







## COLLEGE OF ENVIRONMENTAL DESIGN

Spyros Amourgis, *Interim Dean*  
Noel Vernon, *Associate Dean*

The College of Environmental Design offers accredited professional degree programs at the graduate and undergraduate level in Architecture, Landscape Architecture, and Urban and Regional Planning. The Art Department offers a bachelor of arts degree, with options in Fine Arts and Graphic Design, and a minor in Art History. The curricula of the college of Environmental Design are centered within the departments but share a common commitment to discover workable solutions to complex environmental and cultural concerns.

As professional disciplines the departments share a commitment to the development of skills for a professional career. These skills are enriched by the support courses taken within the College and the University. The faculty is comprised of professionals involved in research, practice and instruction.

As of winter 1995, all incoming ENV students are required to have access to a computer selected by the College of Environmental Design. Such access may be accomplished by purchase, rental, or other alternatives agreed upon by the College and the student. The College will work closely and confidentially with students requiring aid to assure computer access to all ENV students. No students will be denied entry to ENV based upon inability to purchase or rent a computer. The College also will work with students already owning suitably-powerful computers using other platforms.

### ENV UNITS

In 1995-96, a number of Teaching and Research Units (TRU) were established to foster faculty cross-disciplinary discussion and action in teaching and learning, applied research, and community and university service. The following units have begun operation in the following areas of faculty expertise and interest:

Environmental Design Computers and Information Science (Director: Dr. Felix Barreto)

Environmental Design Technology (Director: Dr. Hofu Wu)

Environmental Design History/Theory (Director: Professor Arthur Hacker)

Community Development and Planning (Director: Dr. Richard Wilson)

OCCUR [Outreach Community Center for Urban Research] (Director: Professor Norberto Nardi)

More units will be established during the coming year. Participating faculty are from ENV and other colleges on campus.

### INSTITUTE FOR ENVIRONMENTAL DESIGN, RESEARCH

Denise Lawrence, *Director*

The purpose of the Institute for Environmental Design, Research is to provide a focus for the encouragement and support of research, the improvement of education, the provision of community and professional services and the enrichment of minds and lives within the College of Environmental Design at Cal Poly. The broader concerns of the Institute are the identification and resolution of environmental design issues of importance to society as well as to the planning and design professions. The Institute is currently active in the areas of Architecture, Behavior and Design, Computers, Design Education Progress, Energy, Environmental Education, Housing, International Development, Landscape Design, Professional Practice, Resource Management/Conservation, Transportation, School Facility Design, Urban Design/Community Development, and Urban/Regional Planning.

The Institute sponsors activities and provides support that facilitating research by and faculty and students of the College of Environmental Design and the larger university community. These include symposia, lectures, and research space and resources.

Further information on the Institute and its programs is available from the Director, Dr. Denise Lawrence (909) 869-2674.

### INSTITUTE FOR INTERNATIONAL STUDIES

Spyros Amourgis, *Director*

The Institute has been formed within the College to develop, coordinate and promote academic programs and activities abroad, as well as to assist with visiting students and scholars on campus. The Institute's primary role is to monitor undergraduate and graduate studies and programs run overseas for any of the four disciplines of the College, as well as monitoring visiting foreign students. The College encourages students to participate in the CSU International programs in Italy, Denmark and Canada, as well as in the College sponsored programs in Greece, France, Japan and Mexico. An average of 60-80 students participate each year in the various programs. Under existing agreements, an increasing number of foreign students study each year at the College.

Further information is available from the Director, Professor Spyros Amourgis, Building 7, Room 103A, (909) 869-2691.

### OCCUR/CAL POLY POMONA

(Outreach Community Center for Urban Research)

217 South Lemon Street, Ontario, CA

Norberto F. Nardi, Director, Professor of Architecture

In the world of design, OCCUR provides a unique oasis for work on real urban projects in an off-campus, interdisciplinary facility located in the heart of downtown Ontario. Studio, classroom space and an outdoor courtyard, workshop area are adjacent to the OCCUR offices, reminiscent of the successful atelier teaching methods of the past. Regular academic design courses for all ENV departments, as well as special courses, meet at the facility in single or multi-discipline unit to work on projects tailored to specific urban issues, or relating to a project for a community or organization. A report is published at the end of the course.

The resources of the College of Environmental Design, as well as the expertise available from the entire University, benefit OCCUR's approach to projects, one that earned the Center the 1995 Academic Award from the American Planning Association, California Chapter. Research focuses on education through academic coursework and on community outreach through involvement in local projects, special educational workshops, and seminars.

OCCUR's mission is to perform a variety of research services for community-oriented programs within the Cal Poly Pomona region which are intended to improve the quality of the physical environment and the lives of local residents, as well as to expand the educational experience of Cal Poly Pomona students and faculty. For further information, contact OCCUR at 909-984-1858 or FAX 909-984-4809.

### RICHARD AND DION NEUTRA VDL RESEARCH HOUSE

Christine Theodoropoulos, *Director*

(The initials V.D.L. stand for Cornelius H. van de Leeuw, Dutch industrialist and friend of Richard Neutra who offered aid and entrusted the young Neutra to build Research House I.)

