Construction, or | |
| ARCH 611* | Advanced Building Systems Integration, or | |
| ARCH 615L* | Seminar: Environmental Systems Research | 4 |
| ARCH 519 | Sustainability in the Environment: Infrastructures, Urban Landscapes, and Buildings | 3 |
| ARCH 579 | Sustainable Building and Environment using LEED metrics | 3 |
| Electives | | 6 |

**Sample Electives (or as approved by the program faculty adviser or director)**

| | | |
|---|---|---|
| ARCH 511L** | Building Systems: Materials and Construction, or | |
| ARCH 611** | Advanced Building Systems Integration, or | |
| ARCH 615L** | Seminar: Environmental Systems Research | 4 |
| ARCH 517*** | Current Topics in Building Science | 1 |
| ARCH 531 | The Natural Landscape | 3 |
| ARCH 537L | Urban Plant Ecology: Environmental Perspectives | 3 |
| ARCH 557 | Sustainable Conservation of the Historic Built Environment | 3 |
| ARCH 599*** | Special Topics | 1-4 |
| ENE 505 | Energy and the Environment | 3 |
| PPD 644 | Shaping the Built Environment | 4 |
| PPDE 632 | Sustainable Cities | 4 |

*If not used as a required course for MBS degree*

*** If not used as a required course for MBS degree and not used as a core course above*

*** When approved by the director of the Chase L. Leavitt Graduate Program of Building Science*

Each academic unit, department or program will determine the number of units completed that may be applied to the student's master or doctoral degree.

# Master of Architecture

## Programs

The USC School of Architecture offers two distinct master's programs related to the study of architecture: the Master of Architecture professional degree (M.Arch.) and the Master of Advanced Architectural Studies post-professional degree (M.AAS) for students who already hold a professional degree in architecture or its equivalent.

## Master of Architecture (M.Arch.), Professional Degree

The school's Master of Architecture is a NAAB accredited professional degree program in the area of architectural design. It is intended for individuals who have completed a bachelor's degree with a major other than one of the design professions, (typically requiring three years of residency); or, with advanced standing, for those individuals with a pre-professional undergraduate degree in architectural studies (typically requiring two years of residency).

This degree fully prepares graduates for the present and future professional activities in the ever-evolving field of architecture. As an accredited professional degree, it provides a solid intellectual base of knowledge in history, technology, professional practice and theory. Particular emphasis is put on each of the six-semester design studio sequences, where students learn to synthesize the social, environmental and tectonic thinking through informed design practice. The studios culminate in an option-based studio and directed design research sequence, pursuing exploration of advanced and emerging topics. Exploring the many elective opportunities within the school, students are encouraged to develop a tailored curriculum, and if possible, to complete one of the several graduate certificates offered by the school or within the university.

### Degree Requirements

A minimum one-semester college-level course in physics or calculus is required.

In order for the M.Arch. degree to be conferred, students must complete 102 credit units of both required professional and elective course work during three years of residency, or for students admitted with advanced standing, a minimum of 64 units of both required professional and elective course work during two years of residency. Students must also continually meet the established standards for graduate study at USC.

To meet NAAB accreditation requirements, all students must complete (before graduation) a combined total of 168 credit hours of study at the undergraduate and graduate level, of which at least 30 semester credit hours must be at the graduate level as well as a minimum of 45 units of non-architectural content.

### Advanced Standing

Students seeking advanced standing must have a four-year architectural studies degree from: a U.S. school with an accredited professional architecture program; a U.S. school that is accredited by a regional accrediting body, without an accredited professional architecture program; or an international program that is deemed equivalent.

All students who meet the pre-professional undergraduate degree requirement and wish to be considered for advanced standing must undergo a course-by-course review. Students must provide significant evidence from the course work completed at the undergraduate level in order for waivers to be considered or granted for USC M.Arch. required Basic Studies courses. This review is conducted after admission to the program, during the summer prior to starting course work.

Basic Studies courses include: ARCH 511L Building Systems: Materials and Construction, ARCH 514ab Global History of Architecture, ARCH 523ab Structural Design and Analysis, ARCH 575a Systems: The Thermal Environment, ARCH 575b Systems: Luminous and Auditory Phenomena in Architecture, ARCH 611 Advanced Building Systems Integration.

M.Arch. students with advanced standing are required to complete a minimum two year residency, or 4 semester units of study at USC.

### Summer Semester

A robust curriculum is available during the summer semester between the fourth and fifth semesters [of the full sequence; between the second and third of the advanced standing]. A combination of internationally based studios, field studies and the full first semester sequence of the M.AAS is available to provide students diverse and advanced opportunities that can expand their degree offerings.

## Admission with No Previous Professional Education (+3)

Students admitted with no previous professional education must complete 102 units, including 75 units of specified courses, 19 units of electives and 8 units of Directed Design Research or Thesis. Electives must be part of a curricular plan approved by the program director.

The required courses for the 102-unit M.Arch +3 Curriculum are: ARCH 409L Design Foundation; ARCH 410 Computer Transformations; ARCH 505abL Graduate Architecture Design I; ARCH 511L Building Systems: Materials and Construction; ARCH 514ab Global History of Architecture; ARCH 523ab Structural Design and Analysis; ARCH 525 Professional Practice: Pre-Design, Project and Office Administration; ARCH 526 Professional Practice: Legal and Economic Context, Project Documentation; ARCH 543 Research Methods; ARCH 561 Urbanism Themes and Case Studies; ARCH 562 Architecture Themes and Case Studies; ARCH 563 Contemporary Architectural Theory; ARCH 564 Descriptive and Computational Architectural Geometry; ARCH 575a Systems: The Thermal Environment; ARCH 575b Systems: Luminous and Auditory Phenomena in Architecture; ARCH 605abL Graduate Architecture Design II; ARCH 611L Advanced Building Systems Integration; ARCH 705L Advanced Graduate Architecture Design - Topics; ARCH 793abL Architecture Directed Design Research Option I, or ARCH 795abL Architecture Thesis Option II.

### 102-unit Sample Curriculum - M.Arch. Professional Degree

| First Semester | | Units |
|---|---|---|
| ARCH 409L* | Design Foundation | 2 |
| ARCH 410* | Computer Transformations | 2 |
| ARCH 505aL | Graduate Architecture Design I - Principles | 6 |
| ARCH 511L | Building Systems: Materials and Construction | 4 |
| ARCH 514a | Global History of Architecture | 3 |
| ARCH 543 | Research Methods | 1 |
| | | 18 |
| **Second Semester** | | **Units** |
| ARCH 505bL | Graduate Architecture Design I - Site | 6 |
| ARCH 514b | Global History of Architecture | 3 |
| ARCH 523a | Structural Design and Analysis | 3 |
| ARCH 525 | Professional Practice: Pre-Design, Project and Office Administration | 3 |
| ARCH 575a | Systems | 3 |
| | | 18 |
| **Third Semester** | | **Units** |
| ARCH 523b | Structural Design and Analysis | 3 |
| ARCH 561 | Urbanism Themes and Case Studies | 2 |
| ARCH 562 | Architecture Themes and Case | 2 |

| | | Units |
|---|---|---|
| | Studies | |
| ARCH 605aL | Graduate Architecture Design II | 6 |
| ARCH 611 | Advanced Building Systems Integration | 4 |
| | | 17 |

| **Fourth Semester** | | **Units** |
|---|---|---|
| ARCH 563 | Contemporary Architectural Theory | 2 |
| ARCH 564 | Descriptive and Computational Architectural Geometry | 2 |
| ARCH 575b | Systems: Luminous and Auditory Phenomena in Architecture | 3 |
| ARCH 605bL | Graduate Architecture Design II | 6 |
| Electives | | 4 |
| | | 17 |

| **Fifth Semester** | | **Units** |
|---|---|---|
| ARCH 526 | Professional Practice: Legal and Economic Context, Project Documentation | 3 |
| ARCH 705L | Advanced Graduate Architecture Design - Topics | 6 |
| ARCH 793aL | Architecture Directed Design Research Option I, or | |
| ARCH 795aL | Architecture Thesis Option II | 2 |
| Electives | | 5 |
| | | 16 |

| **Sixth Semester** | | **Units** |
|---|---|---|
| ARCH 793bL | Architecture Directed Design Research Option I, or | |
| ARCH 795bL | Architecture Thesis Option II | 6 |
| Electives | | 10 |
| | | 16 |

*\* ARCH 409 and ARCH 410 will be taken as a fall semester special session prior to the first day of classes.*

## Admission with Advanced Standing (+2)

Advanced standing students must complete 64 units, including 35 units of specified courses, 21 units of electives or basic studies requirements and 8 units of Directed Design Research or Thesis. Electives and basic studies courses must be part of a curricular plan approved by the program director.

The required courses for the 64-unit M.Arch +2 Curriculum are: ARCH 410 Computer Transformations; ARCH 525 Professional Practice: Pre-Design, Project and Office Administration; ARCH 526 Professional Practice: Legal and Economic Context, Project Documentation; ARCH 543 Research Methods; ARCH 561 Urbanism Themes and Case Studies; ARCH 562 Architecture Themes and Case Studies; ARCH 563 Contemporary Architectural Theory; ARCH 564 Descriptive and Computational Architectural Geometry; ARCH 605abL Graduate Architecture Design II; ARCH 705L Advanced Graduate Architecture Design - Topics; ARCH 793abL Architecture Directed Design Research Option I, or ARCH 795abL Architecture Thesis Option II.

*64-unit Sample Curriculum*

| **Year One, Semester One** | | **Units** |
|---|---|---|
| ARCH 410 | Computer Transformations | 2 |
| ARCH 543 | Research Methods | 1 |
| ARCH 561 | Urbanism Themes and Case Studies | 2 |
| ARCH 562 | Architecture Themes and Case Studies | 2 |
| ARCH 605aL | Graduate Architecture Design II - Integration | 6 |
| Elective or Basic Studies | | 3 |
| | | 16 |

| **Year One, Semester Two** | | **Units** |
|---|---|---|
| ARCH 525 | Professional Practice: Pre-Design, Project and Office Administration | 3 |
| ARCH 563 | Contemporary Architectural Theory | 2 |
| ARCH 564 | Descriptive and Computational Architectural Geometry | 2 |
| ARCH 605bL | Graduate Architecture Design II - Comprehensive | 6 |
| ARCH 611 | Advanced Building Systems Integration | 4 |
| | | 17 |

| **Year Two, Semester One** | | **Units** |
|---|---|---|
| ARCH 526 | Professional Practice: Legal and Economic Context, Project Documentation | 3 |
| ARCH 705L | Advanced Graduate Architecture Design - Topics | 6 |
| ARCH 793aL | Architecture Directed Design Research Option I, or | |
| ARCH 795aL | Architecture Thesis Option II | 2 |
| Elective or Basic Studies | | 5 |
| | | 16 |

| **Year Two, Semester Two** | | **Units** |
|---|---|---|
| ARCH 793bL | Architecture Directed Design Research Option I, or | |
| ARCH 795bL | Architecture Thesis Option II | 6 |
| Elective or Basic Studies | | 9 |
| | | 15 |

## Master of Advanced Architectural Studies (M.AAS), Post-Professional Degree

This program is dedicated to cutting edge research and experimentation, and seeks to explore in a highly innovative fashion the cultural and technological landscapes of Los Angeles. Through its range of experimental 'Labs', the program is structured under three distinct veins of inquiry [1] architectural urban studies using Los Angeles as a laboratory to engage global issues; [2] advanced computation/fabrication technologies and material processes; and [3] performative architecture with an emphasis on sustainable systems. These specific design and research directions are diversely initiated by our faculty and fully supported by additional resources from the University of Southern California and the city of Los Angeles.

