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# College of Architecture and Environmental Design

[www.asu.edu/caed](http://www.asu.edu/caed)

Wellington Reiter, MArch, Dean

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## PURPOSE

The college provides graduate education for professional, research, and academic careers in architecture, design, landscape architecture, and environmental and urban planning. Students in the master's programs benefit from small classes, seminars, and studios, from close, individual contact and faculty mentorship, and from an interdisciplinary curriculum. Students and faculty make full use of the Phoenix metropolitan area and the Sonoran region as research bases, and they also profit from strong interaction with the professional communities. The faculty have earned national reputations in energy-efficient design, computer-assisted design, corporate interior design, design for special populations, urban design, and environmental policy. Programs of study, including internship and trainee opportunities, give graduates the best possible start on academic, research, and professional careers.

## ORGANIZATION

The college has three academic units: the School of Architecture and Landscape Architecture, the School of Design, and the School of Planning. The units and their faculty have strong ties with programs and faculty in business, computer science, construction, engineering, fine arts, geography, biological sciences, environmental resources, and public affairs.

## GRADUATE PROGRAMS

The PhD degree program in Environmental Design and Planning is a collegewide interdisciplinary degree offered by faculty representing the different disciplines that make up the Schools of Architecture and Landscape Architecture, Design, and Planning. Faculty from the Department of Applied Biological Sciences at the East campus also participate in offering this degree. Three areas of concentration are available: design; planning; and history, theory, and criticism.

Faculty in the College of Architecture and Environmental Design offer four master's degree programs through the Division of Graduate Studies: a professional program leading to the National Architectural Accrediting Board (NAAB)-accredited Master of Architecture degree (the two-year as well as three-plus-year programs); a research and applications MS degree in Building Design with concentrations in design knowledge and computing, energy performance and climate-responsive architecture, and facilities development and management; the Master of Science in Design degree with concentrations in graphic design, indus-

trial design, and interior design; and a professional graduate program leading to the PAB-accredited Master of Urban and Environmental Planning degree.

See the "College of Architecture and Environmental Design Graduate Degrees and Majors" table, page 91.

## ADMISSION REQUIREMENTS

Applicants to each of the five graduate degree programs must meet Division of Graduate Studies admission requirements, in addition to requirements of the academic unit offering the program. For application requirements and deadlines of the Division of Graduate Studies, see "Admission to the Division of Graduate Studies," page 58. For application requirements and deadlines of each program, refer to the specific program section.

**Doctor of Philosophy Degree in Environmental Design and Planning.** Applicants to the PhD program must have completed a master's degree in architecture, environmental resources, graphic design, industrial design, interior design, landscape architecture, or planning, or must be able to demonstrate equivalent standing. The degree is structured as a 54-semester-hour post-master's program, and not as an 84-semester-hour postbaccalaureate program. The following test scores are required: Graduate Record Examination (GRE) scores and Test of English as a Foreign Language (TOEFL) score of at least 600 (250 for the computer-based version) from applicants whose native language is not English. International applicants who are interested in receiving funding as Teaching Associates (TAs) must also submit a Test of Spoken English (TSE) score of at least 50.

**Master of Architecture Degree.** Admission as a graduate student to the Master of Architecture program is a two-part process and is granted only with the approval of both the Division of Graduate Studies and the School of Architecture and Landscape Architecture.

Regular admission to the Master of Architecture program is open to applicants who have completed a four-year Bachelor of Science degree with a major in Architectural Studies or similar preprofessional degree in Architecture. The degree must be granted by an institution with an NAAB-accredited degree program in Architecture.

Admission to the three-plus-year Master of Architecture program has similar two-part application procedures. This is an NAAB-accredited program designed for applicants with bachelor's degrees in fields unrelated to architecture. The program begins with a 10-week summer program followed by three academic years.

College of Architecture and Environmental Design Graduate Degrees and Majors

Major	Degree	Concentration <sup>1</sup>	Administered By
Architecture	MArch	—	School of Architecture and Landscape Architecture
Building Design	MS	Design knowledge and computing, energy performance and climate-responsive architecture, or facilities development and management	School of Architecture and Landscape Architecture
Design	MSD	Graphic design, industrial design, or interior design	School of Design
Environmental Design and Planning <sup>2</sup>	PhD	Design; history, theory, and criticism; or planning	College of Architecture and Environmental Design
Urban and Environmental Planning	MUEP	—	School of Planning

<sup>1</sup> If a major offers concentrations, one must be selected unless noted as *optional*.

<sup>2</sup> Doctoral courses for these interdisciplinary programs administered by the Tempe campus are also offered at the East campus.

**Master of Science Degree in Building Design.** Admission as a graduate student to the Master of Science degree in Building Design program is a two-part process and is granted only with the approval of both the ASU Division of Graduate Studies and the School of Architecture and Landscape Architecture.

Students with a previous NAAB-accredited professional degree in Architecture who wish to pursue advanced study and research should apply to the Master of Science degree in Building Design program.

**Master of Urban and Environmental Planning Degree.** Applicants must hold a baccalaureate degree. International applicants whose native language is not English must submit a TOEFL score.

**Master of Science in Design Degree.** Applicants must hold a baccalaureate degree in graphic design, industrial design, interior design, or a related design discipline. International applicants whose native language is not English must achieve a TOEFL score of 550 or above on the paper-based test or 213 or higher on the computer-based test.

**SPECIAL PROGRAMS**

A concurrent Master of Architecture/Master of Business Administration degree program is available. The School of Architecture and Landscape Architecture offers a foreign study abroad program. Also, a selective summer internship program places highly qualified students in nationally known American firms.

The Master of Urban and Environmental Planning program has special ties with the professional planning community and offers students considerable interaction with practitioners in the field, as well as experience in local planning offices and agencies.

All of the master’s programs are interdisciplinary in focus and require or strongly recommend course work in other programs, departments, and colleges. Each program works with affiliated and associated faculty from other units within the college. Also, faculty from such areas as geography, engineering, public affairs, business, transportation, environmental studies, and fine arts collaborate with the faculty and graduate students of the college.

**COLLEGE FACILITIES**

With the opening of the award-winning expansion to the Architecture building in spring of 1989, the college consolidated its facilities into a single complex and more than doubled the space available for instruction, research, and service activities. Expanded facilities include the library, the shop, studios, faculty and administrative offices, and research facilities. Research and special project rooms include a high-bay research laboratory, community outreach and design research studios, and a materials resource center, as well as a solar instrumentation laboratory and a rooftop outdoor solar and day lighting testing area. The college is especially proud of its computer facilities and the faculty-graduate student computer research laboratory. There is a local area network that ties together faculty, studio, and library resources. Emphasis is on mini- and microcomputer modeling, simulation, and design applications (see “Computing Facilities and Services,” page 33). Teaching and research activities are also supported by a media center with photography and video services and a slide and media library. Individual studio work space is available to graduate students, and the expansion features extensive jury, review, and display space.

The newly renovated Gallery of Design is one of eight university galleries and museums. It provides premium space for traveling exhibitions and exhibitions of student and faculty work.

Housed in the College of Architecture and Environmental Design/North building, the college’s Design Library has a spacious interior, with cherry wood furnishings. A branch of the University Libraries, the Architecture and Environmental Design (AED) Library provides access to books, periodicals, reference materials, and product catalogs. The collection includes approximately 35,000 volumes. There are also 150 current periodical subscriptions available. ASU Libraries provide access to numerous online databases, including the *Avery Index to Architectural Periodicals*.

Rare and unusual materials related to architecture and environmental design reside in the Special Collections area. Notable among these are the extensive collections of books and ephemera on Paolo Soleri and Frank Lloyd Wright.

## COLLEGE OF ARCHITECTURE AND ENVIRONMENTAL DESIGN

The rapidly growing Archival Drawings Collection is also part of the AED Library's Special Collections area. Included are the archival drawings and papers of several noteworthy architects, including Alfred N. Beadle, William P. Bruder, Blaine Drake, Albert Chase McArthur, Victor Olgyay, Paul Schweikher, Calvin Straub, Marcus Whiffen, and Martin Ray Young, Jr. The Archival Drawings Collection also contains documentation of the company town of Litchfield Park, the Rio Salado Project, the Phoenix Civic Plaza design competition, and the Metropolitan Canal Alliance.

### ADVISING

**Architecture.** Students should consult the school's Web site at [asu.edu/caed/sala/index.htm](http://asu.edu/caed/sala/index.htm) for general information about the programs and admission procedures. In addition, a graduate coordinator is available for professional advising. For more information, call 480/965-3536, or send e-mail to [arch.grad@asu.edu](mailto:arch.grad@asu.edu). For information about the undergraduate program and for undergraduate advising, send e-mail to [caed.advising@asu.edu](mailto:caed.advising@asu.edu).

**Design.** Preadmission information, advising, and continued support are provided by the director of the school and the graduate program coordinator. General information can be found on the school's Web site at [www.asu.edu/caed/SOD](http://www.asu.edu/caed/SOD). For additional information, call 480/965-4135, or send e-mail to [designmsd@asu.edu](mailto:designmsd@asu.edu).

**Planning.** Students should consult the school's Web site at [www.asu.edu/caed/sop/index.htm](http://www.asu.edu/caed/sop/index.htm) for general information about the program and admission procedures. The school's student coordinator provides admission information, gen-

eral program information, and general advising. The school's director and MUEP program coordinator provide professional advising and continued support. For more information, call 480/965-7167, or access the school's Web site at [www.asu.edu/caed](http://www.asu.edu/caed).

### ACCREDITATION

In the United States, most state registration boards require a degree from an accredited professional degree program as a prerequisite for licensure. The NAAB ([www.naab.org](http://www.naab.org)), which is the sole agency authorized to accredit U.S. professional degree programs in architecture, recognizes two types of degrees: the Bachelor of Architecture and the Master of Architecture. (A program may be granted a five-year, three-year, or two-year term of accreditation, depending on its degree of conformance with established educational standards.)