The Neutra Research House (VDL I) on Silverlake Boulevard in Los Angeles was designed and built in 1932. The present home has been completely reconstructed upon the original foundations after an electrical fire in 1963, utilizing similar room sizes and configuration. Under the direction of Richard Neutra's son, Dion, significant changes were executed in floor plans and appearance, as well as detailing and fenestration, particularly in the entry and on the east facade. The 1938 Garden House (off the south patio) suffered small damage in the fire, and it was here that Dion and his family lived during the reconstruction, allowing him the opportunity to supervise the work closely. VDL II, as the re-built house was then referred to, served as Mr. and Mrs. Richard Neutra's residence and the base for the Neutra Institute. In 1979, Mrs. Neutra and California State Polytechnic University, Pomona came to an agreement whereby the Richard and Dion Neutra Research House would become a University facility. Through the generosity of Mrs. Neutra and the entire Neutra family, the University has gained an architectural work of great significance and an invaluable instructional aid.

**ENV LIBRARY**

Wendy L. Carr, *Librarian*  
Kathy L. Morgan, *Slide Curator*

The ENV Library houses a variety of materials which support the curriculum of the college. These materials include books, periodicals, technical reports, product information, samples, videos and slides. Materials are circulated to current faculty, staff, and students. Special services available include: Faculty Reserve—a service whereby faculty can reserve materials from the general collection or bring materials in for student use for a specified loan period (2 hour, 24 hour, 48 hour, or one week); Class Orientation—a brief orientation by staff members to the Collection for classes as a whole, either in the classroom or within the facility (advance notice and an appointment are required); and Computer Search—a service where students may search the University Library catalog through an on-line terminal.

**ENV ARCHIVE**

Wendy L. Carr, *Archive Coordinator*

The Archive is an organized history of projects by student, faculty and outside professionals in the environmental design disciplines, including papers, books, maps, photos, models, plans, and audio and visual recordings. As an aid to research, some archive materials are available for limited use by faculty, staff, students and distinguished visitors and scholars. Access to the Archive is limited. For further information, contact the Archive Coordinator.

**ENV OFFICE OF STUDENT AFFAIRS**

Joyce E. Howland, Ph.D., *Director*  
Harlean Tobin, BArch, MURP, *Coordinator, Internship Program*

Admissions: Prospective students to all programs in the college may obtain admissions information in this office. Copies of articulation agreements with community colleges are also available.

Registration: Information is provided on telephone registration, adding and dropping classes, simultaneous enrollment at other colleges, petitions for undergraduate credit in a graduate course, etc.

Records: Files for students currently enrolled in the undergraduate architecture and landscape architecture programs are maintained in this office. All other active students files are maintained in the respective department offices. Students may inquire in this office as to whether or not an instructor has submitted a change of grade; however, blank change of grade forms are given out to faculty only. Incomplete grade contracts are kept on file in this office. Student files may be checked out by faculty only. Student addresses and telephone numbers are confidential and will be given out only to faculty.

Advising: This office assists the student's faculty advisor in providing undergraduate students with academic advice and information regarding University and College policy and procedure. Graduate students should contact the graduate coordinator in their major department for academic advising and graduate program information. Advisement for students who are participating in the Intensive Learning Experience (ILE) Program is coordinated by Joyce Howland. All petitions which require the Dean's signature are submitted to Joyce Howland for approval after the student has obtained all other signatures required on the form.

Internships: ENV students are encouraged to enhance their education with work experience in their chosen profession. Internships augment educational experiences by providing knowledge necessary to evaluate career goals and objectives and by offering opportunities to network within the profession. This office solicits and coordinates internships in Architecture, Art, Landscape Architecture, and Urban and Regional Planning to assist students in acquiring quality part-time positions at professional firms and agencies. Architecture students should contact this office for information regarding verification of their required work-experience hours. Through this office, special resume writing assistance is available to ENV students and workshops are offered to assist students in developing and presenting their resumes and portfolios. Each spring, a book containing resumes of graduating seniors is made available to local professionals.

**COMPUTER-AIDED INSTRUCTION LABORATORY (CAI LAB)**

Felix R. Barreto, *Director*  
Paul Tran, *Instructional Support Assistant*

The Computer Aided Instruction Laboratory, located in the Environmental Design Building, provides a range of work stations for ENV students to explore significant issues in their fields with computers. Classroom computer instruction is supported by the lab for a variety of design and planning applications, including Geographic Information Systems, Computer Aided Design and statistical modeling. Applications research and continuing education for the professional community are also carried out by the lab.

Further information is available from the Director, Felix R. Barreto, Building 7, Room 107, (909) 869-2727.

**Departments and Majors****ARCHITECTURE**

Barry L. Wasserman, *Chair*, Bachelor of Architecture, Master of Architecture.

**ART**

Maren H. Henderson, *Chair*, Bachelor of Arts in Art, with options in Fine Arts and Design, minor in Art History.

**LANDSCAPE ARCHITECTURE**

Kenneth S. Nakaba, *Chair*, Bachelor of Science in Landscape Architecture, Master of Landscape Architecture

**URBAN AND REGIONAL PLANNING**

Richard W. Willson, *Chair*, Bachelor of Science in Urban and Regional Planning, Master of Urban and Regional Planning.

**SPECIAL ADMISSIONS CRITERIA**

The undergraduate program in architecture is designated as an impacted program (see earlier section of catalog on "Admissions"). In order to alleviate the pressure of impaction and to better evaluate applicants to the programs in question, a special admission policy has been adopted. Candidates interested in applying to Architecture must do so during the month of November to be considered for the following academic year. All candidates must meet regular University admission standards as well as additional standards required by the Department of Architecture. For specific admission information, interested students should contact the College of Environmental Design Office of Student Affairs at (909) 869-2670.