The Master of Advanced Architectural Studies is a three-semester advanced degree program. Consisting of two option-based topic studios followed by an in-depth Directed Design Research project [DDR], and coordinated seminar courses each for the first two semesters, the degree is focused on advanced and emerging topics in architecture. The design and research directions are diversely initiated by our faculty and fully supported by additional resources from the University at-large and the city of Los Angeles.

Candidates for admission must have a five-year Bachelor of Architecture degree or its equivalent. Completion of the degree requires 48 units, including 29 units of required studio and seminar courses, [including 8 units Directed Design Research or Thesis], and 19 units of approved electives, over three semesters of residency.

The required courses are ARCH 543 Research Methods; ARCH 606 Advanced Architectural Theory; ARCH 607 Advanced Computation; ARCH 608 Urban Theory: Los Angeles Case Study; ARCH 609 Advanced Fabrication; ARCH 702L Graduate Architecture Design - Themes; ARCH 705L Advanced Graduate Architecture Design - Topics; ARCH 793abL Architecture Directed Design Research Option I or ARCH 795abL Architecture Thesis Option II.

*48-Unit Sample Curriculum - Master of Advanced Architectural Studies (M.AAS) Post-Professional Degree*

| **First Semester** | | **Units** |
|---|---|---|
| ARCH | Advanced Architectural Theory | 2 |
| 606* | | |
| ARCH 607* | Advanced Computation | 2 |
| ARCH 608* | Urban Theory: Los Angeles Case Study | 2 |
| ARCH 609* | Advanced Fabrication | 2 |
| ARCH 702L | Graduate Architecture Design - Themes | 6 |
| | | 14 |

| **Second Semester** | | **Units** |
|---|---|---|
| ARCH 543 | Research Methods | 1 |
| ARCH 705L | Advanced Graduate Architecture Design - Topics | 6, max 12 |
| ARCH 793aL | Architecture Directed Design Research Option I, or | |
| ARCH 795aL | Architecture Thesis Option II | 2 |
| Elective | | 8 |
| | | 17 |

| **Third Semester** | | **Units** |
|---|---|---|
| ARCH 793bL | Architecture Directed Design Research Option I, or | |
| ARCH 795bL | Architecture Thesis Option II | 6 |
| Electives | | 11 |
| | | 17 |

*\* ARCH 606 and ARCH 607 will be taken the first half of the semester and ARCH 608 and ARCH 609 in the latter half of the semester.*

## Master of Landscape Architecture

USC offers an international laboratory for the study of place in an extraordinary natural landscape, at the center of an unparalleled multicultural region, within the context of a great urban university. Thus, the study of landscape architecture at USC has a particular focus on urban place-making in relation to three principles.

First, the programs are intended for students who already have earned a first degree or the equivalent in landscape architecture or architecture, as well as students entering design studies after obtaining a degree in another field. The emphasis is on truly advanced study based on the knowledge and skills to engage complex issues and to undertake ambitious explorations. Graduates are prepared for leadership opportunities in professional practice as well as in higher education.

A second emphasis is on urban landscapes, and on the responsibility of design professions to create the qualities and meanings of our urban futures and to make critical contributions to the reclamation of degraded natural systems and places.

Third, place-making is a collaborative responsibility that requires leadership from professionals across the entire domain of planning and design. This requires seamless relationships between programs, students and faculty engaged in architecture, landscape architecture, heritage conservation, building science and planning studies.

### Admission with No Previous Professional Education (+3)

Individuals who have completed a four-year Bachelor of Arts or Bachelor of Science degree, or its equivalent, with no prior degree in landscape architecture, architecture or environmental design, are eligible for admission to the program. Preference for admission is given to those who have completed a balanced undergraduate education that includes study in the arts, sciences and humanities. Applicants must document successful completion of a college-level course in the natural sciences. Preparation in the visual arts is strongly

encouraged. A minimum of a one-semester, college-level course in the visual arts, such as drawing, sculpture, graphics and/or basic design, is required before beginning the first semester of study. Courses in the humanities, ecology, history of art, landscape architecture and architecture are strongly encouraged, although not required.

### 96-Unit Curriculum +3

Students admitted with no previous professional education must complete 96 units, including 68 units of specified courses, 18 units of electives of which a minimum of 14 must be from the School of Architecture, and 10 units of Thesis Option I or II. Electives must be part of a curricular plan approved by the program director.

*Sample Curriculum +3 (for students with no previous professional education)*

| Year One, Semester One | | Units |
|---|---|---|
| ARCH 537L | Urban Plant Ecology: Environmental Perspectives | 4 |
| ARCH 539L | Media for Landscape Architecture | 2 |
| ARCH 541aL | Landscape Architecture Design | 6 |
| ARCH 565 | Global History of Landscape Architecture | 3 |
| | | 15 |

| Year One, Semester Two | | Units |
|---|---|---|
| ARCH 534 | Landscape Construction: Topographic Design | 3 |
| ARCH 538L | Urban Plant Ecology: Cultural Perspectives | 4 |
| ARCH 541bL | Landscape Architecture Design | 6 |
| ARCH 548 | Media for Landscape Architecture: 3D Design | 3 |
| Electives | | 1 |
| | | 17 |

| Year Two, Semester One | | Units |
|---|---|---|
| ARCH 531 | The Natural Landscape | 3 |
| ARCH 535 | Landscape Construction: Performance Approaches | 3 |
| ARCH 542aL | Landscape Architecture Design | 6 |
| ARCH 543 | Research Methods | 1 |
| ARCH 544 | Urban Landscape: Process and Place | 3 |
| | | 16 |

| Year Two, Semester Two | | Units |
|---|---|---|
| ARCH 542bL | Landscape Architecture Design | 6 |
| ARCH 545 | Urban Landscape: Contemporary History and Prospect | 3 |
| ARCH 635 | Landscape Construction: Assembly and Documentation | 3 |
| Electives | | 4 |
| | | 16 |

| Year Three, Semester One | | Units |
|---|---|---|
| ARCH 530 | Landscape Architecture Practice | 3 |
| ARCH 642L | Landscape Architecture Design | 6 |
| ARCH 697aL | M.L.Arch. Thesis Option II, or | |
| ARCH 698aL | M.L.Arch. Thesis Option I | 2 |
| Electives | | 5 |
| | | 16 |

| Year Three, Semester Two | | Units |
|---|---|---|
| ARCH 697bL | M.L.Arch. Thesis Option II, or | |
| ARCH 698bL | M.L.Arch. Thesis Option I | 8 |

| | | |
|---|---|---|
| Electives | | 8 |
| | | 16 |

### Admission with Advanced Placement (+2)

Applicants who have completed a non-accredited, pre-professional undergraduate degree in architecture, landscape architecture or environmental design may be granted advanced placement of one or two semesters, subject to the review of the admission committee. Applicants granted advanced placement may be able to waive certain course requirements for the MLA program by demonstrating equivalencies in any of the required courses. The program director and faculty in charge of the specific curriculum areas will determine the studio and professional course requirements for each MLA student admitted with advanced placement. The following courses are prerequisites to be completed prior to matriculation or, on specific notice, in the first year of the program: history of landscape architecture (ARCH 565 or equivalent), landscape architecture construction (ARCH 534, ARCH 535 or equivalent), plant materials (ARCH 537L, ARCH 538L or equivalent), media (ARCH 548 or equivalent).

### 64-Unit Curriculum +2

Advanced placement students must complete 64 units, including 37 units of specified courses, 17 units of electives of which a minimum of 12 must be from the School of Architecture, and 10 units of Thesis Option I or II. Electives must be part of a curricular plan approved by the program director.

*Sample Curriculum +2 (for advanced placement students admitted with pre-professional design degrees)*

| Year One, Semester One | | Units |
|---|---|---|
| ARCH 542aL | Landscape Architecture Design | 6 |
| ARCH 543 | Research Methods | 1 |
| ARCH 544 | Urban Landscape: Process and Place | 3 |
| ARCH 565 | Global History of Landscape Architecture | 3 |
| Electives | | 3 |
| | | 16 |

| Year One, Semester Two | | Units |
|---|---|---|
| ARCH 542bL | Landscape Architecture Design | 6 |
| ARCH 545 | Urban Landscape: Contemporary History and Prospect | 3 |
| ARCH 548 | Media for Landscape Architecture: 3D Design | 3 |
| Electives | | 4 |
| | | 16 |

| Year Two, Semester One | | Units |
|---|---|---|
| ARCH 530 | Landscape Architecture Practice | 3 |
| ARCH 531 | The Natural Landscape | 3 |
| ARCH 642L | Landscape Architecture Design | 6 |
| ARCH 697aL | M.L.Arch. Thesis Option II, or | |
| ARCH 698aL | M.L.Arch. Thesis Option I | 2 |
| Electives | | 2 |
| | | 16 |

| Year Two, Semester Two | | Units |
|---|---|---|
| ARCH 697bL | M.L.Arch. Thesis Option II, or | |
| ARCH 698bL | M.L.Arch. Thesis Option I | 8 |
| Electives | | 8 |
| | | 16 |

### Admission with a First Professional Degree in Landscape Architecture: Advanced Standing (+1.5)

Students who hold an accredited Bachelor of Landscape Architecture degree or the equivalent may be granted advanced standing in a post-professional 48-unit, three-semester sequence of studies.

### 48-Unit Curriculum +1.5

Advanced standing students must complete 48 units, including 19 units of specified courses, 19 units of electives of which a minimum of 12 must be from the School of Architecture, and 10 units of Thesis Option I or II. Electives must be part of a curricular plan approved by the program director.