Master's degree programs may consist of a preprofessional undergraduate degree and a professional graduate degree, which, when earned sequentially, compose an accredited professional education. However, the preprofessional degree is not, by itself, recognized as an accredited degree.

The Master of Architecture program at ASU is fully accredited by the NAAB. The Master of Architecture requires a minimum of three years of study following an unrelated bachelor's degree or two years following a related preprofessional bachelor's degree. This professional degree is structured to educate those who aspire to registration/licensure as architects.



The College of Architecture and Environmental Design/North building

Tim Trumble photo

The School of Architecture and Landscape Architecture is a full member of the Association of Collegiate Schools of Architecture and the Architectural Research Centers Consortium.

The School of Planning is a full member of the Association of Collegiate Schools of Planning.

The Master of Urban and Environmental Planning and the Bachelor of Science in Planning programs are both accredited by the Planning Accreditation Board.

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## Architecture

### Master's Program

[asu.edu/caed/sala/index.htm](http://asu.edu/caed/sala/index.htm)

480/965-3536

AED 162

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#### Max Underwood, Interim Director

**Professors:** Brooks, Bryan, Hoffman, McCoy, Meunier, Ozel, Reiter, Rotondi, Underhill, Underwood

**Associate Professors:** Ellin, Fish Ewan, Hartman, Loope, Petrucci, Spellman, Van Duzer, Zygas

**Assistant Professors:** Burnette, Ewan, Hejduk, Innes, Kobayashi, Lerum, Vekstein

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The faculty in the School of Architecture and Landscape Architecture offer a professional program leading to the Master of Architecture degree and a research-based postprofessional graduate program leading to the MS degree in Building Design. See "Master of Science in Building Design," page 96, for information on this degree program.

The faculty in the school also participate in offering a PhD in Environmental Design and Planning. See "Environmental Design and Planning," page 103, for information on this degree program.

### MASTER OF ARCHITECTURE

The Master of Architecture is the accredited professional degree program at ASU. There are two typical programs of study available: (1) a two-year program for applicants who have completed the four-year Bachelor of Science in Design (with a major in Architectural Studies) at ASU or an equivalent degree from another school that offers an accredited professional degree in architecture, and (2) a three-plus-year program for applicants with an undergraduate degree in a discipline or field other than architecture. Both programs promote broad areas of knowledge, professional skill, and a social awareness that the architect must command if architecture is to enhance contemporary life and remain an enduring and valid expression of society.

The program represents an attempt to develop the knowledge and skills necessary for graduates to achieve future

leadership roles in the professional practice of architecture and related environmental design fields.

It is the intention of the faculty that the programs also

1. ensure a basic level of educational experience sufficient to enter the practice of architecture after successfully completing state licensing requirements and examination,
2. encourage the student to develop proficiencies in specific areas compatible with individual interests and university instructional capabilities,
3. provide a breadth of understanding that will encourage and motivate the student to continue learning throughout a professional career, and
4. develop opportunities that combine instruction and research directed toward adding value to the built environment.

Elective foci currently offered in the program include energy-conscious design, computer applications, urban design, architectural history and theory, and architectural administration and management.

In the first year of the two-year program, graduate design studio projects focus on advanced comprehensive problems that require integration of the full range of knowledge and skills from students' undergraduate education. In the second year, students select design studios and undertake final design projects that complement their areas of interest. Courses in technology, history and theory, and architectural management are structured alongside the studio sequence.

The three-plus-year program begins with an intensive 10-week summer session introducing architecture and design fundamentals and continues with a preparatory year of architectural history, technology, and design. The final two years are similar to the two-year program described above. Students without work experience in architecture must also complete a summer internship between the first and second years.

**Application Requirements.** An applicant to the MARCH program must hold a baccalaureate or graduate degree from a college or university recognized by ASU and must meet the minimum GPA requirements as established by the Division of Graduate Studies.

In addition, all applicants are required to submit for review a design portfolio, GRE scores, a statement of intent, and letters of reference. Applicants are accepted on a space-available basis only. Students may be admitted to the two-year program *with deficiencies* if their previous course work is not equivalent to the ASU undergraduate requirements and standards.

Students intending to apply for admission to the professional program in architecture at the *graduate level* should apply to the program well in advance of the application deadline.

International applicants whose native language is not English must submit the official GRE scores as well as the TOEFL (with a minimum score of 600, or 250 for the computer-based exam).



## COLLEGE OF ARCHITECTURE AND ENVIRONMENTAL DESIGN

**Application Procedures.** Applicants must submit separate application materials to the Division of Graduate Studies and the School of Architecture and Landscape Architecture.

**School of Architecture and Landscape Architecture.** In addition to the Division of Graduate Studies admission requirements, applicants must file all of the following admission materials with

MASTER OF ARCHITECTURE ADMISSIONS  
COMMITTEE  
SCHOOL OF ARCHITECTURE AND LANDSCAPE  
ARCHITECTURE  
ARIZONA STATE UNIVERSITY  
PO BOX 871605  
TEMPE AZ 85287-1605

1. *Statement of Intent.* A personal narrative (maximum 600 words or two pages typed) indicating the applicant's interest, previous academic and practical background, and personal and professional educational objectives must be submitted.
2. *Letters of Recommendation.* A minimum of three letters of recommendation in support of the applicant must be mailed directly to the Graduate Admissions Committee, School of Architecture and Landscape Architecture. The references should be from professionals or educators familiar with the applicant's experience and capability for graduate work. The letter of recommendation form can be downloaded from the Master of Architecture Web site at [asu.edu/caed/sala/index.htm](http://asu.edu/caed/sala/index.htm).
3. *Portfolio.* Candidates applying for the two-year Master of Architecture program are required to submit a portfolio. The portfolio must be no larger than 8.5" x 11" (image size). The admissions committee is interested in the quality of work submitted in the portfolio, and applicants are advised not to lavish expense on special or unusual packaging. Slides, original drawings, and loose (unbound) materials should not be submitted. The portfolio should include at least five projects with a range of complexity and with concise, explanatory statements for each project. Include the dates of execution; course, professor, or firm; objective or program summary; and most importantly, a brief self-analysis of the results. When any work is not completely original, the relevant sources must be given. When work is of a team nature, the applicant's role and contribution to the project should be clearly indicated. Applicants who have professional experience and wish to submit examples of professional work may do so. Of particular interest are projects in which the applicant has played a principal role in design. The portfolio is returned after final admission procedures, provided the applicant encloses a self-addressed return mailer with sufficient prepaid postage or if the applicant appears in person to claim the materials within one year of submission. Unclaimed portfolios are retained for one year only. The School of Architecture and Landscape Architecture assumes

no liability for materials lost or damaged during shipment or handling.

4. *Creative Work.* Candidates applying for the three-plus-year Master of Architecture program must also provide a portfolio of work as described in paragraph three above. It is recognized that candidates to this program may not have work related to architecture. Therefore, the portfolio should include other forms of creative work such as drawings, designs, paintings, photography, writing, craft, and construction. The work presented may be from vocational, avocational, or academic sources.

Because of space limitations, not all qualified applicants can be accommodated and the admission process is necessarily selective.

Students should indicate for which program of study they are applying. Those with a four-year degree equivalent to the BSD in Architectural Studies should apply for the two-year program. Those with an undergraduate degree that is not part of an accredited program in architecture should apply for the three-plus-year program. Students who are uncertain about which program suits them should contact the senior academic advisor for determination of appropriate application. Applicants are required to write their names in a clear and consistent manner on all materials submitted, preferably in the "family name, first name" format (e.g. Smith, John).

Students with a previous professional degree in architecture (five or six years) who wish to pursue advanced study in climate responsive architecture, building energy performance, computer-aided design, energy simulation and analysis, and facilities development and management should apply to the Master of Science in Building Design program. See "Master of Science in Building Design," page 96.

**Application Deadline.** Priority consideration is given to completed applications received on or before December 31. Students are not admitted to the two-year Master of Architecture program at any time other than the beginning of the fall semester. Students are not admitted to the three-plus-year Master of Architecture program at any time other than the beginning of the first summer session. The school does not allow deferrals.

**Personal Interview.** A personal interview is not required. However, a candidate wishing to visit the school is welcome and should make arrangements by contacting the graduate coordinator in the School of Architecture and Landscape Architecture.

**Requirements for the Two-Year Program.** The two-year graduate program requires a minimum of 56 semester hours of approved courses and electives and a comprehensive examination. For most students, this program involves an average of 14 semester hours per semester. An internship may be offered as an elective to be taken in the summer before the final year of study. The internship is an honors program individually arranged and approved by the Master of Architecture Committee.

Students who can adequately demonstrate competence through experience or previous academic course work for

any of the specific requirements outlined below are encouraged to petition the graduate coordinator for a course substitution.

**Typical Program of Study**

**First Year**

**Fall**

ADE 521 Advanced Architectural Studio I.....	5
APH 505 Foundation Theory Seminar.....	3
ATE 553 Building Systems III.....	3
ATE 563 Building Structures III.....	3
Total .....	14

**Spring**

ADE 522 Advanced Architectural Studio II .....	5
APH 515 Current Issues and Topics .....	3
ATE 556 Building Development .....	3
CAED Professional elective.....	3
Total .....	14

**Second Year**

**Fall**

AAD 551 Architectural Management I.....	3
ADE 621 Advanced Architectural Studio III.....	5
CAED Professional elective.....	6
Total .....	14

**Spring**

AAD 552 Architectural Management II.....	3
ADE 622 Advanced Architectural Studio IV.....	5
Approved elective .....	3
CAED Professional elective.....	3
Total .....	14

Master of Architecture total .....	56
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**Requirements for the Three-Plus-Year Program.** The three-plus-year graduate program requires a minimum of 99 semester hours of approved courses and electives and a comprehensive examination. For most students, this program involves 12 semester hours in the first summer and 14 to 15 semester hours in each of the subsequent six semesters. A summer internship is required after the first full year of study. A second internship may be offered as an elective to be taken in the summer before the final year of study. The second internship is an honors program individually arranged and approved by the Master of Architecture Committee.