**Interdisciplinary General Education (IGE)**

Students majoring in the various programs in ENVIRONMENTAL DESIGN are encouraged to take part of their General Education requirements through the Interdisciplinary General Education Program (IGE). This IGE program is specially designed to meet the needs of ENV students particularly in the areas of writing, critical thinking, humanities and the social sciences.

**ENVIRONMENTAL DESIGN PROGRAM**

Leanne Sowande

**ENV 101/101L Foundations of Design I (2/2)**

Studio introducing undergraduate ENV majors to design fundamentals, stressing a basic vocabulary of 2- and 3-D design and design process in an atmosphere of discovery and creativity. Projects will focus on perception, visualization, representation, and expression as well as an introduction to the examination of aesthetic, symbolic, and cultural elements. First studio of a two-studio ENV sequence. One 2-hour lecture; two 3-hour laboratories.

**ENV 102/102L Foundations of Design II (2/2)**

Second studio in a sequence of design fundamentals for undergraduate ENV majors. The course is site- and site-user-related, with an emphasis upon con-

textualism and the physical and cultural determinants of design and urban form. Prerequisite: ENV 101. One 2-hour lecture; two 3-hour laboratories.

**ENV 112 Design and the Built Environment (4)**

Introduction to the tools, techniques, and processes that design professionals use to create our physical world. Experiences with the built environment provides ways to join abstract ideas with practical and creative solutions for living. 4 lecture/problem-solving.

**ENV 115/115A History of Art and Design I (3/1)**

Interdisciplinary, chronologically-structured course on the history of art and environmental design from pre-history to 1400 A.D. Course emphases include aesthetics, design ethics, the chronology of significant events of world art and environmental history (including the "great" monuments, moments, and figures as well as the vernacular continuum), and the relevance of historical art and design issues to the present and the future, as well as written communication and analytical skills. Three 1-hour lectures; one 1-hour seminar.

**ENV 120/120L Introduction to Computers in Design (1/1)**

Interdisciplinary introduction to computers, focusing on thinking skills, creativity, and expression and providing a practical introduction to the use of computers in design. One 1-hour lecture; one 2-hour laboratory.

**ENV 200 Special Problems for Lower Division Students (1-2)**

Individual or group investigation, research, studies, or surveys of selected problems. Total credit limited to 4 units with a maximum of 2 units per quarter.

**ENV 299/299A/299L Special Topics for Lower Division Students (1-4)**

Study of a selected topic, the title to be specified in advance. Instruction is by lecture, laboratory, or a combination of both. Total credit limited to 8 units, with a maximum of 4 units per quarter. Prerequisite: permission of instructor.

**ENV/EDU 340 Classroom City (4)**

This course presents City Building Education, a hands on introduction to design, architecture, and the built environment. How it relates to classroom content areas.

**ENV 350 Diversity in Design Language (4)**

Explores relationships of belief systems and mythology to design and the organization of the physical environment. Development of unique design vocabulary responsive to the natural environment. Interdisciplinary student teams create contemporary projects with culturally diverse design language reflecting the changing regional and world population. 4 hours lecture/problem-solving.

**ENV 370 California Designs for Living (4)**

The creative interaction of peoples of California with their natural and built environments. The response of culturally unique designs for living to universal human needs and processes. The influence of California environments on the world.

**ENV 380 Design Studio Research (2-4)**

Environment-behavior research coordinated with specific environmental design studio courses. Introduction to and experience with archival and field research methods, data collection and analysis techniques, interpretation for design problems, and report preparation. Concurrent enrollment in specified environmental design studio required. 2 or 4 lecture/discussion.

**ENV 400 Special Problems for Upper Division Students (1-2)**

Individual or group investigation, research, studies, or surveys of selected problems. Problems to be initiated by student with guidance from faculty. Total credit limited to 4 units with a maximum of 2 units per quarter.

**ENV 401 Take Part Workshop (2)**

Instruction and practice in planning participatory workshops; facilitation of the environmental planning process. Prerequisite: Concurrent enrollment in environmental design program.

**ENV 402/402L Design Research Communication (2/2)**

Introduction to basic techniques in the visual and graphic representation and communication of environment-behavior and social science research. Examination of theory building/hypothesis testing, micro and macro-levels of research, quantitative and qualitative methods of inquiry, and appropriate modes of graphic interpretation. Skill development in comprehending and generating research data and graphic and written communication of findings. 2 hours lecture/problem-solving, 2 three-hour labs. Concurrent enrollment required.

**ENV 420 The Designer as Teacher (4)**

A course preparing architecture and planning students for communicating issues of design of the built environment to clients, community groups, and students. 4 lecture/discussion.

**ENV 421 Design Issues in Housing (4)**

Current behavioral, social and cultural issues in housing design as they relate to domestic organization, life cycle, class and ethnicity. Considerations of function and meaning in form making, design adaptations in light of change, and evaluation procedures.

**ENV 422 Designing for Elderly and Disabled (4)**

Identifies special needs of elderly and disabled adult populations in relation to the physical care, recreation and public facility environments. Addresses design considerations in the built environment which include: housing, work places, public spaces and recreational areas.