*Sample Curriculum +1.5 (for advanced standing students admitted with a first professional degree in landscape architecture)*

| Year One, Semester One | | Units |
|---|---|---|
| ARCH 542aL | Landscape Architecture Design | 6 |
| ARCH 543 | Research Methods | 1 |
| ARCH 544 | Urban Landscape: Process and Place | 3 |
| Electives | | 6 |
| | | 16 |

| Year One, Semester Two | | Units |
|---|---|---|
| ARCH 542bL | Landscape Architecture Design | 6 |
| ARCH 545 | Urban Landscape: Contemporary History and Prospect | 3 |
| ARCH 697aL | M.L.Arch. Thesis Option II, or | |
| ARCH 698aL | M.L.Arch. Thesis Option I | 2 |
| Electives | | 5 |
| | | 16 |

| Year Two, Semester One | | Units |
|---|---|---|
| ARCH 697bL | M.L.Arch. Thesis Option II, or | |
| ARCH 698bL | M.L.Arch. Thesis Option I | 8 |
| Electives | | 8 |
| | | 16 |

*Sample Elective Courses for All Curricula*

| Electives | | Units |
|---|---|---|
| ARCH 404 | Topics in Modern Architecture in Southern California | 3 |
| ARCH 407 | Advanced Computer Applications | 4 |
| ARCH 440 | Literature and the Urban Experience | 4 |
| ARCH 507 | Theories of Computer Technology | 3 |
| ARCH 519 | Sustainability in the Environment: Infrastructures, Urban Landscapes and Buildings | 3 |
| ARCH 524 | Professional Practicum | 1, max 2 |
| ARCH 536 | The Landscape Planning Process | 3 |
| ARCH 540L | Topics in Media for Landscape Architecture | 2, max 6 |
| ARCH 546 | Topics in Landscape Architecture: Issues and Practices | 3, max 6 |
| ARCH 547 | Urban Nature | 3 |
| ARCH 548 | Media for Landscape Architecture: 3D Design | 3 |
| ARCH 549 | Fundamentals of Heritage Conservation | 3 |

| ARCH 550 | Heritage Conservation Policy and Planning | 3 |
|---|---|---|
| ARCH 552 | Introduction to Historic Site Documentation | 2 |
| ARCH 553 | History of American Architecture and Urbanism | 3 |
| ARCH 566 | Cross-Cultural Topics in Landscape Architecture History | 3, max 6 |
| ARCH 606 | Advanced Architectural Theory | 2 |
| ARCH 608 | Urban Theory: Los Angeles Case Study | 2 |
| ARCH 635 | Landscape Construction: Assembly and Documentation | 3 |
| PPD 417 | History of Planning and Development | 4 |
| PPD 461 | Sustainable Communities, Policy and Planning | 4 |
| PPD 527 | The Social Context of Planning | 2 |
| PPD 530 | Historic Analysis of Urban Form and Planning Practice | 2 |
| PPD 533 | Planning History and Urban Form | 2 |
| PPDE 632 | Sustainable Cities | 4 |
| SSCI 581 | Concepts for Spatial Thinking | 4 |
| SSCI 583 | Spatial Analysis | 4 |

### Thesis or Directed Research Option

In addition to the opportunity to initiate an independent written thesis, students are provided the option to undertake independent design research on important urban issues and projects already in progress within the School of Architecture. Whichever option is taken, students are supported in their work by a faculty advisory team including a principal critic.

## Master of Heritage Conservation

Completion of this degree requires 48 units and includes 17 units of specified courses, 8 units of thesis preparation and thesis, and 23 units of elective courses as approved by the program director.

| Required courses | | Units |
|---|---|---|
| ARCH 404 | Topics in Modern Architecture in Southern California | 3 |
| ARCH 549 | Fundamentals of Heritage Conservation | 3 |
| ARCH 550 | Heritage Conservation Policy and Planning | 3 |
| ARCH 551 | Conservation Methods and Materials | 3 |
| ARCH 552 | Introduction to Historic Site Documentation | 2 |
| ARCH 553 | History of American Architecture and Urbanism | 3 |
| ARCH 691abz | Heritage Conservation Thesis Preparation and Thesis | 2-6-0 |

### 48-Unit Sample Curriculum

| First Year, First Semester | | Units |
|---|---|---|
| ARCH 549 | Fundamentals of Heritage Conservation | 3 |
| ARCH 552 | Introduction to Historic Site Documentation | 2 |
| ARCH 553 | History of American Architecture and Urbanism | 3 |
| Electives | | 4 |
| | | 12 |

| First Year, Second Semester | | Units |
|---|---|---|
| ARCH 404 | Topics in Modern Architecture in Southern California | 3 |

| ARCH 550 | Heritage Conservation Policy and Planning | 3 |
|---|---|---|
| ARCH 691a | Heritage Conservation Thesis Preparation and Thesis | 2 |
| Electives | | 4 |
| | | 12 |

| Second Year, First Semester | | Units |
|---|---|---|
| Electives | | 12 |
| | | 12 |

| Second Year, second Semester | | Units |
|---|---|---|
| ARCH 551 | Conservation Methods and Materials | 3 |
| ARCH 691b | Heritage Conservation Thesis Preparation and Thesis | 6 |
| Electives | | 3 |
| | | 12 |

### Requirements for Advanced Standing

Students must have one of the following: an accredited graduate certificate in historic preservation or heritage conservation; professional degree or professional registration in architecture or engineering; graduate degree in a related field, such as architectural history, planning or history; and at least five years of teaching or practice (may be combined). Each student will be considered individually. Qualified students will be admitted to a three-semester program at the time of review of admission. Students with advanced standing must complete 36 units.

| Required courses | | Units |
|---|---|---|
| ARCH 404 | Topics in Modern Architecture in Southern California | 3 |
| ARCH 549 | Fundamentals of Heritage Conservation | 3 |
| ARCH 550 | Heritage Conservation Policy and Planning | 3 |
| ARCH 551 | Conservation Methods and Materials | 3 |
| ARCH 552 | Introduction to Historic Site Documentation | 2 |
| ARCH 553 | History of American Architecture and Urbanism | 3 |
| ARCH 691abz | Heritage Conservation Thesis Preparation and Thesis | 2-6-0 |

### 36-Unit Sample Curriculum

| First Year, First Semester | | Units |
|---|---|---|
| ARCH 549 | Fundamentals of Heritage Conservation | 3 |
| ARCH 552 | Introduction to Historic Site Documentation | 2 |
| ARCH 553 | History of American Architecture and Urbanism | 3 |
| Electives | | 4 |
| | | 12 |

| First Year, Second Semester | | Units |
|---|---|---|
| ARCH 404 | Topics in Modern Architecture in Southern California | 3 |
| ARCH 550 | Heritage Conservation Policy and Planning | 3 |
| ARCH 551 | Conservation Methods and Materials | 3 |
| ARCH 691a | Heritage Conservation Thesis Preparation and Thesis | 2 |
| | | 11 |

| Second Year, First Semester | | Units |
|---|---|---|
| ARCH 691b | Heritage Conservation Thesis Preparation and Thesis | 6 |
| Electives | | 7 |
| | | 13 |

## Master of Building Science

### Degree Requirements

Completion of this degree requires 48 units and includes 16 units of specified courses to include three core seminars and one research seminar; 17 units of elective courses; and 15 units of thesis and thesis preparation.

Core seminars are:

| ARCH 511L | Building Systems: Materials and Construction, or | |
|---|---|---|
| ARCH 611 | Advanced Building Systems Integration | 4 |
| ARCH 513L | Seminar: Advanced Structures | 4 |
| ARCH 515L | Seminar: Advanced Environmental Systems | 4 |

Research seminars are:

| ARCH 613L | Seminar: Structures Research, or | |
|---|---|---|
| ARCH 615L | Seminar: Environmental Systems Research | 4 |

### 48-Unit Sample Curriculum

| First Year, First Semester | Units |
|---|---|
| Core seminar(s) and/or research seminar(s) | 12 |
| | 12 |

| First Year, Second Semester | | Units |
|---|---|---|
| ARCH 596 | Building Science Thesis Preparation | 1 |
| Core seminar and/or research seminar | | 4 |
| Electives | | 7 |
| | | 12 |

| Second Year, First Semester | | Units |
|---|---|---|
| ARCH 692aL | Building Science Thesis | 6 |
| Electives | | 6 |
| | | 12 |

| Second Year, Second Semester | | Units |
|---|---|---|
| ARCH 692bL | Building Science Thesis | 8 |
| Elective | | 4 |
| | | 12 |

### Advanced Standing for Students with a Five-Year Professional Degree in Architecture

Applicants who have completed a five-year Bachelor of Architecture degree and at least five years of teaching or practice (may be combined), may be qualified for advanced standing. Each student will be considered individually. In such cases, the degree requirements are 36 units, including 8 units of specified courses, 15 units of thesis and thesis preparation and 13 units of electives. Students with advanced standing will typically be able to complete the degree program in three regular semesters. Admission with advanced standing is determined at the time of review for admission to the program.

### 36-Unit Advanced Standing Sample Curriculum

| First Year, First Semester | | Units |
|---|---|---|
| ARCH 511L | Building Systems: Materials and Construction, or | |
| ARCH 611 | Advanced Building Systems Integration | 4 |
| ARCH | Seminar: Advanced Structures | 4 |

| Architecture | | Units |
|---|---|---|
| 513L | | |
| ARCH 515L | Seminar: Advanced Environmental Systems | 4 |
| ARCH 596 | Building Science Thesis Preparation | 1 |
| | | 13 |

| First Year, Second Semester | | Units |
|---|---|---|
| ARCH 613L | Seminar: Structures Research, or | |
| ARCH 615L | Seminar: Environmental Systems Research | 4 |
| ARCH 692aL | Building Science Thesis | 6 |
| Electives | | 2 |
| | | 12 |

| Second Year, First Semester | | Units |
|---|---|---|
| ARCH 692bL | Building Science Thesis | 8 |
| Electives | | 3 |
| | | 11 |

## Dual Degrees

### Master of Advanced Architectural Studies/Master of Planning

The Master of Planning/Master of Advanced Architectural Studies dual degree program facilitates highly related cross-disciplinary studies in architecture and in planning at the master's level. This program offers students interested in developing a career in urban design an opportunity to make more substantial commitments in both disciplines and to achieve a more coherent and extensive knowledge in the design of built environments and public policy. This dual degree program normally requires five semesters in residence.

Qualified students who are admitted to the graduate programs in both the School of Architecture and the USC Price School of Public Policy may complete both degrees in a highly integrated five-semester program. Such students must already possess a five-year professional degree in architecture.

*Requirements*

Requirements for completion of the dual degree program are 72 units, including 36 units in architecture and 36 units in planning, as follows:

| Architecture | | Units |
|---|---|---|
| ARCH 543 | Research Methods | 1 |
| ARCH 606 | Advanced Architectural Theory | 2 |
| ARCH 607 | Advanced Computation | 2 |
| ARCH 608 | Urban Theory: Los Angeles Case Study | 2 |
| ARCH 609 | Advanced Fabrication | 2 |
| ARCH 702L | Advanced Graduate Architecture Design - Themes | 6 |
| ARCH 705L | Advanced Graduate Architecture Design - Topics | 6 |
| ARCH 793abL | Architecture Directed Design Research Option I, or | |
| ARCH 795abL | Architecture Thesis Option II | 2-6 |
| Elective* | | 7 |

*\* 5 units of electives taken within the School of Architecture.*

| Public Policy | | Units |
|---|---|---|
| PPD 500 | Intersectoral Leadership | 2 |
| PPD 501a | Economics for Policy, Planning and Development | 2 |
| PPD 524 | Planning Theory | 2 |
| PPD 525 | Statistics and Arguing from Data | 2 |
| PPD 526 | Comparative International Development | 2 |
| PPD 527 | The Social Context of Planning | 2 |
| PPD 529 | Legal Environment of Planning | 2 |
| PPD 533 | Planning History and Urban Form | 2 |

*Note: 2-unit courses may be offered in seven-and-a-half week blocks.*

*Concentration Methodology:* A 4-unit course selected from the concentration list shown in the Master of Planning program.

*Planning Studios:* PPD 531L (4, 4) to total 8 units. Students must complete 8 units of domestic or international planning studies under PPD 531L (4) to satisfy this requirement. A maximum of 12 units may be taken.