Students who can adequately demonstrate competence through experience or previous academic course work for any of the specific requirements outlined below are encouraged to petition the graduate coordinator for a course substitution.

**Typical Program of Study**

**First Year**

**Summer**

ADE 510 Foundation Architectural Studio.....	6
APH 200 Introduction to Architecture.....	3
APH 509 Foundation Seminar .....	3
Total .....	12

**Fall**

ADE 511 Core Architectural Studio I.....	6
APH 313 History of Architecture I.....	3
ATE 361 Building Structures I.....	3
ATE 451 Building Systems I.....	3
Total .....	15

**Spring**

ADE 512 Core Architectural Studio II.....	6
APH 314 History of Western Architecture II.....	3
ATE 452 Building Systems II .....	3
ATE 462 Building Structures II.....	3
Total .....	15

**Summer**

ARP 584 Clinical Internship.....	1
Total .....	1

**Second Year**

**Fall**

ADE 521 Advanced Architectural Studio I.....	5
APH 505 Foundation Theory Seminar.....	3
ATE 553 Building Systems III .....	3
ATE 563 Building Structures III .....	3
Total .....	14

**Spring**

ADE 522 Advanced Architectural Studio II .....	5
APH 515 Current Issues and Topics .....	3
ATE 556 Building Development .....	3
CAED Professional elective*.....	3
Total .....	14

**Third Year**

**Fall**

AAD 551 Architectural Management I.....	3
ADE 621 Advanced Architectural Studio III.....	5
CAED Professional electives* .....	6
Total .....	14

**Spring**

AAD 552 Architectural Management II.....	3
ADE 622 Advanced Architectural Studio IV.....	5
Approved elective .....	3
CAED Professional elective*.....	3
Total .....	14

Total hours in program.....	99
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\* At least one professional elective must be a CAD course or be taken in the area of computers, if the student cannot demonstrate CAD skills.

**Comprehensive Examination.** The faculty require that all students pass an oral comprehensive examination based, in part, on a defense of their final design project in ADE 622. Each student is required to undertake an independent design project in ADE 622, based on an approved proposal completed the previous semester in ANP 681. Examiners typically include members of the Architecture faculty and may include distinguished practitioners not on the faculty.

**MArch/MBA Concurrent Degree Program.** A Master of Architecture/Master of Business Administration concurrent

## COLLEGE OF ARCHITECTURE AND ENVIRONMENTAL DESIGN

degree program is offered through cooperative arrangement between the faculty of the School of Architecture and Landscape Architecture and the W. P. Carey School of Business. It is intended for students who wish to obtain comprehensive business knowledge to complement their design education. Through this program, adequately prepared students can obtain both degrees in approximately three years of study if pursuing the two-year MArch program and four and a half years if pursuing the three-plus-year program.

The dual degree program requires a minimum of 92 graduate semester hours to complete. Students must begin the program in the School of Architecture and Landscape Architecture and finish in the W. P. Carey School of Business and must follow admission requirements for each program.

Admission to the MArch program does not guarantee admission to the MBA program. In addition, a student needs to complete the degree requirements for the MArch before beginning study in the MBA program.

### MASTER OF SCIENCE IN BUILDING DESIGN

The Master of Science in Building Design program is dedicated to the development of new knowledge useful to the arts and sciences of building design, and the integration of that knowledge into the building design process.

The Master of Science degree is an advanced post-professional degree for applicants who have completed an accredited professional degree program in architecture (a five-year B.Arch. or six-year MArch degree). The MS in Building Science is not accredited, and therefore it is not intended to serve as a first professional degree in architecture. The program is structured to educate a new generation of scholars and practitioners who will bring appropriate technology and management techniques to the building and rebuilding of humane and supportable environments. Students who are interested in pursuing further academic studies are encouraged to apply to the interdisciplinary PhD program in Environmental Design and Planning offered by the college after completion of the MS program.

Concentrations are available in design knowledge and computing, energy performance and climate-responsive architecture, and facilities development and management. The program provides advanced study at the post-professional level for architects. The goal of the program is to develop knowledge useful to the arts and sciences of building design and the integration of that knowledge into the design process. Within this context, the program emphasizes: (1) the ecological importance of energy-conscious design and construction, as well as the high social value placed on buildings in which natural forces and systems are utilized rather than suppressed, and (2) the development of research, information systems, and management processes suited to the planning and design of complex buildings in urban settings.

The curriculum for each concentration includes a research methods core, required courses, and in some cases, additional elective course work as approved and directed by the supervisory committee. Typically a student needs at least four semesters of course work and work on their thesis to successfully complete this degree program.

It is recommended that applicants have at least one year of professional employment or comparable field/research experience in building design in addition to their academic experiences.

**Application Requirements.** An applicant to the MS in Building Design program must hold a previous NAAB (National Architectural Accrediting Board) accredited professional degree in architecture from a college or university recognized by ASU and must meet the minimum GPA requirements as established by the Division of Graduate Studies.

In addition, all applicants are required to submit for review a design portfolio, GRE scores, a statement of intent, and letters of reference. Applicants are accepted on a space-available basis only. Students intending to apply for admission to the post-professional program in architecture at the graduate level should apply to the program well in advance of the application deadline.

International applicants whose native language is not English must submit the official GRE scores as well as the TOEFL (with a minimum score of 600, or 250 for the computer-based exam). International students should apply to the program at least one year before the date they plan to begin study.

**Application Procedures.** Applicants must submit separate application materials to the Division of Graduate Studies and the School of Architecture and Landscape Architecture.

**Application Deadline.** Priority consideration is given to completed applications received on or before December 31. Applications for admission received after December 31 are considered only for remaining vacancies and "alternate" placement.

**School of Architecture.** In addition to the Division of Graduate Studies admission requirements, applicants must file all of the following admission materials with

MASTER OF SCIENCE IN BUILDING DESIGN  
ADMISSIONS COMMITTEE  
SCHOOL OF ARCHITECTURE AND LANDSCAPE  
ARCHITECTURE  
ARIZONA STATE UNIVERSITY  
PO BOX 871605  
TEMPE AZ 85287-1605

*Statement of Intent.* A personal narrative (maximum 600 words or two pages typed) indicating the applicant's interest, previous academic and practical background, and personal and professional educational objectives must be submitted.

*Letters of Recommendation.* A minimum of three letters of recommendation in support of the applicant must be mailed directly to the Master of Science in Building Design Admissions Committee, School of Architecture and Landscape Architecture. The references should be from professionals or educators familiar with the applicant's experience and capability for graduate work. The letter of recommendation form can be downloaded from the School of Architecture and Landscape Architecture Web site at [asu.edu/caed/sala/index.htm](http://asu.edu/caed/sala/index.htm).

*Portfolio.* Applicants must submit a portfolio documenting projects, papers, creative endeavors, and, if appropriate, work experience (maximum size 9" x 12").

The portfolio is returned after final admission procedures, *provided* the applicant encloses a self-addressed return mailer with sufficient prepaid postage, or if the applicant appears in person to claim the materials within one year of submission. Unclaimed portfolios are retained for only one year. The School of Architecture and Landscape Architecture assumes no liability for lost or damaged materials. Applicants are required to write their names in a clear and consistent manner on all materials submitted, preferably in the "family name, first name" format (e.g., Smith, John).

*Research/Teaching Statement.* Students wishing to be considered for teaching or research assistantships must submit the *application for graduate assistant* form with their application materials. International students who wish to be considered for a teaching assistantship and whose native language is not English are required to pass the Test of Spoken English administered by the American English and Culture Program at ASU.

**Program of Study.** The program requires a minimum of 30 semester hours of approved course work at the advanced level, including six hours of thesis credit.

The MS degree in Building Design is based on concepts of research and decision making emphasized by the College of Architecture and Environmental Design.

Students admitted to the program are required to take a research methods core, certain courses in their area of concentration, additional elective course work as approved and directed by the supervisory committee, and write and defend a thesis. While the minimum requirement is 30 semester hours, most students require at least four semesters of course work and work on their thesis to successfully complete this degree program.

The concentrations include the following: design knowledge and computing, energy performance and climate-responsive architecture, and facilities development and management.

The *design knowledge and computing* concentration addresses computer-aided design methods and techniques and their application to problem-solving issues in the built environment. The goal of the program is to provide a fundamental understanding of computational issues and methods in architectural design and to explore critically the application and potential of these techniques in practice. Topics studied include computer graphics and geometric modeling, simulation and analysis, Web development and programming, knowledge-based and object-oriented systems, databases, and comprehensive computer-aided design and information management systems.

**Design Knowledge and Computing Concentration**

Research/thesis.....	11
Area of concentration requirements.....	13
Approved electives.....	6
Total minimum semester hours required.....	30

In climate-responsive architecture, a student applies the principles of "bioclimatic" building design in a studio setting to maximize the use of renewable energy resources in

particular locations and building programs. In analysis of building energy performance, a student applies physical and economic analysis, computer simulation, and/or measurement as tools in determining component or whole-building performance relative to energy, climate, and cost-efficiency.

The *energy performance and climate-responsive architecture* concentration educates students to become experts in energy-efficient design and technology. The program is concerned with the relationships between climate and site, thermal and visual comfort, and energy demand and consumption.

**Energy Performance and Climate-Responsive Architecture Concentration**

Research/thesis.....	6
Area of concentration requirements.....	24
Total minimum semester hours required.....	30

The *facilities development and management* concentration is concerned with decision-making processes in building (real estate) development and firm management. The goal of the program is the advancement of knowledge in managerial theory, knowledge structures, risk/benefit analysis, marketplace dynamics, and their relationship to building development, and firm management. This concentration addresses the following topics: spatial decision models, building development models and processes, financing and the economic return of facilities, market structure, market strategy, pricing, costs, design automation, group decision making, team building, architectural programming, post-occupancy evaluation, value-based design, and financial management models. The program benefits from ties to various professional groups concerned with real estate development and facilities management, as well as interdisciplinary ties to the W. P. Carey School of Business and the Del E. Webb School of Construction.