**ENV 423 Design for Children and Accessibility (4)**

Examines physical environmental issues as they are related to the growth and developmental stages of children and youth (0-15). Compares urban, suburban and rural settings for care, recreation, learning and shelter of children and youth. Addresses social, ethnic and cultural issues in the planning and design of spaces for children and youth.

**ENV 424 Institutional Environments (4)**

Design research on the history and theory of total institutions including hospitals, hospices, mental institutions, prisons and other totalizing environments such as space stations. Design and programming issues such as safety and security, surveillance, home-like qualities, privacy and community, and relation to exterior spaces. 4 hours lecture/discussion.

**ENV 470, 471, 472, 473 Cooperative Education (2-4) (2-4) (2-4) (2-4)**

Full-time work experience that applies environmental design principles to practice. Prerequisite: Junior standing or approval of cooperative education coordinator. Work assignment must have prior approval. Course may be repeated per student's major department limitations. Prerequisite: Architecture students must have fulfilled the 1000 hours office experience.

**ENV 450 Sustainable Communities (4)**

Historical survey and cross cultural study of sustainable communities in relation to their particular built form. Examination and analysis of these intentional communities as models of traditional, alternative, co-housing and future communities. Exploration of legal and economic organization and holding patterns, housing and community design features, and values inhibiting or facilitating experimentation. 4 hours lecture/discussion.

**ENV 489 Community Design and Social Change (4)**

Principles and processes integrating spatial and social relations in the organization and expression of community. Cross cultural examination of change in "design" of communities; implications for quality of life and role of designer. Lecture 4 hours. Prerequisite: Upper Division Standing.

**ENV 499/499A/499L Special Topics for Upper Division Students (1-4)**

Study of a selected topic, the title to be specified in advance. Instruction is by lecture, laboratory, or a combination of both. Total credit limited to 8 units with a maximum of 4 units per quarter. Prerequisite: permission of instructor.

## ARCHITECTURE

Barry L. Wasserman, *Chair*

William Adams

Brooks Cavin, III

Michael W. Folonis

Arthur E. Hacker

Denise Lawrence

Sigrid Miller Pollin

Dariouche Showghi

Christine Theodoropoulos

Bernard Zimmerman

Spyros Amourgis

Richard J. Chylinski

Hsin-Ming Fung

Paul Helmle

Norberto Nardi

Judith Sheine

Patrick Sullivan

Hofu Wu

The Bachelor of Architecture as a first professional degree (B.ARC) is accredited by the National Architecture Accrediting Board.

The degree, Bachelor of Architecture, is offered in a five-year curriculum which focuses on the design laboratory. The studio sequence consists of three segments: A three-year basic core, a four-quarter group of topic studios taken jointly by fourth- and fifth-year students, and a culminating senior project.

Coursework within the Department of Architecture is open only to those students who have been admitted to the Department and are designated Architecture Majors.

Prior to graduation, all students are required to fulfill 500 hours of work. A minimum of 250 hours must be with a registered architect and the remaining 250 hours must be with a faculty approved alternative. This work must be verified by the department coordinator of Professional Practice and Cooperative Education.

The Department of Architecture is a member of the Association of Collegiate Schools of Architecture. Courses are taught by a faculty of professionals engaged in practice, education, and research.

For information regarding the graduate program, refer to the graduate section of this catalog.

### ADMISSION TO THE PROGRAM

Because the program offered by the Department of Architecture is over subscribed, applications are accepted only in the month of November prior to admission in the following Fall Quarter.

### CORE COURSES FOR MAJOR\*

(Required of all students)

Design Foundations I	ENV	101	(4)
Design Foundations II	ENV	102	(4)
History of Art & Design I	ENV	115	(4)
Intro to Computers in Design	ENV	120	(2)
Introduction to Architecture	ARC	103	(4)
Architectural Design	ARC	201	(6)
Architectural Design	ARC	202	(6)
Architectural Design	ARC	203	(6)
Architectural Design	ARC	301	(6)
Architectural Design	ARC	302	(6)
Architectural Design	ARC	303	(6)
Structures	ARC	321	(4)
Structures	ARC	322	(4)
Structures	ARC	323	(4)
Environmental Controls	ARC	331	(4)
Environmental Controls	ARC	332	(4)
Building Construction	ARC	341	(4)
Building Construction	ARC	342	(4)
Ancient and Medieval Architecture	ARC	361	(4)
Renaissance and Baroque Architecture	ARC	362	(4)
European Architecture (1750-1950)	ARC	363	(4)
Architectural Design	ARC	401	(6)

\* A 2.0 cumulative GPA is required in core courses including option courses for the major in order to receive a degree in the major.