*Electives:* A total of 8 units of electives taken within the USC Price School of Public Policy.

Dual degree students, like all other MPl students, must take a comprehensive examination and fulfill the internship requirement.

### Master of Heritage Conservation/Master of Planning

The Master of Heritage Conservation/Master of Planning dual degree program facilitates highly related cross-disciplinary studies in heritage conservation and in urban planning at the master's level. The primary objective of the dual degree curriculum is to impart to students a basic familiarity with the origins and development of the philosophies, theories, and practices of planning and heritage conservation. This curriculum has been developed so that students will graduate from this program with a broad practical knowledge of the laws, regulations, and policies that apply to planning and conservation practice in the United States and internationally. This expertise will include knowledge of urban design, public policy, and architectural and planning history and theory. Students will be expected to understand the critical methodological tools necessary for a professional engaged in the investigation, interpretation, and evaluation of the urban built environment.

Qualified students who are admitted to the graduate programs in both the School of Architecture and the USC Price School of Public Policy may complete both degrees in a highly integrated five-semester program.

*Requirements*

Requirements for completion of the dual degree program are 60 units, including 30 units in heritage conservation and 30 units in planning, as follows:

| Architecture | | Units |
|---|---|---|
| ARCH 549 | Fundamentals of Heritage Conservation | 3 |
| ARCH 550 | Heritage Conservation Policy and Planning | 3 |
| ARCH 551 | Conservation Methods and Materials | 3 |
| ARCH 552 | Introduction to Historic Site Documentation | 2 |
| ARCH 553 | History of American Architecture and Urbanism | 3 |
| ARCH 555 | Global Perspectives in Heritage Conservation | 2 |
| ARCH 691abz | Heritage Conservation Thesis Preparation and Thesis | 2-6-0 |
| ARCH | Electives | 6 |
| Total | | 30 |

| Public Policy | | Units |
|---|---|---|
| PPD 500 | Intersectoral Leadership | 2 |
| PPD 501a | Economics for Policy, Planning, and Development | 2 |
| PPD 524 | Planning Theory | 2 |
| PPD 525 | Statistics and Arguing from Data | 2 |
| PPD 527 | The Social Context of Planning | 2 |
| PPD 529 | Legal Environment of Planning | 2 |
| PPD 531L | Planning Studio | 4 |
| PPD | Concentration - Gateway course | 4 |
| PPD | Concentration - Methodology course | 4 |
| PPD | Electives | 6 |
| Total | | 30 |

*Concentration Methodology:* Students in this program will be required to select a concentration for the Master of Planning program.

*Electives:* Electives must be taken within the USC School of Architecture or the Price School of Public Policy.

*Degree Completion Requirements:* Dual degree students, like all other MPL students, must take a comprehensive examination and fulfill the internship requirement. In addition, like all other MHC students, dual degree students will be expected to complete a thesis.

### Master of Landscape Architecture/Master of Planning

Qualified students who are admitted to the Master of Landscape Architecture program in the School of Architecture and to the graduate program in the USC Price School of Public Policy may complete both degrees in a highly integrated five-seven semester program.

Completion of the dual degree requires 24 units of courses in urban planning, 10 units of thesis option I or II and either 32 units of landscape architecture (for those students admitted with advanced standing); 48 units of landscape architecture (for those students admitted with advanced placement); or 74 units of landscape architecture (for those students admitted to the three-year curriculum).

*Master of Landscape Architecture (Advanced Standing)/Master of Planning*

Qualified students with a professional degree in landscape architecture who are admitted to the graduate program in the School of Architecture with advanced standing and to the USC Price School of Public Policy may complete both degrees in a highly integrated five-semester program.

Completion of the dual degree requires 66 units, including 32 units of courses in landscape architecture, 24 units of courses in urban planning, and 10 units of thesis option I or II.

| Landscape Architecture | | Units |
|---|---|---|
| ARCH 543 | Research Methods | 1 |
| ARCH 544 | Urban Landscape: Process and | 3 |

| Studios | | Units |
|---|---|---|
| ARCH 545 | Urban Landscape: Contemporary History and Prospect <br>Place | 3 |
| ARCH 697abzL | M.L.Arch. Thesis, Option II, or | |
| ARCH 698abzL | M.L.Arch. Thesis, Option I | 2-8-0 |

Electives: 13 units of elective courses taken in the School of Architecture.

*Electives must be 400-level and above.*

| Studios | | Units |
|---|---|---|
| ARCH 542abL | Landscape Architecture Design | 6-6 |
| Total units for MLA | | 42 |

| Planning | | Units |
|---|---|---|
| PPD 500 | Intersectoral Leadership | 2 |
| PPD 501a | Economics for Policy, Planning and Development | 2 |
| PPD 524 | Planning Theory | 2 |
| PPD 525 | Statistics and Arguing from Data | 2 |
| PPD 526 | Comparative International Development | 2 |
| PPD 527 | The Social Context of Planning | 2 |
| PPD 533 | Planning History and Urban Form | 2 |
| RED 573 | Design History and Criticism | 2 |

| Electives: 8 units of elective courses taken within the USC Price School of Public Policy. | Units |
|---|---|
| Total units for MPl | 24 |

Dual degree students, like all other MPl students, must take a comprehensive examination and fulfill the internship requirement.

| Total units for dual degree | 66 |
|---|---|

*Master of Landscape Architecture (Advanced Placement)/Master of Planning*

Qualified students who have completed a pre-professional undergraduate degree in landscape architecture or environmental design, or a professional degree in architecture and are admitted to the graduate program in the School of Architecture with advanced placement and to the USC Price School of Public Policy may complete both degrees in a highly integrated six-semester program.

Completion of the dual degree requires 82 units, including 48 units of courses in landscape architecture, 24 units of courses in urban planning, and 10 units of thesis option I or II.

| Landscape Architecture | | Units |
|---|---|---|
| ARCH 530 | Landscape Architecture Practice | 3 |
| ARCH 531 | The Natural Landscape | 3 |
| ARCH 543 | Research Methods | 1 |
| ARCH 544 | Urban Landscape: Process and Place | 3 |
| ARCH 545 | Urban Landscape: Contemporary History and Prospect | 3 |
| ARCH 548 | Media for Landscape Architecture: 3D Design | 3 |
| ARCH 565 | Global History of Landscape Architecture | 3 |
| ARCH 697abzL | M.L.Arch. Thesis, Option II, or | |
| ARCH 698abzL | M.L.Arch. Thesis, Option I | 2-8-0 |

Electives: 11 units of elective courses taken in the School of Architecture.

*Electives must be 400-level and above.*

| Studios | | Units |
|---|---|---|
| ARCH 542abL | Landscape Architecture Design | 6-6 |
| ARCH 642L | Landscape Architecture Design | 6 |

Total units for MLA: 58

| Planning | | Units |
|---|---|---|
| PPD 500 | Intersectoral Leadership | 2 |
| PPD 501a | Economics for Policy, Planning and Development | 2 |
| PPD 524 | Planning Theory | 2 |
| PPD 525 | Statistics and Arguing from Data | 2 |
| PPD 526 | Comparative International Development | 2 |
| PPD 527 | The Social Context of Planning | 2 |
| PPD 533 | Planning History and Urban Form | 2 |
| RED 573 | Design History and Criticism | 2 |

| Electives: 8 units of elective courses taken within the USC Price School of Public Policy. | Units |
|---|---|
| Total units for MPl | 24 |

Dual degree students, like all other MPl students, must take a comprehensive examination and fulfill the internship requirement.

| Total units for dual degree | 82 |
|---|---|

*Master of Landscape Architecture (Three-Year Curriculum)/Master of Planning*

Qualified students admitted to the Master of Landscape Architecture three-year curriculum in the School of Architecture and to the USC Price School of Public Policy may complete both degrees in a highly integrated seven-semester program.

Completion of the dual degree requires 108 units, including 74 units of courses in landscape architecture, 24 units of courses in urban planning, and 10 units of thesis option I or II.

| Landscape Architecture | | Units |
|---|---|---|
| ARCH 530 | Landscape Architecture | 3 |
| ARCH 531 | The Natural Landscape | 3 |
| ARCH 534 | Landscape Construction: Topographic Design | 3 |
| ARCH 535 | Landscape Construction: Performance Approaches | 3 |
| ARCH 537L | Urban Plant Ecology: Environmental Perspectives | 4 |
| ARCH 538L | Urban Plant Ecology: Cultural Perspectives | 4 |
| ARCH 539L | Media for Landscape Construction | 2 |
| ARCH 543 | Research Methods | 1 |
| ARCH 544 | Urban Landscape: Process and Place | 3 |
| ARCH 545 | Urban Landscape: Contemporary History and Prospect | 3 |
| ARCH 548 | Media for Landscape Architecture: 3D Design | 3 |
| ARCH 565 | Global History of Landscape Architecture | 3 |
| ARCH 635 | Landscape Construction: Assemblies and Documentation | 3 |
| ARCH 697abzL | M.L.Arch. Thesis, Option II, or | |

| ARCH 698abzL | M.L.Arch. Thesis, Option I | 2-8-0 |
|---|---|---|

Electives: 6 units of elective courses taken in the School of Architecture.

*Electives must be 400-level and above.*

| Studios | | Units |
|---|---|---|
| ARCH 541abL | Landscape Architecture Design | 6-6 |
| ARCH 542abL | Landscape Architecture Design | 6-6 |
| ARCH 642L | Landscape Architecture Design | 6 |
| Total units for MLA | | 84 |

| Planning | | Units |
|---|---|---|
| PPD 500 | Intersectoral Leadership | 2 |
| PPD 501a | Economics for Policy, Planning and Development | 2 |
| PPD 524 | Planning Theory | 2 |
| PPD 525 | Statistics and Arguing from Data | 2 |
| PPD 526 | Comparative International Development | 2 |
| PPD 527 | The Social Context of Planning | 2 |
| PPD 533 | Planning History and Urban Form | 2 |
| RED 573 | Design History and Criticism | 2 |

| Electives: 8 units of elective courses taken within the USC Price School of Public Policy. | Units |
|---|---|
| Total units for MPl | 24 |

Dual degree students, like all other MPl students, must take a comprehensive examination and fulfill the internship requirement.

| Total units for dual degree | 108 |
|---|---|

## Doctor of Philosophy in Architecture

The School of Architecture offers the Ph.D. in Architecture, designed to prepare individuals for university level teaching and professional research and for leadership positions in industry and professional architectural practice. Doctoral students must consult the Graduate School section for regulations and requirements pertaining to its degrees. Students should also consult the Academic Policies section for additional information.

Completion of degree requirements is assumed to take a minimum of three years of approved graduate study and research beyond the bachelor's degree in a related field or a bachelor's degree and related practical experience. For the Ph.D. student without Advanced Standing, a minimum of 48 graduate units completed in residence on the University Park Campus in Los Angeles is required. Full-time study is represented by enrollment in six units during the semester. Usually, the school and the student's qualifying exam committee insist on a clear and mutually understood commitment of time and energy by the student to ensure significant involvement in the doctoral learning experience.