The facilities development and management core course requirements (six semester hours) consist of courses taken in the architectural administration and management sequence of the program, which have the AAD prefix.

**Facilities Development and Management Concentration**

Research/thesis.....	12
Area of concentration requirements.....	6
Approved electives.....	12
Total minimum semester hours required.....	30

**Foreign Language Requirements.** None.

**Thesis Requirements.** A thesis is required. Each candidate devotes research effort of six semester hours of thesis/research credit in preparation of a thesis. The thesis must conform to school policies and meet Division of Graduate Studies format requirements.

**Final Examination.** A final oral examination in defense of the thesis is required.

**RESEARCH ACTIVITY**

Faculty in the School of Architecture and Landscape Architecture are engaged in a wide variety of research, scholarship, and creative activity. Faculty research includes issues of history and theory, computing and design



## COLLEGE OF ARCHITECTURE AND ENVIRONMENTAL DESIGN

knowledge, building tectonics, urban design, design theory, and climate-responsive design, simulation and technology. For more information on the current research interests of the faculty, access the school's Web site at [asu.edu/caed/sala/index.htm](http://asu.edu/caed/sala/index.htm).

### ARCHITECTURE COURSES

Courses offered by the faculty of the School of Architecture and Landscape Architecture are categorized in the following instructional areas.

*Architectural Administration and Management (AAD).* AAD courses investigate the organization and managerial aspects of contemporary architectural practice. These studies examine the overall processes relative to management coordination, administration procedures, ethics, legal constraints, and the financial controls and measures of contemporary architectural practice.

*Architectural Design and Technology Studios (ADE).* ADE encourages synthesis of the knowledge and understanding the student has gained from previous and parallel course work, and from other sources, toward the comprehensive design of architectural projects. The laboratories integrate the needs, limitations, and determinants of design problems while applying analytical methods and technical skills in seeking and comparing alternative solutions for assigned problems.

*Environmental Analysis and Programming (ANP).* ANP develops capabilities to analyze and program environmental and human factors as preconditions for architectural design. These studies are concerned with the existing and emerging methods used by the profession to evaluate and analyze. A variety of courses on computer utilization is included in this area.

*Architectural Philosophy and History (APH).* APH develops an understanding of architecture as both a determinant and a consequence of humankind's culture, technology, needs, and behavior in the past and present. These studies are concerned with the rationale for the methods and results of design and construction.

*Architecture Professional Studies (ARP).* ARP provides students with residency and off-campus opportunities and educational experience in group and individual studies relative to specific student interests and faculty expertise.

The program also offers several opportunities to study abroad. In addition, various required and optional field trips are undertaken in course work. (Supplemental fees are assessed for these offerings.)

*Architectural Technology (ATE).* ATE develops knowledge of the technical determinants, resources, and processes of architecture. These studies are concerned primarily with the science and technology of design and construction, including materials, structural systems, construction systems, environmental control systems, active and passive solar systems, and acoustics and lighting.

### ARCHITECTURAL ADMINISTRATION AND MANAGEMENT (AAD)

**AAD 494 Special Topics. (1–4)**  
*selected semesters*

#### **AAD 551 Architectural Management I. (3)**

*fall*

Design delivery, coordination of construction documents, cost estimating, bidding and negotiations, construction observation, and post construction services. Lecture, discussion, case studies. Prerequisite: graduate-level standing. Corequisites: ADE 621; ANP 681.

#### **AAD 552 Architectural Management II. (3)**

*spring*

Organizational, human performance, and market influences on architecture firms and projects. Readings, case studies, and analysis of managerial problems and solutions. Lecture, discussion. Prerequisite with a grade of "C" (2.00) or higher: AAD 551. Corequisite: ADE 622.

#### **AAD 555 Architect as Developer. (3)**

*once a year*

Development building, real estate, construction funding, land acquisition, and the sources for capital. Prerequisite: instructor approval.

#### **AAD 598 Special Topics. (1–4)**

*selected semesters*

#### **AAD 599 Thesis. (1–12)**

*fall or spring*

Fee.

**Omnibus Courses.** For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 56.

### ARCHITECTURAL DESIGN AND TECHNOLOGY STUDIOS (ADE)

#### **ADE 510 Foundation Architectural Studio. (6)**

*summer*

Fundamentals of architectural design, methodology, visualization, and representation. Lecture, studio, field trips. Fee. Prerequisite: admission to Master of Architecture degree program. Corequisite: APH 509.

#### **ADE 511 Core Architectural Studio I. (6)**

*fall*

Applies design fundamentals in architectural problems, including construction, technology, programmatic and environmental determinants. Lecture, studio, field trips. Fee. Prerequisite with a grade of "C" (2.00) or higher: ADE 510.

#### **ADE 512 Core Architectural Studio II. (6)**

*spring*

Applies architectural design fundamentals to increasingly complex problems, including specific sites and activities. Lecture, studio, field trips. Fee. Prerequisite with a grade of "C" (2.00) or higher: ADE 511.

#### **ADE 521 Advanced Architectural Studio I. (5)**

*fall*

Design problems emphasizing theory, aesthetics, and tectonics as influences on architectural form. Lecture, studio, field trips. Fee. Prerequisite: admission to Master of Architecture degree program. Corequisite: APH 505.

#### **ADE 522 Advanced Architectural Studio II. (5)**

*spring*

Design problems emphasizing the comprehensive integration of building systems and technologies as influences on architectural form. Lecture, studio, field trips. Fee. Prerequisite with a grade of "C" (2.00) or higher: ADE 521. Corequisites: APH 515; ATE 556.

#### **ADE 621 Advanced Architectural Studio III. (5)**

*fall*

Design problems emphasizing the urban context, planning issues, and urban design theory as influences on architectural form. Lecture, studio, field trips. Fee. Prerequisite with a grade of "C" (2.00) or higher: ADE 522. Corequisite: AAD 551.

#### **ADE 622 Advanced Architectural Studio IV. (5)**

*spring*

Individual, student-initiated project reflecting a culminating synthesis of architectural ideas. Studio. Fee. Prerequisite with a grade of "C" (2.00) or higher: ADE 621. Corequisite: AAD 552.

#### **ADE 661 Bioclimatic Design Studio. (6)**

*once a year*

Sustainable architectural and site synthesis at a variety of scales emphasizing bioclimatic criteria and the use of passive and low-energy systems. Prerequisite: admission to graduate program.

**Omnibus Courses.** For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 56.

**ENVIRONMENTAL ANALYSIS  
AND PROGRAMMING (ANP)**

**ANP 494 Special Topics. (1–4)**

*fall, spring, summer*

**ANP 500 Research Methods. (1–12)**

*fall*

Fee. Prerequisite: admission to graduate program. Corequisite: ANP 561.

**ANP 530 Computer Graphics in Architecture. (3)**

*spring*

Fundamentals of computer graphics programming in architecture, including graphics hardware, device-independent packages, 2- and 3-D transformations, and data structures. 2 hours lecture, 3 hours lab. Prerequisite: instructor approval. Corequisite: ANP 563.

**ANP 561 Architectural Information Processing Systems. (3)**

*fall*

Applies information processing systems to architectural problems. Analyzes computing tools with respect to assumptions and theories. Lecture, lab. Prerequisite: admission to graduate program. Corequisite: ANP 500.

**ANP 563 Methods in Architectural Design Computation. (3)**

*spring*

Concepts and models for research in computer-aided architectural design with an emphasis on computational methods and a system framework. Discussion, lab. Prerequisite: ANP 500 or instructor approval. Corequisite: ANP 530.

**ANP 590 RC: Computer Programming and Architecture. (1–12)**

*fall*

**ANP 598 Special Topics. (1–4)**

*fall or spring*

**ANP 599 Thesis. (1–12)**

*fall or spring*

Fee.

**ANP 681 Project Development. (3)**

*fall*

Defines and elaborates on major ideas for implementation in ADE 622 in relation to contemporary theory and practice. Seminar.

**Omnibus Courses.** For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 56.

**ARCHITECTURAL PHILOSOPHY AND HISTORY (APH)**

**APH 494 Special Topics. (1–4)**

*once a year*

**APH 505 Foundation Theory Seminar. (3)**

*fall*

Foundation of conceptual architectural inquiry, stressing the reciprocal and interdependent relationship between design and theory. Lecture, seminar. Corequisite: ADE 521.

**APH 509 Foundation Seminar. (3)**

*summer*

Historical, technical, theoretical, environmental, and professional issues in architecture. Lecture, seminar, field trips. Corequisite: ADE 510.

**APH 511 Energy Environment Theory. (3)**

*fall*

Solar and other energy sources in designed and natural environments; architectural, urban, and regional implications of strategies using other renewable resources.

**APH 515 Current Issues and Topics. (3)**

*spring*

Critical examination of current architectural issues, topics, and discourse. Prerequisite with a grade of "C" (2.00) or higher: APH 505. Corequisites: ADE 522; ATE 556.

**APH 581 Contemporary Urban Design. (3)**

*spring*

Explores contemporary city and urban design issues related to contemporary cities. Seminar, lecture, discussion.

**APH 598 Special Topics. (1–4)**

*fall or spring*

**APH 683 Critical Regionalism. (3)**

*spring*

Critical inquiry in cultural grounding; the definition of place in architectural theory and practice. Lecture, field studies.

**Omnibus Courses.** For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 56.

**ARCHITECTURE PROFESSIONAL STUDIES (ARP)**

**ARP 584 Clinical Internship. (1)**

*fall*

Structured practical experience following a contract or plan, supervised by faculty and practitioners. Prerequisite: admission to graduate program.