Architectural Design	ARC	402	(6)
Architectural Design	ARC	403	(6)
Architectural Design	ARC	405	(6)
Architectural Design	ARC	406	(6)
Seismic Design in Arch.	ARC	424	(4)
American Arch	ARC	464	(4)
Architectural Practice	ARC	471	(4)
Architecture and Computers	ARC	474	(4)
Project Research Data Collection	ARC	491	(2)
Project Programming	ARC	494	(2)
Bachelor's Degree Project	ARC	495	(8)

Total Core Courses . . . . . 152

### PROFESSIONAL ELECTIVES

Select 16 units from below or from approved supplemental department list:

Energy Conservation	ARC	333	(4)
Solar Applications	ARC	334	(4)
Advanced Structures	ARC	425	(4)
Advanced Structures	ARC	426	(4)
Contemporary Architecture	ARC	465	(4)
Japanese Architecture	ARC	466	(4)
California Architecture	ARC	467	(4)
Latin American Architecture	ARC	468	(4)
The Architect and the Development Process	ARC	473	(4)
Computer Aided Design in Architecture	ARC	475	(4)
Business Development in Architecture	ARC	476	(4)
Behavioral Factors in Architecture	ARC	481	(4)
Behavioral Factors in Architecture	ARC	482	(4)
Behavioral Factors in Architecture	ARC	483	(4)
Approved Engineering Elective			(4)

Total Professional Electives . . . . . (16)

### GENERAL ELECTIVES

Free Electives . . . . . (9-10)

### INTERDISCIPLINARY GENERAL EDUCATION

The Department of Architecture prefers that students starting in the program as freshmen take the Interdisciplinary General Education (IGE) program coursework to meet their general education degree requirements. Coursework would be as follows:

#### IGE PROGRAM

Consciousness and Community	IGE	120	(4)
Rationalism and Revelation	IGE	121	(4)
Authority and Faith	IGE	122	(4)
Culture and Contact	IGE	220	(4)
Reform and Revolution	IGE	221	(4)
Individualism and Collectivism	IGE	222	(4)
Promise and Crisis	IGE	223	(4)
Connections Seminar	IGE	224	(4)

#### ADDITIONAL GENERAL EDUCATION REQUIREMENTS (TRACK B)

##### Area 1: (pattern 2)

B. Advocacy and Argument	COM	204	(4)
C. Freshman English II	ENG	105	(4)

##### Area 2: (pattern 1)

A. Trigonometry	MAT	106	(4)
B. College Physics	PHY	121	(3)
College Physics Lab	PHY	141	(1)
C. Any listed Life Science course			(4-5)
D. Any listed U.D. math or science course			(4)



**Area 3:**

A. Any course from list A, B, or C			(4)
D. Principles of Economics	.EC	201	(4)
or Principles of Economics	.EC	202	

**Area 4:**  
Satisfied by IGE content

**Area 5:**  
See Advisor for recommended list (8)

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Total IGE/GE Courses (72-73)

**GENERAL EDUCATION COURSES (TRACK B)**

**Area 1:**

A. Freshman English I	.ENG	104	(4)
B. Advocacy and Argument	.COM	204	(4)
C. Freshman English II	.ENG	105	(4)

**Area 2:**

A. Trigonometry	.MAT	106	(4)
B. College Physics	.PHY	121	(3)
College Physics Lab	.PHY	141	(1)
C. Any listed Life Science course			(4-5)
D. Any listed U.D. math or science course			(4)

**Area 3:**

A. Any listed Fine & Performing Arts			(4)
B. Any listed Philosophy & History			(4)
C. Any listed Literature & Foreign Language			(4)
D. Principles of Economics	.EC	202	(4)
or Principles of Econ.	.EC	201	(4)
E. Principles of Sociology	.SOC	201	(4)
or Introduction to Cultural Anthropology	.ANT	102	(4)
or any listed EWS course			
F. Any listed course except PLS 290			(4)
G. Any listed course			(4)

**Area 4:**

U.S. History	.HST	202	(4)
Intro American Gov	.PLS	201	(4)

**Area 5:**  
See Advisor for recommended list (8)

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Total General Education Courses (72-73)

TOTAL UNITS FOR 5-YEAR BACHELOR OF ARCHITECTURE DEGREE . . . . 250

**Course Descriptions**

(Courses open only to declared ARC Majors unless otherwise specified)

**ARC 103/103L Introduction to Architectural Design (1/3)**

An introduction to the formal and spatial language of architecture explored studio projects informed by the analysis of case studies. Prerequisites: ENV 101/101L, 102/102L, 115. Lecture: 1 hour; 3 three-hour laboratories. Concurrent enrollment required.

**ARC 200 Special Problems for Lower Division Students (1-2)**

Individual or group investigation, research, studies or survey of selected problems. Problems to be student initiated under faculty guidance. Total credit limited to 4 units, with a maximum of 2 units per quarter.

**ARC 201/201L Architectural Design (3/3)**

Exploration of basic design and architectural elements. Continuing development of the process of architectural design with an emphasis on two and three dimensional communication techniques. Prerequisite: ARC 103. 3 lec-

tures, 3 three-hour laboratories. Concurrent enrollment required.

**ARC 202/202L Architectural Design (3/3)**

A continuation of basic design exercises focusing on simple buildings and their relationship to the site and to the imperatives of nature. Prerequisite: ARC 201. 3 lectures, 3 three-hour laboratories. Concurrent enrollment required.

**ARC 203/203L Architectural Design (3/3)**

The design process continued using simple programs and the influence of context. Introduction to environmental and structural constraints. (C grade or better required for advancement to ARC 301.) Prerequisite: ARC 202. 3 lectures, 3 three-hour laboratories. Concurrent enrollment required.

**ARC 299/299A/299L Special Topics for Lower Division Students (1-4)**

Study of a selected topic, the subject matter and title to be initiated by the faculty in advance. Instruction is by lecture, laboratory, or a combination of both. Prerequisite: Permission of instructor.