### Application and Admission

Admission to the Ph.D. is granted by the Dean of the School of Architecture. However, only a letter from the Office of Graduate Admission constitutes an official offer of admission; correspondence with department chairs or individual faculty members does not constitute admission.

Priority consideration for Ph.D. student funding will be given to those applicants who submit all application materials by December 1. The university will continue to accept and consider applications submitted after December 1. Those who wish to submit applications after

the deadline should check with the School of Architecture. Applications for admission to the Ph.D. program are made once each year for fall semester admission.

The admission decision is made using criteria which include verification that the applicant has a bachelor's degree from an accredited college or university, has maintained a high grade point average in the last 60 units of undergraduate work and has earned a competitive score on the verbal and quantitative portions of the Graduate Record Examinations (GRE). Other elements of the applicant's educational and experiential background are also evaluated, including performance in other advanced degrees.

Each applicant should submit the following: (1) one copy of official transcripts of all previous college and university work (be sure that these official transcripts show an awarded degree where appropriate); (2) one copy of GRE scores; (3) copy of TOEFL or IELTS scores for international students whose first language is not English; (4) a 1000-word essay discussing the applicant's background; reasons for wanting to pursue a doctoral degree; and identifying his or her personal, educational and professional goals; (5) an up-to-date resume, including academic and professional accomplishments; (6) three letters of recommendation, at least two from previous instructors, others from instructors or from professional supervisors or colleagues (the letters should indicate the applicant's academic and professional accomplishments and potential); (7) a completed USC Graduate Admission Application, along with the nonrefundable application fee; and (8) samples of work such as a portfolio, publications, software programs, etc. The program is intended for people with considerable intellectual interests. Additional requirements for international students are listed under Admission of International Students.

Upon admission to the program, each student will be assigned a faculty adviser who will oversee his or her program.

## Doctoral Admission with Advanced Standing

Students entering with a Master of Architecture degree or Master of Building Science degree (or their equivalent) from USC or another university may be admitted with Advanced Standing. A minimum of 36 units of course work beyond the first graduate degree, exclusive of 794 Doctoral Dissertation preparation, is required for doctoral degree students with a USC Master of Building Science degree admitted with Advanced Standing. For those students entering with a Master of Architecture degree or Master of Building Science degree (or their equivalent) from another university and admitted with Advanced Standing, a minimum of 40 units of course work beyond the first graduate degree is required. Additional course work may be required if deemed necessary by the student's faculty. See Doctoral Admission with Advanced Standing in the Graduate School section.

## Transfer Credits

The application of any available transfer credits toward a graduate degree at USC will be determined by the School of Architecture, based on the semester units available for transfer as shown in the Transfer Credit Statement. Work experience in architecture or closely related activities should be of benefit to the students involved, but will not be considered equivalent to academic education. A maximum of 6 units of transfer credit may be applied toward a doctoral degree for those admitted with Advanced Standing. Admission with Advanced Standing is based upon a completed master's degree. The only course work available for transfer credit is course work taken after completion of that degree. No exceptions are allowed.

Students entering the doctoral program with a master's degree or graduate course work in a field other than architecture work may receive up to 12 units of transfer credit toward the Ph.D.

## Deferral of Enrollment

Admission to the university is granted for a specified semester, and it is expected that students will begin their programs during that semester. The school will normally allow students to defer their enrollment up to one year from the admission semester. Students who wish to defer enrollment should notify the school in writing no more than 60 days before the beginning of the semester of admission or they may be required to reapply for admission. Please note that more stringent regulations apply to international students. See the Graduate Admission section for further information.

## Admission to Candidacy

Acceptance to graduate standing does not in itself imply that the student is admitted or will be admitted to candidacy for an advanced degree. Application for admission as a candidate for an advanced degree is a separate and subsequent step. See the Graduate School section for further information.

## General Requirements for the Ph.D. Degree

### Screening Procedures

Ph.D. students are required to pass a screening procedure before the student has taken more than 24 units (including research courses). Passing this procedure is prerequisite to continuation in the doctoral program. This is designed to ensure that only those students who have demonstrated intellectual and scholarly potential continue in the program. Students who fail the screening procedure will be advised that they have not been recommended to continue in the Ph.D. program and that any additional work may not be counted toward the degree.

Prior to screening, each student prepares a résumé and a preliminary statement describing the fields of specialization. After passing the written screening examination, the student meets with the committee to discuss the proposal for course work, fields of specialization and research interests. The committee chair serves as the student's principal adviser in preparing for the qualifying examination.

### Qualifying Exam Committee

Each student selects a qualifying exam committee, which officially oversees the student's academic program through the qualifying examination. The qualifying exam committee should be established at least one semester prior to taking the qualifying examination. This should be accomplished by the beginning of the second year, following successful screening. An appointment of committee form, which can be obtained from the Graduate School Website (usc.edu/schools/GraduateSchool), should be used to establish the qualifying exam committee. Students initiate the paperwork and submit the signed form to the dean's office.

Five committee members are designated to provide guidance in the field developed by the student. A minimum of three members, including at least one tenured member, must be from among the faculty participating in the Ph.D. in Architecture degree program, and at least one member must be from outside the School of Architecture. This committee bears responsibility for recommending the student for admission to candidacy. After approval of the student's program and time schedule, the program is submitted in writing to the

doctoral director. Students will formalize their relationship with their committees through the development of a study plan which specifies all courses completed, date of screening decision, the area of concentration, and which courses will be taken and when, in order to prepare for the qualifying examination. This study plan will be signed by the student, the members of the qualifying exam committee and the faculty doctoral director. It will be filed in the doctoral office.

### Qualifying Examination

Students must complete at least 24 units of course work in the doctoral program with a GPA of at least 3.0 before attempting the qualifying exam.

The qualifying exam committee prepares a comprehensive written examination covering the field of study. The exact format for the written portion is determined by each committee in advance. Answers to the questions in the written portion are graded by all committee members. Following completion of the written portion, the entire committee conducts an oral examination of the student, focusing on material both complementary and supplementary to the written examination but relevant to the field and overall program selected by the student. Upon passing both portions of the qualifying examination, the student becomes a candidate for the Ph.D. degree.

The objective of the qualifying examination is to evaluate the student's knowledge and to serve as an instrument to demonstrate competence in the student's chosen field of concentration in preparation for candidacy. Qualifying examinations are scheduled once each year during August. The oral phase of the examination must be completed within 60 days following the written segment. Both parts of the examination must be passed in order to qualify. Failure on one of the two parts of the examination does not require retaking both parts. Only the part failed must be redone.

The examination will be collaboratively designed by the instructors of the core courses and oriented toward testing students' ability to integrate material from these courses. A portion of this examination will focus on methodological issues. The written portion of the examination will be administered during a full-day session.

The process of grading examinations will be accomplished in two ways. For the written examination, the grading will be done by a committee comprising the core course instructors and the doctoral director. For the oral examination, grading will stay with the qualifying exam committee. Upon passing both the core and oral portions of the examination, the student will be expected to reduce the qualifying exam committee to a dissertation committee. See General Requirements for the Doctor of Philosophy Degree.

### Dissertation Committee

Once students pass the qualifying examination, the qualifying exam committee recommends the student for candidacy and a dissertation topic is approved, a dissertation committee must be formed as soon as possible. The size may range from three to five members, one member of which must be from outside the school.

### Dissertation Proposal

After the successful completion of the qualifying examination, the doctoral student will be required to present a complete research proposal for the dissertation. The proposal will be circulated for review and evaluation by the dissertation committee. This proposal should include the methodology, research design, literature review and instrumentation (if applicable). After this step

has been completed, further work leading to the completion of the dissertation is authorized.

*Defense of the Dissertation*

Oral defense of the dissertation before the dissertation committee is usually made on a preliminary draft. After the dissertation committee has approved the dissertation in substance, the candidate must defend it before the committee and other interested doctoral program faculty and colleagues. Successful completion of the oral defense marks the ultimate step for the candidate within the School of Architecture. The candidate must be certain that the dissertation also meets specific university requirements before acceptance by the Graduate School. See the Graduate School section for further information.

All theses and dissertations submitted in fulfillment of requirements for graduate degrees must conform to university regulations with regard to format and method of preparation.

### Unit Requirement and Time Limit

The Ph.D. degree in Architecture requires a minimum of 72 units (including a minimum of 4 units of ARCH 794) of graduate level course work, and has a minimum residency requirement of three years. Students must maintain a 3.0 average GPA and complete all required course work within five years. The maximum time for the completion of all requirements for the doctoral degree is eight years.

A leave of absence can be granted upon approval of the guidance or dissertation committees. There is no automatic readmission if the student fails to maintain continuous registration or fails to meet academic standards.

### Core Curriculum

Year 1: Basic and professional studies

Acquire at a minimum the knowledge that is characteristic of the master's degree students or equivalent and define the research program.

Year 2: Advanced studies

Year 3: Research and dissertation

While a Master of Architecture or related degree is not a prerequisite for admission, those students entering the doctoral program without a master's degree in architecture or related field will be required to complete a core curriculum.

| Required Courses | | Units |
|---|---|---|
| ARCH 419 | Architectural Sustainability Tools and Methods | 3 |
| ARCH 513L | Seminar: Advanced Structures | 4 |
| ARCH 515L | Seminar: Advanced Environmental Systems | 4 |
| ARCH 519 | Sustainability in the Environment: Infra-structures, Urban Landscapes and Buildings | 3 |
| ARCH 611 | Advanced Building Systems Integration | 4 |
| ARCH 613L | Seminar: Structures Research | 4 |
| ARCH 615L | Seminar: Environmental Systems Research | 4 |
| ARCH 790 | Doctoral Research | 20 |
| ARCH 791 | Proposal for Doctoral Dissertation | 1 |
| A minimum of 4 units of: | | |
| ARCH 794abz | Doctoral Dissertation | 2-2-0 |
| GRSC 850ab | The Professoriate: Preparing for the Future | 2-2 |
| Electives | | 17 |

## Courses of Instruction

## Architecture (ARCH)

*All courses must be taken in sequential order, a before b.*

*The terms indicated are expected but are not guaranteed. For courses offered during any given term, consult the* Schedule of Classes.

**ARCH 102abL Architectural Design I (4-4, FaSpSm)** Introduction to principles and processes; sequence of exercises emphasizing development of basic skills, ideas, and techniques used in the design of simplified architectural projects.

**ARCH 105L Fundamentals of Design Communication (2, Fa)** Visual communication techniques applicable to the design of the built environment; drawing, photography, modeling.

**ARCH 106x Workshop in Architecture (2, FaSp)** Introduction to the ways architecture is created and understood, for minors and non-majors. Hands-on discussion and laboratory session with some drawing and model building. Not available for credit to architecture majors.

**ARCH 114 Architecture: Culture and Community (2, Fa)** Introduction to the ways architecture represents aspirations of culture, satisfies practical and spiritual needs, shapes the social and urban environment, and helps preserve the planet.

**ARCH 202abL Architectural Design II (6-6, FaSpSm)** *Continuing development of principles and processes; sequence of projects selected to broaden awareness of design issues at various scales in the urban context. Prerequisite: ARCH 102bL.*

**ARCH 203 Visualizing and Experiencing the Built Environment (4)** Methods for direct observation and recording of the directly experienced built environment through drawing, diagramming, photographing, and writing. Course includes exercises and field experience.