**ARP 684 Professional Internship. (2–6)**

*fall*

Field experience in an architectural firm specializing in an area directly related to the student's advanced study. Integrates theory and state-of-the-art practices. Credit/no credit. Prerequisite: admission to graduate program.

**Omnibus Courses.** For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 56.

**ARCHITECTURAL TECHNOLOGY (ATE)**

**ATE 494 Special Topics. (1–4)**

*selected semesters*

**ATE 521 Building Environmental Science. (3)**

*fall*

Scientific principles relating to comfort and environmental control. Heat and moisture transfer. Solar/natural energies for heating, cooling, and lighting. Lecture, lab. Prerequisite: admission to graduate program.

**ATE 550 Passive Heating and Cooling. (3)**

*fall*

Theory, analysis, and application of passive and low-energy systems in order to maximize comfort and minimize energy consumption in buildings. Lecture, lab. Prerequisite: admission to graduate program.

**ATE 553 Building Systems III. (3)**

*fall*

Design and integration of building systems, including mechanical, electrical, plumbing, security, communications, fire protection, and transportation. Prerequisite: admission to Master of Architecture program.

**ATE 556 Building Development. (3)**

*spring*

Comprehensive design development through the understanding and integration of building materials and systems. Lecture, seminar. Prerequisite: admission to graduate program. Corequisites: ADE 522; APH 515.

**ATE 557 Construction Documents. (3)**

*selected semesters*

Production of architectural working drawings; legal status, organization, layout, site survey plans, sections, elevations, details, schedules, and coordination. Lecture, lab. Prerequisite: admission to upper division or graduate program.

**ATE 560 Building Energy Analysis. (3)**

*selected semesters*

Computer simulation of building thermal behavior. Software review. Detailed study of selected simulation models using case study projects. Lab. Prerequisite: ANP 475.

**ATE 562 Experimental Evaluation. (3)**

*fall*

Instrumentation, measurement and computational techniques for analysis of building components, and assessment of thermal and luminous performance. Fee.

**ATE 563 Building Structures III. (3)**

*fall*

Analysis, design, and detailing of steel buildings and frames. Lateral analysis of small rigid and braced frame systems. Lecture, lab. Prerequisites: ATE 462 (or its equivalent); admission to graduate program.

**ATE 564 Advanced Structures: Concrete. (3)**  
*selected semesters*

Analysis, design, and detailing of concrete systems, considering continuity, multistory frames and shear walls, and lateral analysis. Computer application. Prerequisite: ATE 563 or instructor approval.

**ATE 582 Environmental Control Systems. (3)**  
*spring*

Heating, ventilation, and air-conditioning systems. Loads, psychrometrics, refrigeration cycle, air/water distribution, controls, energy performance standards, and utility rates. 2 hours lecture, 3 hours lab, field trips. Prerequisite: ATE 451 or 521.

**ATE 599 Thesis. (1–12)**

*fall or spring*  
Fee.

**Omnibus Courses.** For an explanation of courses offered but not specifically listed in this catalog, see “Omnibus Courses,” page 56.

**ARCHITECTURAL COMMUNICATION (AVC)**

**AVC 494 Special Topics. (1–4)**  
*once a year*

**AVC 598 Special Topics. (1–4)**  
*fall or spring*

**Omnibus Courses.** For an explanation of courses offered but not specifically listed in this catalog, see “Omnibus Courses,” page 56.

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## Building Design

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See “Master of Science in Building Design,” page 96.

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## Design

### Master’s Program

[www.asu.edu/caed/SOD](http://www.asu.edu/caed/SOD)

480/965-4135

AED 154

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**Dr. Jacques Giard, Director**

**Professors:** Brandt, Giard

**Associate Professors:** Bernardi, Cutler, Johnson, McDermott, Patel, Sanft, Witt

**Assistant Professors:** Bender, Boradkar, Brungart, Herring, McCoy, Schoenhoff, Shin, Thibeau Catsis

**Clinical Associate Professor:** Weed

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The faculty in the School of Design, College of Architecture and Environmental Design, offer a postprofessional research degree program leading to the Master of Science in Design degree with concentrations in graphic design, industrial design, and interior design. Course offerings focus on such areas as facilities planning and management in design; human factors in design; methodology, theory, and criticism in design; and visual communication design.

The faculty in the school also participate in offering the PhD in Environmental Design and Planning program. See “Environmental Design and Planning,” page 103, for information on this interdisciplinary, collegewide PhD degree program.

### Program Goals

The Master of Science in Design (MSD) degree prepares students for leadership positions in industry, research, and teaching. The program has four goals:

1. to provide graduate education for students who have a baccalaureate degree in Graphic Design, Industrial Design, Interior Design, or a related design discipline;
2. to provide the opportunity for the development of specialized research and design skills to support the graphic design, industrial design, and interior design professions;
3. to provide the opportunity for professionals to gain the necessary research and design skills for academic careers; and
4. to develop critical skills which enable the graduates to contribute to the literature of design through articles, essays, books, and participation in conferences.

### RESEARCH ACTIVITY

Research is an integral component of the MSD program. Research interests of the School of Design faculty include design history, theory, and criticism; ambient environment; human factors and ergonomics; human behavior in the work environment; gender issues in design; leadership; cultural analysis; design methodologies and pedagogies; decision making and creativity; user-centered business and design innovation; ethnography in design; interactive learning experiences; and technology in education. For more information about School of Design faculty research, access the school’s Web site at [www.asu.edu/caed/sod](http://www.asu.edu/caed/sod).

### CONCENTRATIONS

The Master of Science in Design (MSD) degree has three concentrations: graphic design, industrial design, and interior design.

#### Graphic Design Concentration

The graphic design concentration is for individuals interested in advanced studies in visual language, history, theory, criticism, methodology, design processes, and technology. This program develops an understanding of contemporary graphic design issues through specialized research and design skills.

#### Industrial Design Concentration

The industrial design concentration is for individuals interested in advanced studies in human factors, history, theory, criticism and methodology, design processes, and technology. This program develops an understanding of contemporary industrial design issues through specialized research and design skills. It also prepares the graduate student for a career in industrial design education.

### Interior Design Concentration

The interior design concentration is for individuals interested in advanced studies in facilities planning and management, or history, theory, criticism and methodology. This program develops an understanding of contemporary interior design issues through specialized research and design skills. It also prepares the graduate student for a career in interior design education.

### Areas of Study

The Master of Science in Design degree program offers four areas of study.

**Methodology, Theory, and Criticism in Design.** Courses in this area of study address: selected design methodologies that stimulate creativity; methodologies for critical analysis; methodologies that lead to development of or application of theories and philosophies; the historical origins of theories and philosophies that form the basis of contemporary design; the implication of theory in design knowledge and its discourse; strategies for recognizing and interpreting emerging design issues and trends; the evolution of the literature of design criticism; definition of design criticism; the qualifications of design critics' application of theories or philosophies in making judgments; and qualities constituting effective critical writing. Applications include design research, design education, design marketing and production decision, and design criticism.

**Facilities Planning and Management in Design.** This area of study focuses on the coordination of the work place, equipment, and visual (graphic) environment with the people and organizational structure of the institution. The intent is to combine programming and management practices with current professional and technical expertise to provide humane and effective work environments. Facility-related responsibilities to support this concentration cluster into eight functional units: programming; facilities analysis; space management; interior planning and design; human factors; interior codes; public welfare and safety; and interior installation.

**Human Factors in Design.** This area of study identifies the problems, establishes the strategies, and develops the design solutions needed for issues surrounding the human/product interface. The human/product interface focus applies systems (such as interactive design) and environments (such as museum and exhibition design). Special emphasis is placed on the relationship between human and test performance factors. Emphases include qualities of function; methods of forming organizational relationships; factors of environmental control systems (acoustics and illumination, way-finding, etc.); and human factors in graphic, product, and interior design. Subject matter also includes the design of equipment, machines, and spaces; ergonomics and forms of ergonomic documentation; and analysis of relationships between spaces, objects, and people as simulated through computer animation, imaging, and traditional modeling techniques.

**Visual Communication Design.** This area of study emphasizes the production and analysis of visual language systems

in context. Students study the effects of visual media in society and investigate ways of employing that media to communicate information with increasing sophistication. Critical to this process is the development of ideas and approaches independent of commercial and technological trends. Research and applied projects require innovative thinking, writing, and form giving that consciously integrate knowledge of aesthetics, perception, human factors, and technology. Other areas of study, particularly those within the arts and social sciences, often inform research and applied projects. The teaching content of this area is tailored to the needs of the individual applicant; however, students may be invited to work with faculty on current research projects.

**Admission Requirements.** Applicants must hold a baccalaureate degree in Graphic Design, Industrial Design, Interior Design, or a related design discipline to participate in this degree program. In addition to completing the general requirements for admission to the Division of Graduate Studies, applicants must also submit the following materials to

SCHOOL OF DESIGN  
COLLEGE OF ARCHITECTURE AND  
ENVIRONMENTAL DESIGN  
ARIZONA STATE UNIVERSITY  
PO BOX 872105  
TEMPE AZ 85287-2105

1. An unofficial copy of all transcripts (A 3.00 or higher baccalaureate GPA is required for application).
2. An unofficial copy of TOEFL score (A minimum TOEFL score of 550 on paper-based test or 213 on computer-based test is required of international students whose native language is not English).
3. A mandatory statement of intent form (available at [www.asu.edu/caed/SOD/design/PROGRAMS/Forms.htm](http://www.asu.edu/caed/SOD/design/PROGRAMS/Forms.htm)), on which the applicant
  - a. specifies an intended concentration: graphic design, industrial design, or interior design.
  - b. specifies an area of study: facilities planning and management in design; human factors in design; methodology, theory, and criticism in design; or visual communication design.
  - c. discusses a proposed research topic. What will be the research focus? Why is this research important to the applicant, the design community, and the general population?
  - d. specifies his or her proposed mentor for intended research. Faculty biographies can be found on the Web site at [www.asu.edu/caed/SOD](http://www.asu.edu/caed/SOD).
  - e. discusses personal academic background and professional experience that has prepared the applicant for or will support proposed research topic.
4. Three letters of recommendation from persons qualified to comment on the applicant's potential in the selected concentration.