**ARC 301/301L Architectural Design (3/3)**

The design process as it relates to building materials and construction. The interaction of aesthetic, technological, and economic determinants. Prerequisite: ARC 203 with a C grade or better, ARC 341, ARC 363, MAT 106. 3 lectures, 3 three-hour laboratories. Concurrent enrollment required.

**ARC 302/302L Architectural Design (3/3)**

Interaction of construction technology, human behavior and site development on the design of multiple buildings in specific context. Prerequisite: ARC 301. 3 lectures, 3 three-hour laboratories. Concurrent enrollment required.

**ARC 303/303L Architectural Design (3/3)**

Integration of construction technology, human behavior and site development on the design of mixed use buildings in specific context. Prerequisite: ARC 302. 3 lectures, 3 three-hour laboratories. Concurrent enrollment required.

**ARC 321/321A Structures (3/1)**

Theories of structural design and the relationship of structure to form, function, and economics. Analysis of structural systems, including the determination of forces and stresses. Prerequisite: MAT 106, PHY 121, 141. 3 one-hour lectures, 1 one-hour discussion. Concurrent enrollment required.

**ARC 322/322A Structures (3/1)**

Theories of structural designs and the relationship of structure to form, function and economics. Analysis of structure systems including the determination of forces, stresses and deflections. The design of wood and steel structures as a medium for introducing basic concepts of building and construction systems and materials. Prerequisite: ARC 321. 3 one-hour lectures, 1 one-hour discussion. Concurrent enrollment required.

**ARC 323/323A Structures (3/1)**

Theories of structural design and the relationship of structure to form, function, and economics. Analysis of structural systems, including the determination of forces, stresses, and deflections. The design of concrete structures as a medium for introducing basic concepts of building and construction systems and materials. Prerequisite: ARC 322. 3 one-hour lectures, 1 one-hour discussion. Concurrent enrollment required.

**ARC 331/331A Environmental Controls (3/1)**

Principles, evaluation and control of environmental systems. Prerequisite: ARC 203, MAT 106. 3 one-hour lectures, 1 one-hour lecture discussion. Concurrent enrollment required.

**ARC 332/332A Environmental Controls (3/1)**

Integration, conservation and control of environmental systems. Prerequisite: ARC 331. 3 one-hour lectures, 1 one-hour discussion. Concurrent enrollment required.

**ARC 333 Energy Conservation (4)**

Integration and management of environmental systems in design to minimize energy and costs. Prerequisite: ARC 332. 2 two-hour lectures.

**ARC 334 Solar Design Applications in Architecture (4)**

Advanced study of building with respect to solar design. The study of passive and active solar design, building orientation, materials and site planning. A review of historical applications of solar design. The study of solar design as an alternate energy source. Prerequisite: ARC 332. 2 two-hour lectures.

**ARC 341 Building Construction (4)**

An overview of construction, building components, and systems investigated through case studies. Prerequisite: ARC 202. 2 two-hour lectures.

**ARC 342 Building Construction (4)**

Techniques of construction, building components, and systems investigated through case studies and taught as an integral part of ARC 301, Architectural Design. Selected building materials will be discussed. Prerequisite: ARC 203, 341. 2 two-hour lectures.

**ARC 361/361A Ancient and Medieval Architecture (3/1)**

A survey of the architecture of ancient Greece and Rome, of the early Christian and Byzantine eras, and of the Romanesque and Gothic periods in Western Europe. Prerequisite: ENV 115, ENG 104 or 105 or COM 204. 3 one-hour lectures, 1 one-hour discussion. Concurrent enrollment required.

**ARC 362/362A Renaissance and Baroque Architecture (3/1)**

The theory and design of architecture and city planning from 1400 to 1750 with an emphasis on Italy, France, and England. Prerequisite: ARC 361. 3 one-hour lectures, 1 one-hour discussion. Concurrent enrollment required.

**ARC 363/363A European Architecture 1750-1950 (3/1)**

A survey of European architecture from the late eighteenth century to the mid-twentieth century including stylistic revivals, technological changes, and achievements of major architects. Prerequisite: ARC 362. 3 one-hour lectures, 1 one-hour discussion. Concurrent enrollment required.

**ARC 400 Special Problems for Upper Division Students (1-2)**

Individual or group investigation, research, studies or surveys of selected problems. Problems to be initiated by student with guidance from faculty. Total credit limited to 4 units with a maximum of 2 units per quarter. Prerequisite: ARC 303.

**ARC 401/401L Topics in Architectural Design (3/3)**

Topics in Advanced Architectural Design. See Department Office for list of topics offered. Lecture: 3 hours; 3 three-hour laboratories Prerequisites: ARC 303, ARC 323, ARC 332, ARC 342. Concurrent enrollment required.

**ARC 402/402L Topics in Architectural Design (3/3)**

Topics in Advanced Architectural Design. See Department Office for list of topics offered. Lecture: 3 hours; 3 three-hour laboratories Prerequisite: ARC 401. Concurrent enrollment required.

**ARC 403/403L Architectural Design (3/3)**

An exploration of urban design issues including research and analysis of the topics associated with mixed use projects. Lecture: 3 hours. 3 three-hour laboratories Prerequisite: ARC 402. Concurrent enrollment required.

**ARC 405/405L Topics in Architectural Design (3/3)**

Topics in Advanced Architectural Design. See Department Office for list of topics offered. Lecture: 3 hours; 3 three-hour laboratories Prerequisite: ARC 403. Concurrent enrollment required.