**ARCH 205abL Building Science I (4-4, FaSp)** *The process and communication of building design: physical building shell, systems for structure, enclosure, and space ordering. Prerequisite: CE 107.*

**ARCH 207 Computer Applications in Architecture (2, Fa)** Introduction for the non-programmer to the uses of the computer in architecture, including the application of existing programs and their implications for design. Overview and use of software types. Lecture and laboratory.

**ARCH 211 Materials and Methods of Building Construction (3, Sp)** Basic considerations and design implications of the problem of determination of the materials and construction details and processes for buildings.

**ARCH 213ab Building Structures and Seismic Design (3-3, FaSp)** *a: Investigation and design of elements and systems for building structures; applied mechanics, strength of materials, structural investigation as a design tool. b: Investigation and design of structure systems: their resistance to seismic and wind forces and integration with architectural design for synergy of form and structure. Recommended preparation:* PHYS 125 and MATH 108.

**ARCH 214ab World History of Architecture (a: 3, Sp; b: 3, Fa)** *A world-wide perspective of architectural history as a product of social, cultural, religious, and political dimensions, a: 4500 BCE to 1500 CE; b:* 1500 CE to present.

**ARCH 215 Design for the Thermal and Atmospheric Environment (3, Fa)** Ideas, problems, and computations related to the design of buildings in response to the thermal and atmospheric environment; passive solar systems, mechanical control systems.

**ARCH 220 The Architect's Sketchbook (2, FaSp)** The architect's sketchbook as a portable laboratory for perceiving and documenting space introduces the study of the built environment. On-site sessions develop drawing, observation, and visualization skills.

**ARCH 302abL Architectural Design III (6-6, FaSp)** *Special integrative year including design issues relating to housing. Prerequisite: ARCH 202bL.*

**ARCH 303 Principles of Spatial Design I (4)** *Introduction to design principles and processes; sequence of exercises emphasizing development of basic skills, ideas, and techniques used in the creation of simplified urban space design projects. Prerequisite:* ARCH 203.

**ARCH 304x Intensive Survey: Prehistory to the Present (4, Fa)** An intensive historical overview of architecture from prehistory to the present, emphasizing interrelationships of various global cultures and how social considerations were translated into form. Not available for credit to architecture majors.

**ARCH 305abL Building Science II (4-4, FaSp)** *The design of a building as a complex of interacting systems; relations of subsystems; influences of production and marketing on design. Prerequisite: ARCH 205abL.*

**ARCH 306m Shelter (4, Sp)** Investigation of issues, processes, and roles of individuals, groups and communities in relation to present and future shelter needs and aspirations.

**ARCH 307 Digital Tools for Architecture (3)** *Exploration of digital tools with an emphasis on building information modeling (BIM), parametric modeling, and interoperability including special topics in Architecture/Engineering/Construction (AEC) and sustainable design. Recommended preparation:* basic computer skills.

**ARCH 313 Design of Building Structures (3, Fa)** *Problems and processes of design of building structures; structural investigation for design; codes and standards; design of elements and systems of wood, steel, masonry, and concrete for gravity and lateral loads. Prerequisite: ARCH 213a.*

**ARCH 314 History of Architecture: Contemporary Issues (3, Fa)** *Examination of the buildings, issues and images, the polemics and personalities that are animating current architectural discourse and practice. Prerequisite: ARCH 214b.*

**ARCH 315 Design for the Luminous and Sonic Environment (3, Sp)** Ideas, problems, and computations related to the design of buildings in response to the luminous and sonic environment.

**ARCH 316 Place and Culture (3, FaSpSm)** (Study abroad programs only) Study of the relationships between places and culture through readings, lectures, discussion and weekly field trips.

**ARCH 326 The Modern Movement in Architecture (4, Sp)** Major theories of modern architecture are presented by studying the work of

masters such as: Gropius, Mies van der Rohe, Corbusier, and Kahn.

**ARCH 341 History of Italian Architecture 1400-1990 (4, Sp)** Introduction to the important buildings, architects and architectural movements in Italy from the Renaissance to the present.

**ARCH 361L Ecological Factors in Design (3, Fa)** Lectures, laboratory exercises and field trips introduce basic knowledge of incorporating ecological factors in urban design and interaction of landscape science with the human environment.

**ARCH 363 Plant Material Identification: Horticulture (4, Fa)** Introduction to 300 species of plantings. Learn visual characteristics, nomenclature, cultural considerations, and design applications through visits to existing gardens.

**ARCH 370 Architectural Studies – Expanding the Field (2)** Survey of opportunities, specializations, and professions related to architecture provides a resource for professional growth for architecture majors, and introduction to the field for non-majors.

**ARCH 390 Special Problems (1-4, FaSp)** Supervised, individual studies. No more than one registration permitted. Enrollment by petition only.

**ARCH 402abL Architectural Design IV (6-6, FaSpSm)** *Selected areas of specialization; three projects chosen with advisement from a variety of studio offerings that concentrate on different areas of vital concern. Prerequisite: ARCH 302bL.*

**ARCH 403 Principles of Spatial Design II (4)** *Emphasis on developing advanced urban spatial design solutions set within contemporary urban conditions, with a particular emphasis on ecology, public space, neighborhoods and districts. Prerequisite:* ARCH 303.

**ARCH 404 Topics in Modern Architecture in Southern California (3, Sp)** Investigation of modern architecture in southern California within its cultural and historic contexts.

**ARCH 405abL Building Science III (4-4, FaSp)** *Design of building systems as an experimental process. Prerequisite: ARCH 305abL.*

**ARCH 406 Global Studies: Topics in Architecture, Urbanism, History and Art (2, max 6)** *Offered for particular geographic areas of study. Required prerequisite for all full semester undergraduate global programs. Also intended for general interest in focused study on particular geographic area. Prerequisite: ARCH 214ab or ARCH 304.*

**ARCH 407 Advanced Computer Applications (4, Fa)** *Investigation of computer graphic applications, emphasizing the role of computers in helping designers create and communicate using color (rendering), form (modeling), and time (animation) and the implications of future technological advancements. Prerequisite:* ARCH 207 and ARCH 307, CADD studio or departmental approval.

**ARCH 409L Design Foundation (2, Fa)** Introduction to basic architectural design principles for problem solving scenarios; foundational architectural design course for systematic thinking.

**ARCH 410 Computer Transformations (2, FaSpSm)** To explore the potential of computer-integrated design software; to develop techniques for critical analysis of architectural precedents; to expand the ability to visualize options; to expand perception; and to learn the basics of computer-integrated design.

**ARCH 411 Architectural Technology (3, Sp)** *Architectural design considered as a technological problem; influence of technology on design; buildings as integrated sets of subsystems. Prerequisite: ARCH 313.*

**ARCH 412L GeoDesign Practicum (4, FaSp)** *(Enroll in SSCI 412L)*

**ARCH 414 Perspectives in History and Theory in Architecture (2, max 6)** *Perspectives in Architecture and Urbanism is an advanced course that allows students to delve deeply into one aspect of world history, theory and/or contemporary issues to develop more focused and critical understanding of that discourse. Prerequisite: ARCH 214a, ARCH 214b or ARCH 304.*

**ARCH 417 Computer Programming in Architecture (3, Fa)** Principles underlying computer programming, emphasizing algorithms, procedures, and program structures applicable to architecture.

**ARCH 418 Designing with Natural Forces (3, Fa)** Investigation of natural force effects and their relationships to architecture; laboratory work includes drawing, photography, model building and tests on models.

**ARCH 419 Architectural Sustainability Tools and Methods (3, Sp)** Lectures, comparative studies and exercises on international architectural sustainability rating and certification systems.

**ARCH 420 Visual Communication and Graphic Expression (3, Fa)** *An exploratory study of fundamental and innovative visual communication principles and graphic expression techniques to facilitate the design enquiry process for architects. Prerequisite: ARCH 302b.*

**ARCH 421 Digital Architectural Photography (2, FaSp)** Perceiving and documenting the built environment through the perspective and frame of the digital camera. Mastering the basic principles of the digital image through an understanding of frame, light, exposure, color correction, and printing output.

**ARCH 422L Architectural Photography – Film and Digital (3, FaSp)** See how light alters the visual impact of architectural forms; master high-resolution images both with film and digital; become a professional image developer/processor utilizing photographic software.

**ARCH 423 Light, Color and the Character of Material (2, Sp)** *Color theory, constructed drawings, constructed shadows, descriptive geometry, constructed perspective drawing, and layered wash techniques lead to experimentation with methods representing materiality and construction in design projects. Prerequisite: ARCH 105L.*

**ARCH 424L Field Studies in Architecture (2, FaSpSm)** *(Study abroad programs only.) Field studies using direct observation, site recordings/documentation, analysis and evaluation supplemented by discussions and readings in architecture. Department approval. Recommended preparation: core curriculum.*

**ARCH 425L Field Studies in Urbanism (2, FaSpSm)** *(Study abroad programs only.) Field studies using direct observation, site recordings/documentation, analysis and evaluation supplemented by discussions and readings in urbanism. Departmental approval. Recommended preparation: core curriculum.*

**ARCH 426L Field Studies in Tectonics (2, FaSpSm)** *(Study abroad programs only.) Field studies using direct observation, site recordings/documentation, analysis and evaluation supplemented by discussions and readings in tectonics. Departmental approval. Recommended preparation: core curriculum.*

**ARCH 430 Design Teaching Methods (2)** *The teaching of architectural design is introduced through readings, seminar discussions, and the observation of teaching in action. In addition to a one hour per week seminar, each student will participate in a design practicum. Prerequisite: ARCH 302L.*

**ARCH 432 People, Places and Culture: Architecture of the Public Realm (4, Sp)** Critical observation of the architecture of public buildings and places and the importance of design in promoting a better contemporary public life.

**ARCH 434 City Cine: Visuality, Media and Urban Experience (4, Sp)** Exploration of the relationship between urban experience and visual media (from the photographic, to the filmic, to the digital) from circa 1880 to the present.

**ARCH 440m Literature and the Urban Experience (4, Sp)** Post-industrial revolution urban environments and dynamic relationships in cities such as Manchester, Paris, St. Petersburg, New York, and Los Angeles, as revealed in novels, architecture, and urban forms.

**ARCH 441 A History of Architectural Theory: 1400-1914 (2, Fa)** A seminar on architectural theory from Alberti to Scott, reviewing primary texts and subsequent criticisms.

**ARCH 442m Women's Spaces in History: "Hussies," "Harems" and "Housewives" (4, Fa)** Methods for studying patterns of spatial differentiation of women throughout history from home to city embodied in gender specific language and gendered spaces.

**ARCH 444 Great Houses of Los Angeles (4, FaSp)** An introduction to the architectural philosophies of seven influential California architects through readings and site visits to significant case studies. (Duplicates credit in former ARCH 322.)

**ARCH 454 Contemporary Asian Architecture (4, Fa)** Exploration of various "Asian" architectures, comparisons of areas, identifying current trends and impact of Asia on Southern California and Los Angeles.