## COLLEGE OF ARCHITECTURE AND ENVIRONMENTAL DESIGN

5. An application for Graduate Research/Teaching Assistantship from applicants wishing to be considered for teaching or research assistantships (international students who wish to be considered for a teaching assistantship are required to pass the Test of Spoken English or the SPEAK test administered by the American English and Culture Program at ASU).
6. An 8.5" x 11" portfolio documenting research and imaginative projects that support the intended concentration.
7. A current résumé or curriculum vitae.

The portfolio is returned after final admission procedures, provided sufficient prepaid postage is enclosed, or if the materials are claimed in person within one year of submission. Unclaimed portfolios are retained for only one year. The School of Design assumes no liability for lost or damaged materials.

Admission to the MSD program is selective. The School of Design does not defer admission.

**Application Deadlines.** All application materials must be received on or before January 15 for fall semester consideration. The School of Design does not admit students in the spring.



The College of Architecture and Environmental Design offers five graduate degree programs.

Tim Trumble photo

Applications for assistantships and scholarships are considered at the same time.

**Selection Procedures.** The School of Design faculty evaluate the applications and supporting materials and recommend to the Division of Graduate Studies whether the applicant should be granted admission or if admission should be denied. The School of Design informs successful applicants of the procedures for enrollment.

**Program of Study.** The MSD program of study consists of 36 semester hours of course work at the 500-level or above with the following distribution:

DSC 580 Practicum: Methods of Teaching Design .....	3
Approved courses in the concentration/area of study .....	9–15
Approved electives outside the school .....	6–12
Approved research methods courses .....	6–9
Thesis or Applied Project .....	6
Total minimum semester hours required .....	36

**Foreign Language Requirements.** None.

**Practicum.** All students in the program must enroll in a three-hour teaching practicum (DSC 580) that focuses on the problems and issues surrounding studio, lecture, and seminar instruction. Emphasis is on the techniques of criticism and individual and group studio teaching.

**Thesis or Applied Project.** For students choosing the thesis option, six semester hours of DSC 599 Thesis apply toward the thesis. Guidelines in the *Format Manual* must be followed. For students choosing the applied project option, six hours of DSC 593 Applied Project apply.

**Final Examination.** A final examination in defense of the thesis or applied project is required for all students in the MSD program.

### Web Addresses

Information about the program in Design, and the College of Architecture and Environmental Design in general, may be found on the Web site at [asu.edu/caed](http://asu.edu/caed). E-mail inquiries or requests should be sent to [designmsd@asu.edu](mailto:designmsd@asu.edu).

### Facilities

The College of Architecture and Environmental Design maintains a high-bay research facility, a transdisciplinary product development laboratory (InnovationSpace), an extensive shop facility, a human factors laboratory, as well as a state-of-the-art material resource center. The college's Research and Service Foundation provides facilities for basic research and community service activities in energy technology, design, and planning.

### DESIGN (DSC)

#### DSC 440 Finding Purpose. (3)

*fall and spring*

Career orientation in the creative professions, including value clarification, decision making, lifestyle planning, goal setting, and expression of individual talents.

#### DSC 500 Research Methods. (1–12)

*selected semesters*

Selection of research problems, analysis of literature, individual investigations, preparing reports, proposal and grant writing. Fee.



**DSC 501 Qualitative Research in Design. (3)**

*spring*

Theory and application of qualitative research. Emphasizes using ethnography to identify and specify innovative concepts and strategies. Prerequisites: graduate standing or instructor approval.

**DSC 520 Contemporary Design Issues. (3)**

*selected semesters*

Projected applications in design production, planning, and decision-making processes. Lecture, seminar. Prerequisites: INT 310 and 311 (or their equivalents).

**DSC 525 Design Methodologies. (3)**

*fall*

Practical exercises and studies in problem-solving strategies; problem definition and supporting theory for the designer. Lecture, seminar, lab. Fee. Prerequisite: senior or graduate standing.

**DSC 526 Visiting Designers. (3)**

*fall*

Series of workshops (three per semester) in which students work closely with professionals and scholars in design and related disciplines. Discussion, field trips, 2 full days of workshop, half-day open critique, public lecture. Prerequisite: graduate standing or instructor approval.

**DSC 527 Contemporary Design Theory. (3)**

*spring*

Aesthetic, political, economic, and social theories that have shaped modern design; theory as the basis for design philosophies. Lecture, seminar. Prerequisite: DSC 525 (or its equivalent).

**DSC 529 Design Criticism. (3)**

*fall*

Critical methods applied to design as material culture and human expression; evaluation of achievement versus intention. Lecture, seminar. Prerequisite: DSC 527 (or its equivalent).

**DSC 544 Human Factors Systems and Documentation. (3)**

*fall*

Advanced topics associated with theory and methods of human factors in design. Individual projects stressing problem organization, evaluation, and documentation. Lecture, seminar, lab. Prerequisite: DSC 344 (or its equivalent).

**DSC 558 Daylighting. (3)**

*selected semesters*

Daylighting as a design determinant; concepts, techniques, methodology, experiments, and case studies. Lecture, studio. Prerequisite: senior or graduate standing.

**DSC 561 Methods in Visual Communication I. (3)**

*fall*

Introduction to methodology in visual communication. Studio. Prerequisite: graduate standing or instructor approval.

**DSC 563 Thesis Document Design. (3)**

*spring*

Emphasizes the construction of the final thesis document as a visual communication object and/or medium. Studio. Prerequisite: graduate standing or instructor approval.

**DSC 580 Practicum: Methods of Teaching Design. (3)**

*selected semesters*

Background and development of design education theories. Concepts of studio teaching methods. Comprehensive student project development and evaluation methods. Prerequisite: graduate standing.

**DSC 581 Internship in Teaching Design. (3)**

*fall*

Develop assignments, conduct critiques, structure dialogue, make presentations, and assist in the instruction of studio and lecture courses. Studio. Prerequisite: graduate standing or instructor approval.

**DSC 592 Research. (1–12)**

*selected semesters*

**DSC 593 Applied Project. (1–12)**

*selected semesters*

Fee.

**DSC 598 Special Topics. (1–4)**

*selected semesters*

Topics may include the following:

- Facilities Planning I
- Facilities Planning II
- Fee.
- Internship in Teaching Design
- Methods in Visual Communication I
- Methods in Visual Communication II
- Thesis Document Design
- Visiting Designers

**DSC 599 Thesis. (1–12)**

*selected semesters*

Fee.

**Omnibus Courses.** For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 56.

## Environmental Design and Planning

### Interdisciplinary Doctoral Program

[www.asu.edu/caed/PHD](http://www.asu.edu/caed/PHD)

480/965-4620

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#### K. David Pijawka, Director, Executive Committee

#### Applied Biological Sciences (East campus)

Professors: Brady, Brock, Mushkatel

Associate Professors: Green, Miller, Whysong

#### Architecture and Landscape Architecture

Professors: Bryan, Ozel

Associate Professors: Cook, Ellin, Zygas

Assistant Professors: Hejduk, Kobayashi, Lerum

#### Design

Professors: Brandt, Giard

Assistant Professors: Bender, McCoy, Thibeau Catsis

#### Planning

Professors: Dandekar, Kihl, Lai, Pijawka

Associate Professors: Cameron, Crewe, Guhathakurta, Kim, Yabes

The Executive Committee on Environmental Design and Planning offers a collegewide interdisciplinary program leading to the PhD degree in Environmental Design and Planning. Three areas of concentration are available: design; history, theory, and criticism; and planning. The faculty of the Schools of Architecture and Landscape Architecture, Design, and Planning participate in offering the degree. Faculty from disciplines outside of the College of Architecture and Environmental Design may participate in offering the program if appropriate to the interdisciplinary nature of the student's research interest.

For more information, access the program Web site at [www.asu.edu/caed/PHD](http://www.asu.edu/caed/PHD), or send e-mail to [caed.phd@asu.edu](mailto:caed.phd@asu.edu).

### DOCTOR OF PHILOSOPHY

The PhD degree in Environmental Design and Planning is an individualized collegewide interdisciplinary degree that integrates graduate courses and faculty research expertise from a variety of academic areas: architecture, building design, environmental planning, environmental resources, graphic design, industrial design, and interior design. The program is at the cutting edge of creating new knowledge in environmental design and planning. It complements interdisciplinary research in other disciplines within the university. Broad in scope, the program involves multidisciplinary research interests at both micro- and macroscale levels of design and planning. The program provides research experience for students wishing to pursue careers in academe and in industry as members of interdisciplinary design and planning teams on environmental and energy issues, as well as for those wishing to teach in the architecture, design, or planning fields.

#### Areas of Concentration

The PhD degree in Environmental Design and Planning offers concentrations in the following areas based on the research and teaching expertise of participating faculty.

**Design.** Design—microscale issues in the designed environment—includes the study of architecture, building science, graphic design, industrial design, interior design, and landscape architecture. Research fields include acoustics, affordable housing, climate-responsive building, computer-aided design, energy modeling, exhibit design, facilities planning and management, fire protection, human factors in design, industrialized housing, landscape architecture, lighting, passive solar energy and conservation, and site planning and wayfinding.

**History, Theory, and Criticism.** History, theory, and criticism—cultural and theoretical issues in the history of the environment—includes the study of architecture, environmental planning, industrial design, interior design, landscape architecture, and urbanism. Research fields include study of the arts and crafts movement, contemporary criticism and analysis, design theories and methods, history of architecture and design, history of building science, history of city planning, and landscape theory and criticism.

**Planning.** Planning—macroscale issues in the planned environment—includes the study of environmental resource management, landscape architecture, planning, and urban design. Research fields include contemporary urban design, economic development, environmental assessment, environmental planning, ethics in planning, housing and urban development, international development planning, landscape ecology, legal aspects of planning, planning for ethnically diverse populations, the protection of environmentally sensitive areas, public participation, social dimensions of planning, urban design policy, urban planning, and urban and regional development.