**ARC 406/406L Topics in Architectural Design (3/3)**

Topics in Advanced Architectural Design. See Department Office for list of topics offered. Lecture: 3 hours; 3 three-hour laboratories Prerequisite: ARC 405. Concurrent enrollment required.

**ARC 424 Seismic Design in Architecture (4)**

A study of the fundamental characteristics of earthquake design in architecture. A survey of building codes, case studies of building performance in earthquakes and calculations relative to earthquake design. Prerequisite: ARC 323. 2 two-hour lectures.

**ARC 425 Advanced Structures (4)**

Topics of importance conducted in seminar addressing particular issues, such as seismic design, tensile structures and case studies in structural performance. Prerequisite: ARC 424. 2 two-hour lectures.

**ARC 426 Advanced Structures (4)**

The structural analysis of a building. The calculation of vertical and horizontal loads on a wood frame or steel structure, and the design and selection of the structural elements and connectors. Prerequisite: ARC 424. 2 two-hour lectures.

**ARC 451 Theory of Architecture and Urbanism (4)**

The theories which form the basis of architecture and urbanism including the art of giving visual coherence and organization to the built environment. 2 two-hour lectures. Prerequisite: Upper division status in declared major. Not open to architecture majors.

**ARC 464/464A American Architecture (3/1)**

English, Spanish, and French Colonial American Architecture of the new republic. Nineteenth-century eclecticism and technical innovation. The formulation of a modern architectural theory. Prerequisite: ARC 363. 3 one-hour lectures, 1 one-hour discussion. Concurrent enrollment required.

**ARC 465 Contemporary Architecture (4)**

A study of the development of post-Bauhaus architecture in England, France, United States, Japan and South America. Prerequisite: ARC 363. 2 two-hour lectures.

**ARC 466 Japanese Architecture (4)**

A survey of Japanese architecture from feudal times to the present with emphasis on the traditional house and the innovative architecture of the post-war period. Prerequisite: ARC 363. 2 two-hour lectures.

**ARC 467 California Architecture: The Look of the Place (4)**

California examined from the vantage of its architectural elements, its houses, workplaces, civic spaces, and roads, and their history. The influences, events, values, technologies, and processes which interact in the making of architecture and which result in human patterns upon the landscape of California will be surveyed. Field trips. Prerequisite: ARC 363 or permission of instructor. Open to undergraduate non-majors. Two 2-hour lectures.

**ARC 468 Latin American Architecture (4)**

A survey of architecture and urbanism in Latin America from the Pre-Columbian era to the present. Identification of design issues is addressed through case studies and design exercises. Prerequisite: ARC 363. 2 two-hour lectures.

**ARC 471 Architectural Practice (4)**

The administrative, legal, ethical aspects of the architectural profession and the relationship between the profession and the construction industry. Prerequisite: ARC 203 or equivalent. 2 two-hour lectures.

**ARC 473 The Architect and the Development Process (4)**

The potential roles of the architect in the development process will be discussed. Issues include goals, appraisal of needs, economics, and market analysis feasibility studies, appraisal procedures, cash flow methods, financing options, decisions, design and delivery processes, involvement at levels of design decisions and project administration. Prerequisite: ARC 471. 2 two-hour lectures.

**ARC 474 Introduction to Computer-Aided Design in Architecture (4)**

A laboratory exploration of the principles governing the use of computers in the architectural design process. This introductory CAD course is designed to give students a working knowledge of the AutoCAD system. Prerequisites: ENV 120, ARC 303 or permission of instructor. 2 two-hour lectures.

**ARC 475 Advanced Computer-Aided Design in Architecture (4)**

Advanced study in the use of computers in the architectural design process emphasizing enhanced visualization skills through the use of electronic media. Prerequisite: ARC 474. 2 two-hour lectures.

**ARC 476 Business Development in Architecture (4)**

The study of the relationship between the architect, employee, client, and contractor; including a study of new business development strategies, winning a commission, marketing, and client communications. Prerequisites: ARC 471. 2 two-hour lectures.

**ARC 481 Behavioral Factors in Architecture (4)**

Relationship of the concepts of psychology, social anthropology and sociology to the design of the built environment. The effects of architecture on its users. The relationship of social patterns and cultural mores to urban patterns. Prerequisite: ARC 203 or permission of instructor. Lecture: 4 hours.

**ARC 482 Behavioral Factors in Architecture (4)**

A course designed to study methods of programming and project evaluation in the development of architectural design work. Prerequisite: ARC 481. Lecture: 4 hours.

**ARC 483 Behavioral Factors in Architecture (4)**

A course designed to study in a seminar format case studies of the application of behavioral factors in the design process. Prerequisite: ARC 482. Lecture: 4 hours.

**ARC 491 Project Research Data Collection (2)**

Identification, development of bibliography and initial research for Bachelor degree project. Seminar: 2 hours. Prerequisite: Admission to ARC 405.

**ARC 494 Project Programming (2)**

Continuation of ARC 491. Research and programming of the Bachelor degree project. Seminar: 2 hours. Prerequisite: ARC 491.

**ARC 495 Bachelor's Degree Project (8)**

Comprehensive architectural design project illustrating the individual student's proficiency in the design process. The independent design projects are meant to reveal an understanding of programming, human behavior, context, conceptual design, integration of structural and environmental systems, design development, and verbal and visual presentation. Prerequisites: ARC 406 and ARC 494.