**ARCH 463 Plant Material Identification: California Plant Communities (4, FaSp)** *Expand plant material vocabulary to include native plants of Southern California. Emphasis on bioengineering techniques for site design. Prerequisite: ARCH 363.*

**ARCH 465 History of Landscape Architecture (4, FaSp)** Provides understanding of design of landscape in the Western world. Includes case studies on general and specific projects. Students develop personal theory of landscape design. (Duplicates credit in former ARCH 365.)

**ARCH 470 Concentration Capstone Seminar (4, Sp)** Collaborative research project and research paper in an area of concentration. Senior standing.

**ARCH 481 Furniture Design (2, FaSp)** An investigation into 20th century furniture design and its relationships to architecture, art and design.

**ARCH 490x Directed Research (1-8, max 12, FaSpSm)** Individual research and readings. Not available for graduate credit.

**ARCH 499 Special Topics (2-4, max 8, FaSpSm)** Selected topics in various specialty areas of architecture.

**ARCH 500azL Comprehensive Architectural Design (6-0, Fa)** *Selected areas of specialization; projects chosen from a variety of studio offerings, all with an emphasis on the comprehensive design of buildings. Prerequisite: 402abL; corequisite: ARCH 501.*

**ARCH 501 Critical Topics in Architecture (2, Fa)** *Seminar supporting the research, development, and writing of Degree Project Paper provides a comprehensive base of information for the final Bachelor of Architecture studio. Prerequisite: ARCH 402bL.*

**ARCH 502azL Architectural Design V (6-0, Sp)** The final comprehensive architectural project under the guidance of a faculty adviser to demonstrate architectural knowledge, skills, and professional interests and goals. Graded IP.

**ARCH 505abL Graduate Architecture Design I (6-6, FaSp)** A general introduction to architectural principles, intended to develop design and critical thinking skills and proficiency to communicate those ideas effectively. Open to graduate architecture majors only.

**ARCH 507 Theories of Computer Technology (3, FaSp)** Fundamental theories and meanings of computation as a technique in architectural design. Lecture/discussion.

**ARCH 510 Independent Degree Project Preparation (1, Fa)** *Research and analysis, including written and graphic components, that tests a question/proposition in detail in preparation for Independent Degree Project Document. Corequisite:* ARCH 501.

**ARCH 511L Building Systems: Materials and Construction (4, Fa)** Studies of construction system development within the architectural design context; processes and issues of selection, evaluation, optimization, integration, design control, and innovation. Departmental approval.

**ARCH 512 Material + Process: Material Systems (2)** *Confronts the conventional concepts behind modern building science and material applications, reapplying the processes of fabrication and methods of construction to investigate materiality. Prerequisite: ARCH 211 or ARCH 511L.*

**ARCH 513L Seminar: Advanced Structures (4, Fa)** Issues and problems in the development of structural systems for buildings; design criteria, system choice, design development, optimization, subsystem integration.

**ARCH 514ab Global History of Architecture (3-3, FaSp)** *A historical survey of global architecture, analyzed as a product of social, cultural, religious and political forces. a: 4500 BCE to 1500 CE; b:* 1500 CE to present.

**ARCH 515L Seminar: Advanced Environmental Systems (4, Fa)** A compressed course in design criteria and calculation methods for mechanical and passive solar systems (loads, plant system, duct, and storage sizing) and lighting and acoustics (CIE and IES methods, dBA and NC systems).

**ARCH 517 Current Topics in Building Science (1, max 6)** Critical studies in building science ranging from sustainability, lighting, acoustics, materials and methods, structures, energy issues, digital media, and fabrication. Students focus on minimum of two topics.

**ARCH 518 Advanced Surface Tectonics: Methods in Material and Enclosure (2, Fa)** *Studies in contemporary building systems through analysis, research, and computational methods leading to the design of a prototypical building surface. Recommended preparation: A prior knowledge of fundamental building systems and 3D modeling.*

**ARCH 519 Sustainability in the Environment: Infrastructures, Urban Landscapes, and Buildings (3, Fa)** Methodologies and exercises on contextual design and environmentally sound technologies (EST's) applications for the sustainability of urban infrastructures, operative landscapes, and building integration in the urban system.

**ARCH 520 Housing and Community Design for an Aging Population (2)** Exploration of the role design plays in enhancing independence and well-being for older people by examining cross-cultural models of housing and community design.

**ARCH 521 Health and the Designed Environment: Landscape, Place, and Architecture (4)** Case study-oriented course presenting critical relationships between human health and well-being and architectural and landscape architectural design at three scales: buildings, public space, and the urban landscape.

**ARCH 523abL Structural Design and Analysis (3, FaSp)** *a. Introduction to behavior and analysis of building structures. Structural loading, materials, and element types will be explored to understand the basic building blocks of buildings. b. Investigation and design of building structural systems for gravity, wind and seismic loading. Comprehensive design exploration of framing type, materials, detailing, layout, form and integration. Recommended preparation:* One-semester college-level course in physics or calculus.

**ARCH 524 Professional Practicum (1, max 2, FaSpSm)** *Comparative studies of professional practice between U.S. firms and firms in other countries. Open to international upper-division and graduate architecture students only. Graded CR/NC. Prerequisite: ARCH 202bL or ARCH 505aL or ARCH 605aL.*

**ARCH 525 Professional Practice: Pre-Design, Project and Office Administration (3, Fa)** *Design methodology, typology programming, site analysis, budget formulation and pro-forma procedures. Office management, emphasizing professional service and professional ethics as well as project management focusing on the architect's responsibilities during construction. Prerequisite: ARCH 202bL or ARCH 505aL or ARCH 605aL.*

**ARCH 526 Professional Practice: Legal and Economic Context, Project Documentation (3, Sp)** *Design methodology, typology programming, site analysis, budget formulation and pro-forma procedures. Office management, emphasizing professional service and professional ethics as well as project management focusing on the architect's responsibilities during construction. Prerequisite: ARCH 500a or ARCH 605b.*

**ARCH 527 Case Studies: The Development of Urban Housing (2, Fa)** *An exploration of the various elements and stages of the housing development process. Recommended preparation:* a preliminary understanding of real estate or housing.

**ARCH 528 Urban Housing: Types and Typologies (2, Fa)** *Applications and precedents for the architect interested in designing multi-family housing. Review of the sources of modern housing types, the impact of building codes and technology on the form and construction of housing, and study of housing densities; comparative analysis of multi-family residential patterns. Major emphasis on critical knowledge of historic housing typologies as they are applied to site conditions and groupings, building form, section, organization, and the design of individual dwellings. Recommended preparation:* two years of undergraduate architectural studies.

**ARCH 529 Urban Housing: Programs, Precedents, and Recent Case Studies (2, Sp)** *Historical overview of the major domestic and international housing developments and innovations since the early 20th century. Case study format examining a wide range of issues that determine the form of urban housing in various cultures. Major emphasis on the detail analysis of social, technical, and design factors affecting recent housing developments. Recommended preparation:* two years of undergraduate architectural studies.

**ARCH 530 Landscape Architecture Practice (3, FaSp)** Introduction to the principles and ethics, scope and activities, and types of organization for landscape architecture practice. (Duplicates credit in former ARCH 630.)

**ARCH 531 The Natural Landscape (3, FaSp)** Lectures, laboratory exercises and field trips introducing basic knowledge of the continually transforming landscape as a base for human settlement.

**ARCH 532 Elements of the Urban Landscape (2, Fa)** Study of the basic spatial and infrastructure elements of the city, and how urban places are formed. Typological analysis of buildings, open space, and urban patterns.

**ARCH 533 Urban Landscape Case Studies (2, Sp)** Lectures, discussion, and individual research on the physical, formal, and spatial characteristics of historical urban centers.

**ARCH 534 Landscape Construction: Topographic Design (3, Sp)** Techniques, strategies, materials, and standards to topographic design and construction in landscape architecture. In-class labs practice basic grading, drainage design, and stormwater management.

**ARCH 535 Landscape Construction: Performance Approaches (3, Fa)** Develop tools and knowledge to expand the performative boundaries of landscape architecture beyond common typologies. Topics range from ecological infrastructure to design with weather patterns. A systematic approach to case studies, landscape technologies, and field trips seeds the knowledge base and respresentational methods necessary to design and build these complex landscape performances.

**ARCH 536 The Landscape Planning Process (3, FaSp)** Methods of assessing urban places regarding natural, social, cultural and political factors; identification of landscape architecture planning and project implementation issues and strategies.

**ARCH 537L Urban Plant Ecology: Environmental Perspectives (4, Fa)** Principles and concepts of plant ecology for urban planting design; introduction to California native plant species and communities with field trips and case studies. One lecture and one lab each week.

**ARCH 538L Urban Plant Ecology: Cultural Perspectives (4)** *Cultural perspectives of urban planting design and plant species found in Southern California emphasizing aesthetic, functional and ecological designs. One lecture and one lab each week. Prerequisite: ARCH 537L.*

**ARCH 539L Media for Landscape Architecture (2, Fa)** Development of methods and skills for the study of landscape architecture design and for project presentation, including natural resource and urban mapping.

**ARCH 540L Topics in Media for Landscape Architecture (2, max 6, FaSp)** Exploration of emerging techniques for landscape architecture study, presentation and documentation; topics vary from year to year; may be repeated for credit when subject matter is different.

**ARCH 541abL Landscape Architecture Design (6-6, FaSp)** *a: Projects on urban sites with emphasis on cultural and ecological purpose and on urban place and*

form; use of traditional and digital media. *b:* Projects in urban settings with emphasis on landscape continuities as well as development of integrative schematic proposals and detailed open space design.

**ARCH 542abL Landscape Architecture Design (6-6, FaSp)** *a: Project strategies for urban infrastructure repair and intervention, phasing, and design of initial catalytic projects. Prerequisite: ARCH 541bL. b: Projects for the public realm with emphasis on urbanity and connectivity, place and meaning.*

**ARCH 543 Research Methods (1, Fa)** Introduction to methods of inquiry and documentation including critical review of published materials, techniques for systematic observation, generating findings from comparative studies of relevant precedents and problems, and legible presentation of outcomes.

**ARCH 544 Urban Landscape: Process and Place (3, Fa)** Projects are examined as incremental interventions in the formation and qualities of the evolving urban landscape. Case studies are explored to understand purposes, typologies, catalytic capacities, and strategies for urban landscape design.

**ARCH 545 Urban Landscape: Contemporary History and Prospect (3, Sp)** Explores contemporary landscape architecture propositions and projects in the context of cities. The exploration methodology includes the study of epochal projects and theoretical texts organized by central themes of nature and culture.

**ARCH 546 Topics in Landscape Architecture: Issues and Practices (3, max 6)** A broad range of developing urban landscape conditions and issues, both domestic and global, are given focused attention.

**ARCH 547 Urban Nature (3, Sp)** *Interactions of cities and nature: introduction to the ecology of cities; major threats to urban biodiversity interacting with human attitudes; review of restoration and conservation projects. Recommended preparation:* ARCH 531.

**ARCH 548 Media for Landscape Architecture: 3D Design (3)** Developing and communicating landscape architecture design intent using visualization tools for three-dimensional studies.