**Admission Requirements.** Students are admitted to the PhD program only upon completion of a master's degree in architecture, environmental resources, design, landscape architecture, or planning or upon the demonstration of equivalent standing.

In addition to meeting Division of Graduate Studies admission requirements, applicants must submit the following items to

PHD PROGRAM IN ENVIRONMENTAL DESIGN  
AND PLANNING  
COLLEGE OF ARCHITECTURE AND  
ENVIRONMENTAL DESIGN  
ARIZONA STATE UNIVERSITY  
PO BOX 871905  
TEMPE AZ 85287-1905

1. a minimum of three letters of reference;
2. a sample of written work and any other evidence relevant to admission to the program;
3. a statement of purpose (summarizing career objectives, the reasons for pursuing a doctoral education, an indication of the proposed area of concentration, and a potential mentor in the College of Architecture and Environmental Design); and
4. Graduate Record Examination (GRE) scores.

A Test of English as a Foreign Language score of at least 600 is required of all applicants whose native language is not English. International applicants who are interested in receiving funding as Teaching Associates (TAs), must also submit a Test of Spoken English (TSE) score of at least 50.

Submitted materials are returned after final admission procedures, provided sufficient prepaid postage is enclosed, or if the materials are claimed in person within one year of submission. Unclaimed materials are retained for only one year. The PhD program assumes no liability for lost or damaged materials.

**Application Deadlines.** All application materials should be received on or before December 31 for fall semester admissions. Applications for associateships and scholarships are considered at the same time.

**Selection Procedures.** The PhD Executive Committee evaluates the applications and supporting materials and recommends to the Division of Graduate Studies whether the applicant should be granted admission or if admission should be denied. Admission decisions are based on the compatibility of the applicant's career goals with the purpose of the degree program and research interests of faculty, previous academic training and performance, GRE scores, reference letters, and the ability of the potential mentor to devote time to the student.

**Program of Study.** The degree is structured as a 54-semester-hour post-master's program, not as an 84-semester-hour postbaccalaureate program. Students must be thoroughly familiar with design and planning and are expected to demonstrate a high level of academic maturity before being admitted to the program.

Of the 54 semester hours, 24 must be research and dissertation credit. At least 30 semester hours of the remainder, exclusive of dissertation and research hours, must be completed after admission to the PhD program at ASU. No transfer credits are allowed to fulfill the 54-semester-hour minimum requirement for the program.

The student is required to take 15 semester hours in the area of concentration and a minimum of nine semester hours of specialized course work outside the area of concentration; a minimum of six semester hours in current research and research methods is required.

Each student entering the PhD program is required to submit a program of study during the first year. The director of the PhD program appoints a committee made up of a minimum of three faculty members from the areas of concentration. This committee includes a prospective mentor and is responsible for approving the student's program of study and monitoring the student's progress in the program.

**Preliminary Candidate Evaluation.** Before the end of the first academic semester of course work, the student's mentor and the program director conduct a preliminary evaluation of the student. The evaluation is based on the student's program check sheet, a progress evaluation by the mentor, and an informal meeting with the program director. It is directed at the student's selected area of concentration at the time of their admission to the program.

Performance on the preliminary candidate evaluation serves as a guide to the student's program committee as the committee members counsel the student and formulate a program of study.

**Academic Standard and Evaluation.** Each student in the program receives an annual evaluation. Students submit, to their mentor and the program director, a two-page summation of the academic year. The summation must include proposed research, including progress toward dissertation; a list of goals accomplished during the past academic year; and projected goals for the upcoming academic year. In addition, students present their summation to the CAED core faculty.

Students must meet the minimum Division of Graduate Studies requirements, but program standards may exceed these requirements. For example, students are expected to

1. have all grades in graduate courses 3.00 GPA or higher,
2. have made sufficient progress in their research projects,
3. have attended or presented papers at seminars/meetings,
4. have accomplished their goals from the previous year, and
5. set realistic goals for the upcoming academic year.

**Foreign Language Requirements.** None.

**Comprehensive Examinations.** Upon completion of course work in the PhD program of study and before admission to candidacy and the start of dissertation research, the student must take a written examination on his or her knowledge of the chosen area of concentration and interdisciplinary knowledge, including the ability to communicate across disciplines. The student's program committee conducts an oral examination following the review of the written examination.

**Dissertation Requirements.** The dissertation must consist of a fully documented written analysis of a problem that is

original in nature and extends the knowledge and/or theoretical framework of the field. The research must demonstrate the student's creativity and competence in independent research.

**Final Examination.** A final oral examination in defense of the dissertation is required. A candidate must pass the final examination within five years after completing the comprehensive examination.

**Research Activity.** Research topics within the PhD program in Environmental Design and Planning may change during the course of research, either by expanding or narrowing the focus of the topic. For more information about student and faculty research, access the Web site at [www.asu.edu/caed/PHD](http://www.asu.edu/caed/PHD).

### Environmental Design and Planning

In addition to the EPD 700-level courses, refer to the course listing under the following majors for courses that are available to support the collegewide interdisciplinary degree program in Environmental Design and Planning: architecture, building design, environmental planning, environmental resources, industrial design, interior design, and landscape architecture.

#### ENVIRONMENTAL DESIGN AND PLANNING (EPD)

##### EPD 598 Special Topics. (1–4)

*selected semesters*

Topics may include the following:

- Arts and Crafts Movement in Design
- Computational Models in Environmental Design
- Ecological Assessment and Evaluation
- Elderly Housing Issues in the U.S. Southwest
- Human Comfort
- Integral Urbanism
- Issues in Environment and Behavior Studies
- Issues in Industrial Design
- Issues in Sustainable Design
- New Evaluation Methods for the Built Environment
- Philosophy of Environmental Design Research

##### EPD 700 Interdisciplinary Research Methods. (3)

*spring*

Introduces the philosophy and methodology of interdisciplinary research in environmental design and planning. Seminar. Fee.

##### EPD 710 Current Research in Design. (3)

*fall*

Review and critical evaluation of contemporary literature and method in architecture, building science, interior design, industrial design, and landscape architecture. Seminar. Fee.

##### EPD 712 Current Research in Planning. (3)

*fall*

Review and critical evaluation of contemporary literature and method in environmental planning, landscape ecology, urban design, and urban and regional planning. Seminar. Fee.

##### EPD 714 Current Research in History, Theory, and Criticism. (3)

*fall*

Review and critical evaluation of contemporary literature and method in the theory and history of architecture, design, and planning. Seminar. Fee.

##### EPD 792 Research. (1–12)

*selected semesters*

##### EPD 799 Dissertation. (1–12)

*selected semesters*

**Omnibus Courses.** For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 56.

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## Transportation Systems

### Interdisciplinary Certificate Program

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See "Transportation Systems," page 84.

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## Urban and Environmental Planning

### Master's Program

[www.asu.edu/caed](http://www.asu.edu/caed)

480/965-7167

AED 158

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#### Hemalata Dandekar, Director, School of Planning

**Professors:** Dandekar, Kihl, Lai, Pijawka

**Associate Professors:** Cameron, Crewe, Guhathakurta, Kim, Yabes

**Assistant Professors:** Balsas, Lara-Valencia

**Professor of Practice:** Tiger

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The mission of the School of Planning is to advance knowledge and skills for the planning and design of healthy, aesthetically rewarding, equitable, and sustainable communities. The School of Planning offers a 47-semester-hour, accredited, professional, Master of Urban and Environmental Planning (MUEP) degree. The school also participates in an interdisciplinary collegewide program leading to the PhD degree in Environmental Design and Planning.

### MASTER OF URBAN AND ENVIRONMENTAL PLANNING

The Master of Urban and Environmental Planning (MUEP) is an interdisciplinary, professional degree designed to prepare students for leadership roles in planning within both the public and private sectors and from local to international organizations. The MUEP degree is accredited by the Planning Accreditation Board. The curriculum includes a common core of required courses that provides linkage between knowledge and practice, and fundamental theories and skills. The two specializations offered are *community and urban development* and *environmental planning*. The community and urban development specialization provides students with knowledge and skills in areas such as housing, economic and community development, public policy analysis, transportation, land use planning, urban design, and historic preservation. The environmental planning specialization provides students with knowledge and skills in such areas as sustainable design, environmental resources, growth management, environmental policy anal-

ysis, open space design, and conservation. Specializations provide connections between the School of Planning and the other disciplines in the College of Architecture and Environmental Design and the university. Students have a unique opportunity to integrate urban and environmental aspects of planning in rapidly developing metropolitan areas in the demographic and climatic context of the southwest region of the United States.

Students must take one of the three following options to obtain an integrative experience in research and planning: capstone studio, professional project, or thesis. Practical experience in planning may also be obtained through an optional internship program. In addition to the core faculty, the program is enriched by the participation of faculty from other ASU academic units as well as leading planning practitioners from the Phoenix area.

**Admission Requirements and Procedures.** To be considered for the program, the applicant must fulfill all admission requirements of the Division of Graduate Studies, in addition to meeting admission requirements of the School of Planning. The following materials are required by the School of Planning and should be submitted to

DIVISION OF GRADUATE STUDIES  
ARIZONA STATE UNIVERSITY  
PO BOX 871003  
TEMPE AZ 85287-1003

1. a statement of intent (maximum 600 words) explaining (a) the applicant's interest in planning; (b) the applicant's academic background, and if appropriate, preparation for the selected area of specialty: community and urban development, or environmental planning (these may include written samples or a portfolio, but are not required); and (c) the applicant's educational objectives;
2. test scores: TOEFL scores from international students whose native language is not English;
3. three letters of recommendation from references who are qualified to comment on the applicant's potential in the selected area of study; and
4. a résumé.