**ARCH 549 Fundamentals of Heritage Conservation (3, FaSm)** Concepts and strategies for conservation of significant elements of the built environment: buildings, sites and communities as revealed by readings, site visits, and case studies.

**ARCH 550 Heritage Conservation Policy and Planning (3, Sp)** *Conservation practice within an economic, political, and cultural context looking at the regulatory environment, public advocacy and policy, real estate development, heritage tourism, environmental sustainability, cultural diversity, and interpretation. Recommended preparation:* ARCH 549.

**ARCH 551 Conservation Methods and Materials (3, Sp)** *Concepts and techniques for building conservation including identification of treatments, recordation and research, material properties and behavior, building forensics, and project implementation. Recommended preparation:* ARCH 549.

**ARCH 552 Introduction to Historic Site Documentation (2, Sp)** Survey of basic guidelines and standards for documentation in historic preservation, including cultural resource surveys, historic structures reports and Historic American Building Survey and Historic American Engineering Record recordation.

**ARCH 553 History of American Architecture and Urbanism (3, Fa)** History of American architecture and urbanism from prehistory to World War II examined in relation to European influences and indigenous developments.

**ARCH 554 Heritage Conservation Practicum – Advanced Documentation (3, max 6, FaSp)** Heritage conservation practicum utilizing in-depth documentation methodology to explore the historic built environment of greater Los Angeles. Topics will vary from year to year.

**ARCH 555 Global Perspectives in Heritage Conservation (2, max 4, Fa)** In-depth analysis of international heritage conservation practice with a focus on a single country, continent, or world region outside the United States. Topics will vary from year to year; may be repeated for credit when subject matter is different.

**ARCH 556 Readings in Heritage Conservation Theory (2, Fa)** *Trans-disciplinary intensive reading and discussion course related to issues in contemporary heritage conservation. Prerequisite:* ARCH 549.

**ARCH 557 Sustainable Conservation of the Historic Built Environment (2, Fa)** Analysis of the intersection between "green building" and historic resources with an emphasis on stewardship and sustainability.

**ARCH 561 Urbanism Themes and Case Studies (2, Fa)** Examines urbanism through case studies in theory and design to understand the impacts of globalization, technology, and sustainability on the contemporary city.

**ARCH 562 Architecture Themes and Case Studies (2, Fa)** Architectural themes and case studies focusing on the design and development of architecture, from the industrial city to today.

**ARCH 563 Contemporary Architectural Theory (2, Sp)** Investigates, compares, and critiques modern and contemporary theories of the designed and built environment by focusing on key figures, movements, and texts.

**ARCH 564 Descriptive and Computational Architectural Geometry (2, Sp)** Introduction to the history, methods, and cases of descriptive and computational geometry impacting representational, modeling, and historically significant paradigms of architectural design. Introduces a range of geometric first principles, technologies and techniques through contemporary design tools.

**ARCH 565 Global History of Landscape Architecture (3, Fa)** Understanding of the global history of landscape design in relation to social, political, religious, environmental and aesthetic principles; current design theory, projects and their historical references are critically reviewed and analyzed. (Duplicates credit in ARCH 465.)

**ARCH 566 Cross Cultural Topics in Landscape Architecture History (3, max 6, FaSp)** Comparative analysis and appreciation of landscape architecture as a manifestation of nature, society, and design. Topics and world regions vary from year to year; may be repeated for credit when subject matter is different.

**ARCH 573 Seismic Design (2, Fa)** *Theory, design methodology and practice of how seismicity affects architecture and structural system selection required for robust earthquake performance and seismic sustainability. Prerequisite: ARCH 313; recommended preparation:* basic knowledge of physics and exposure to architectural design and building structures.

**ARCH 574 Parametric Design (3)** An in depth and critical look into the reasons and uses for parametric design and its relationship to contemporary form, fabrication, and construction of the built environment.

**ARCH 575ab Systems (3, Sp)** *Application of the scientific principles governing the thermal environment and human physiology to contemporary issues of environmentally responsive building energy concepts and systems. Recommended preparation: ARCH 505abL.*

**ARCH 577L Lighting Design (4, FaSp)** *The physics, technical knowledge, professional knowledge, design, and documentation processes used in architectural lighting design, including first principles, manual calculations and computer simulations. Recommended preparation:* Some knowledge of physics and exposure to the design process and design presentation skills.

**ARCH 579 Sustainable Building and Environment using LEED Metrics (3)** Fundamental knowledge of sustainable building concepts, current environmental design building rating systems, building performance and diagnostics metrics, as well as reference standards related to sustainable design.

**ARCH 580L Field Studies (3, max 6, FaSpSm)** Off-campus field studies using direct observation, site recordings/documentation, analysis and evaluation supplemented by discussions and readings.

**ARCH 590 Directed Research (1-12, FaSpSm)** Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Graded CR/NC.

**ARCH 596 Building Science Thesis Preparation (1, Fa)** Exploration of topics leading to the development of a thesis prospectus. Topics may be in the areas of building structures, seismic design, environmental control, passive and active energy, or other relevant topics. Graded CR/NC.

**ARCH 599 Special Topics (2-4, max 8, FaSpSm)** Selected topics in various specialty areas of architecture.

*ARCH 605abL Graduate Architecture Design II (a: 6, Fa; b: 6, Sp) a: Basic principles of structural (seismic/wind and gravity), HVAC, building envelope, access/egress, building service systems; and sustainable strategies are critical to the proper execution of performative goals. The integration of building systems will be delineated to demonstrate the tectonic viability a design solution. b: Comprehensive project emphasizing the interaction between general principles and local sites, building technologies and total building design. Prerequisite: ARCH 505b.* Open only to Architecture majors.

**ARCH 606 Advanced Architectural Theory (2, Fa)** Interrogates the architectural and cultural landscape of our contemporary cities through a combination of lectures and seminars on theories of place, identity, aesthetics, and technology.

**ARCH 607 Advanced Computation (2, Fa)** Introduction to a range of new technologies and techniques examining their technical and theoretical implications including advanced computational design techniques and geospatial design tools.

**ARCH 608 Urban Theory: Los Angeles Case Study (2, Fa)** Critically investigates the urban condition of Los Angeles through lectures, readings, and field visits. Aims to heighten awareness of the entwinement of environment, culture, architecture and the contemporary city.

**ARCH 609 Advanced Fabrication (2, Fa)** Introduction to a range of new technologies and techniques examining technical and theoretical implications including a range of digital fabrication technologies, robotics and film-making techniques.

**ARCH 610L Advanced Graduate Architecture Design (6, FaSpSm)** *Elective advanced design and research studio investigations. As faculty-led topical themes, the design-based projects will engage critical topics engaging diverse areas of specialization. Prerequisite: ARCH 605b.*

**ARCH 611 Advanced Building Systems Integration (4, Sp)** Design criteria development, material and construction process methods, occupancy based load profiles, performance/material life-cycle-mandates, durability for advanced building systems including integrity in sustainable urban systems.

**ARCH 613L Seminar: Structures Research (4, Sp)** An overview of research topics in building structures; detailed investigation of selected major issues.

**ARCH 614 Contemporary Issues in Architecture: A Critical Dialectic (3, Fa)** *Issues that are important to the contemporary built environment are explored using a dialectical format to encourage debate, augmented by invited speakers and topical readings. Prerequisite:* ARCH 214ab and ARCH 514ab.

**ARCH 615L Seminar: Environmental Systems Research (4, Sp)** A detailed examination of current issues in the thermal, acoustical, and radiant environment; recent developments in criteria, systems, controls, design tools and simulations; an understanding of the relationships between environmental factors, economics, and architectural goals.

**ARCH 635 Landscape Construction: Assembly and Documentation (3, Sp)** Learn and practice the process by which a landscape design is assembled through materials systems and design documentation.

**ARCH 642L Landscape Architecture Design (6, Fa)** *Fully integrated landscape place design; reclamation sites at significant urban or natural locations. Prerequisite: ARCH 542abL.*

**ARCH 690abL Directed Research (a: 2-8; b: 2-8, FaSpSm)** Graded CR/NC.

**ARCH 691abz Heritage Conservation Thesis Preparation and Thesis (2-6-0, Sp)** *Introduction to, and exploration of, topics leading to the development of a thesis prospectus and directed research towards the completion of the master's thesis in heritage conservation. Credit on acceptance of thesis. Registration restricted to Master of Heritage Conservation and Historic Preservation students who have satisfactorily completed 12 hours of graduate course work and have permission of the Program Director. Prerequisite:* ARCH 549 and ARCH 553. Graded IP/CR/NC.

**ARCH 692abzL Building Science Thesis (6-8-0, FaSpSm)** *Research and thesis for the Master of Building Science degree. Credit on completion of thesis. Graded IP/CR/NC. Prerequisite:* ARCH 596.

**ARCH 693abzL M.Arch. Thesis, Option I (2-8-0, FaSpSm)** Directed research option for M.Arch. degree. Credit on acceptance of research project. Graded IP/CR/NC.

**ARCH 695abzL M.Arch. Thesis, Option II (2-8-0, FaSpSm)** Design thesis for the Master of Architecture degree. Credit on acceptance of thesis. Graded IP/CR/NC.

**ARCH 696abczL Building Science Thesis (1-6-8-0)** Research and thesis for the Master of Building Science degree. Credit on acceptance of thesis. Graded IP/CR/NC.

**ARCH 697abzL M.L.Arch. Thesis, Option II (2-8-0, FaSpSm)** Field studies and thesis for the M.L.Arch. degree. Credit on acceptance of thesis. Graded IP/CR/NC.

**ARCH 698abzL M.L.Arch. Thesis, Option I (2-8-0, FaSpSm)** Directed research option for the M.L.Arch. degree. Credit on acceptance of research project. Graded IP/CR/NC.

**ARCH 702L Advanced Graduate Architecture Design - Themes (6)** Advanced thematic topical investigations emphasizing diverse areas of specialization. Projects will be faculty-led research investigations that concentrate on diverse areas of vital concern.

**ARCH 705L Advanced Graduate Architecture Design - Topics (6, max 12, FaSm)** *Advanced topical investigations emphasizing diverse areas of specialization. Projects will be faculty-led research investigations that concentrate on diverse areas of vital concern. Prerequisite: ARCH 605bL or ARCH 702L. Open only to Architecture majors.*

**ARCH 790 Doctoral Research (1-12, FaSp)** Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the School of Architecture. Graded CR/NC.

**ARCH 791 Proposal for Doctoral Dissertation (1, Fa)** Credit on acceptance of dissertation proposal. Graded CR/NC.

**ARCH 793abL Architecture Directed Design Research Option I (2-2, FaSp)** *Directed Design Research option for graduate level architecture degree. Credit on acceptance of research project. Prerequisite: ARCH 605bL or ARCH 702L. Open only to Architecture majors.* Graded IP/CR/NC.

**ARCH 794abcdz Doctoral Dissertation (2-2-2-2-0, FaSpSm)** Credit on acceptance of dissertation. Graded CR/NC.

**ARCH 795abL Architecture Thesis Option II (2-6, FaSp)** *Thesis option for graduate level architecture degree. Credit on acceptance of thesis. Prerequisite: ARCH 605bL or ARCH 702L. Open only to Architecture majors.* Graded IP/CR/NC.