International students who wish to be considered for a teaching assistantship and whose first language is not English are required to pass the TSE administered by the American English and Culture Center at ASU.

**Application Deadlines.** Since most financial aid packages are granted for the fall semester, applicants are strongly encouraged to submit their materials on or before March 15 to the Division of Graduate Studies. For spring enrollment, application materials are due on October 15. However, applicants who submit their materials after the semester deadline are considered on a rolling basis according to space availability.

**Selection Procedures and Notifications.** School faculty evaluate the applications and supporting materials and recommend to the Division of Graduate Studies if the applicant should be granted regular or provisional admission or if admission should be denied. If admission is provisional, the

Division of Graduate Studies specifies in its letter of admission the provisions to be met to gain regular status.

**Program of Study.** An approved program of study is 47 semester hours or 50 with an optional internship. The program has the typical distribution as follows:

Required core courses, including either the capstone studio, thesis, or professional project.....	23
Specialization courses.....	24
Optional internship.....	3
Total .....	50
Total without internship .....	47

Students must take required core courses and select an area of specialization. Students must also select a capstone studio, professional project, or a thesis option. All students are expected to have taken at least one course in statistics. Inquiries about the MUEP program should be directed to the School of Planning.

**Foreign Language Requirements.** None.

**Thesis Requirements.** A capstone studio, thesis, or professional project is required.

**Final Examination.** A comprehensive oral examination administered by the supervisory committee and based on the student’s thesis or professional project is required of all students electing the thesis or professional project option.

**RESEARCH ACTIVITY**

Scholarly activities of the School of Planning include community development, environmental planning, housing and urban policy, international research, historical research and preservation, transportation, planning theory and education, and urban-environmental modeling.

For more information about the school’s research activities, access the Web site at [asu.edu/caed/sop/index.htm](http://asu.edu/caed/sop/index.htm).

**LANDSCAPE ARCHITECTURE (PLA)**

**PLA 411 Landscape Architecture Theory and Criticism. (3)**

*spring*  
Critically analyzes landscape architecture theories and projects to evaluate validity of design and contribution to society. Prerequisites: PLA 310, 361, 362, 420, 461.

**PLA 461 Landscape Architecture V. (4)**

*fall*  
Landscape ecological planning: collection and application of ecological data relevant to planning and design at landscape scale. Studio. Fee. Prerequisite: PLA 362.

**PLA 485 International Field Studies in Planning. (1–12)**

*summer*  
Organized field study of planning in specified international locations. May be repeated for credit with school approval. Study abroad, field trip. Cross-listed as PUP 485. Credit is allowed for only PLA 485 or PUP 485.

**Omnibus Courses.** For an explanation of courses offered but not specifically listed in this catalog, see “Omnibus Courses,” page 56.

**URBAN AND ENVIRONMENTAL PLANNING (PUP)**

**PUP 412 History of the City. (3)**

*fall*  
The city from its ancient origins to the present day. Emphasizes European and American cities during the last five centuries. Cross-listed as APH 414. Credit is allowed for only APH 414 or PUP 412. Prerequisite: College of Architecture and Environmental Design junior standing.

**PUP 420 Theory of Urban Design. (3)**

*spring*  
Analyzes the visual and cultural aspects of urban design. Theories and techniques applied to selected study models. Prerequisite: junior standing.

**PUP 433 Zoning Ordinances, Subdivision Regulations, and Building Codes. (3)**

*fall and spring*  
Analyzes zoning ordinances, subdivision regulations, building codes, and other planning implementation techniques relative to local development. Prerequisite: upper-division BSP, HUD, or Environmental Planning major.

**PUP 434 Urban Land Economics. (3)**

*spring*  
Interaction between space and economic behavior. Examines the use and value of land through economic theories. Prerequisite: admission to upper division or instructor approval.

**PUP 436 City Structure and Planning. (3)**

*spring*  
Political structure and organization of government as it relates to planning. Prerequisites: PUP 301; junior standing.

**PUP 442 Environmental Planning. (3)**

*fall*  
Environmental planning problems, including floodplains, water quality and quantity, solid and hazardous waste, air quality, landslides, and noise. Field trips. Prerequisites: PUP 301; junior standing.

**PUP 444 Preservation Planning. (3)**

*spring*  
History, theory, and principles of historic preservation. Emphasizes legal framework and methods practiced. Prerequisite: junior standing.

**PUP 445 Women and Environments. (3)**

*fall*  
Examines the role women play in shaping the built environment; ways built/natural forms affect women’s lives. Focuses on contemporary U.S. examples. Prerequisite: junior standing.

**PUP 452 Ethics and Theory in Planning. (3)**

*fall*  
Ethics and theory of professional planning practice in urban and regional communities. Prerequisite: admission to upper division or instructor approval.

**PUP 485 International Field Studies in Planning. (1–12)**

*summer*  
Organized field study of planning in specified international locations. May be repeated for credit with school approval. Study abroad, field trip. Cross-listed as PLA 485. Credit is allowed for only PLA 485 or PUP 485.

**PUP 498 Pro-Seminar. (1–7)**

*fall*  
Topics may include the following:  
• Senior Pro-Seminar. (1)

**PUP 501 The Idea of Planning. (3)**

*fall*  
Comprehensive review of planning profession within a political, governmental, multicultural, and gender framework.

**PUP 510 Citizen Participation. (3)**

*spring*  
Theory and practice of citizen participation in planning. Examines and critiques participation techniques and roles of planners. Prerequisite: upper-division BSP, HUD, or Master of Urban and Environmental Design major.

**PUP 520 Planning Theories and Processes. (3)**

*fall*  
Reviews past and current theoretical developments related to social change perspectives, the role and ethics of planners. Prerequisite: instructor approval.

**PUP 524 Planning Methods I. (3)**

*fall*  
Methods for urban planning research. Emphasizes research design, demographic analysis, forecasting, and survey research. Pre- or corequisite: PUP 501.



## COLLEGE OF ARCHITECTURE AND ENVIRONMENTAL DESIGN

### **PUP 525 Urban Housing Analysis. (3)**

*fall*

Nature, dimensions, and problems of urban housing, government policy environment, and underlying economics of the housing market.

### **PUP 531 Planning and Development Control Law. (3)**

*spring*

Case studies on police power, eminent domain, zoning, subdivision controls, exclusion, preservation, urban redevelopment, and aesthetic and design regulation.

### **PUP 532 Advanced Urban Planning Law. (3)**

*spring*

Advanced study on selected issues in planning law, such as urban design controls, exclusionary practices, compensable regulation, and tax policy. Prerequisite: PUP 432 or instructor approval.

### **PUP 542 Environmental Administration and Planning. (3)**

*spring*

Environmental administration of policies and their relationship to environmental planning practices. Prerequisite: PUP 442.

### **PUP 544 Urban Land Use Planning. (3)**

*spring*

Theory and methods of urban land use planning, including the rational planning process, comprehensive, functional, and neighborhood plans. Pre- or corequisite: PUP 501 or instructor approval.

### **PUP 546 Urban Design Policy. (3)**

*selected semesters*

Advanced study of local, state, and federal urban design policy. Prerequisite: PLA 420 or PUP 420.

### **PUP 561 Urban Design Studio. (4)**

*selected semesters*

Current urban form and urban landscape design problems within the Phoenix-centered region. Studio.

### **PUP 572 Planning Studio I: Data Inventory and Analysis. (4)**

*fall*

Comprehensive planning workshop dealing with real community problems. Focuses on the data gathering and analysis steps of the planning process. Fee. Prerequisite: Master of Environmental Planning major or instructor approval.

### **PUP 574 Planning Studio II: Options and Implementation. (4)**

*spring*

Comprehensive planning workshop dealing with real community problems. Focuses on the development of options, plan making, and plan implementation. Studio. Fee. Prerequisite: PUP 572 or instructor approval.

### **PUP 575 Environmental Impact Assessment. (3)**

*spring*

Criteria and methods for compliance with environmental laws; develops skills and techniques needed to prepare environmental impact statements/assessments.

### **PUP 576 GIS Studio. (3)**

*spring*

GIS as a tool to address large, multifaceted planning problems. Prerequisites: a combination of GPH 373 (or 598) and PAF 591 and PUP 322 or only instructor approval.

### **PUP 580 Practicum. (1–12)**

*fall, spring, summer*

Topics may include the following:

- Capstone Studio/Workshop. (5)  
Comprehensive planning workshop dealing with real community problems. Focuses on integrative real-world planning applications culminating in a professional report.

### **PUP 584 Internship. (3)**

*fall, spring, summer session 1*

Internship under the supervision of practitioners in the Phoenix area or other locales. Credit/no credit.

### **PUP 591 Seminar. (1–12)**

*fall and spring*

Topics may include the following:

- Transportation Systems Pro-Seminar

### **PUP 593 Applied Project. (1–12)**

*fall, spring, summer*

Topics may include the following:

- Professional Project. (5)  
Applies advanced planning techniques and methodology to a specific, real-world planning issue, with a specified client.

### **PUP 598 Special Topics. (1–4)**

*selected semesters*

Topics may include the following:

- Transportation Planning and the Environment

### **PUP 599 Thesis. (5)**

*fall, spring, summer*

Creative, scholarly work developed from independent inquiry involving a substantial body of original research. Fee.

### **PUP 622 Planning Methods II: Quantitative Planning Analysis. (3)**

*spring*

Methods and models used as the basic quantitative techniques of urban, regional, and environmental planning and policy analysis. Prerequisites: PUP 524; a course in statistics; instructor approval.

### **PUP 642 Land Economics. (3)**

*fall*

Land use and locational impact of economic activity and the urban real property market. Prerequisite: instructor approval.

### **PUP 644 Public Sector Planning. (3)**

*spring*

Urban fiscal problems and public goods provision in state and local governments. Prerequisites: a course in microeconomics; instructor approval.

**Omnibus Courses.** For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 56.



Patio courtyard in the College of Architecture and Environmental Design/North building

Tim Trumble photo