**ARC 499/499A/499L Special Topics for Upper Division Students (1-4)**

Study of a selected topic, the subject matter and title to be initiated by the faculty in advance. Instruction is by lecture, laboratory, or a combination of both. Prerequisite: Permission of instructor and ARC 203.

## ART

Maren H. Henderson, *Chair*  
 Yoram Makow, *Coordinator, Design*  
 Eileen M. Fears  
 Joe Hannibal  
 Sandra Rowe

Charles D. Fredrick  
 Babette R. Mayor  
 Stanley C. Wilson

The Art Major provides a sequence of courses leading to the bachelor of arts degree. The program consists of an option in Fine Arts, an option in Graphic Design, and a minor in Art History. The program focuses on the development of skills in both studio and academic endeavors, on creative problem solving, on aesthetic analysis, and on the production of art forms.

Students in Fine Arts should expect to develop skills and knowledge in painting, drawing, printmaking, ceramics, sculpture, and art history. Students in Graphic Design should expect to develop skills in graphic design, printing, illustration, exhibition design, and design by computer (including motion graphics and video). Skills from either option will enable students to find employment in art, design, and related fields, or to pursue their education at the graduate level.

A student majoring in art at Cal Poly under the Fine Arts option may wish to prepare for a career in teaching. The art major program at Cal Poly has been approved by the California Commission on Teacher Credentialing as a Single Subject Waiver Program. This means that, for the Cal Poly art major, the requirement for taking the National Teachers Examination in art is waived.

Most art courses are available for the general university student.

### CORE COURSES FOR MAJOR\*

(Required of all students)

Introduction to Drawing	ART	140A	(3)
Introduction to Design	ART	150A	(3)
or Design Foundations I	ENV	101/101L	
History of Western Art	ART	212	(4)
History of Western Art	ART	213	(4)
History of Western Art	ART	214	(4)
Senior Project	ART	461	(2)
Senior Project	ART	462	(2)
Undergraduate Seminar	ART	463	(2)

### OPTION COURSES FOR MAJOR\*

#### FINE ARTS

Intro to Clay	ART	130A	(3)
Intro to Crafts	ART	190A	(3)
History of Tribal Art	ART	211	(4)
or History of Asian Art	ART	216	
Intro to Painting	ART	220A	(3)
Intermediate Drawing	ART	242A	(3)
Life Drawing	ART	244A	(3)
Printmaking	ART	260A	(3)
Fundamentals of Sculpture	ART	280A	(3)
Foundations of Modern Art	ART	312	(4)
or Contemporary Art	ART	313	
3-D Design	ART	387A	(3)
Minimum of 17 upper division units in Art			
with consent of advisor			(17)

#### GRAPHIC DESIGN

Lettering & Typography	ART	251A	(3)
Graphic Layout	ART	252A	(3)
2-D Design	ART	253A	(3)
Graphics: Intro to the Computer	ART	255A	(3)
Printmaking	ART	260A	(3)
Drafting for Artists	ART	342A	(3)

\* A 2.0 cumulative GPA is required in core courses including option courses for the major in order to receive a degree in the major.

Drawing for Illustration	ART	346A	(3)
Graphic Media & Production	ART	351A	(3)
Advanced Graphics	ART	352A	(3)
Design by Computer I	ART	355A	(3)
Design by Computer II	ART	356A	(3)
Relief Printmaking	ART	361A	(3)
or Intaglio Printmaking	ART	363A	
or Three-dimensional Design	ART	387A	
Advanced Design	ART	453A	(3)
Design by Computer III	ART	456A	(3)

### SUPPORT AND ELECTIVE COURSES

#### FINE ARTS

Intro to Computers in Design	ENV	120/120L	(2)
Intermediate Painting	ART	324A	(3)
or Transparent Watercolor	ART	325A	
Life Drawing	ART	344A	(3)
or Expressive Drawing	ART	345A	
Multimedia Painting	ART	327A	(3)
or Intermediate Sculpture	ART	381A	
Approved electives, chosen in consultation with advisor			(13)

#### GRAPHIC DESIGN

Intro to Computers in Design	ENV	120/120L	(2)
Intro to Clay	ART	130A	(3)
or Intro to Crafts	ART	190A	
or History of Tribal Arts	ART	211	
or History of Asian Art	ART	216	
or Fund of Sculpture	ART	280A	
Intro to Painting	ART	220A	(3)
or Intermediate Drawing	ART	242A	
or Exhibition Design	ART	288A	
Foundations of Modern Art	ART	312	(4)
or Contemporary Art	ART	313	
Photography	COM	131/131L	(2/2)
Principles of Marketing	MKT	301	(4)
Promotional Strategies	MKT	307	(4)
Approved electives chosen in consultation with advisor			(10)

### GENERAL EDUCATION COURSES

#### Area 1:

Any pattern			(12)
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#### Area 2:

Must include at least one lab class.

A. Select one course			(4)
B. Select one course			(4)
C. Select one course			(4)
D. Select one course			(4)

#### Area 3:

A. History of Art & Design I	ENV	115/115A	(4)
B. History of World Civ	HST	101	(4)
or History of World Civ	HST	102	
C. Select one course			(4)
D. Select one course			(4)
E. Select one course			(4)
F. History of Art & Design II	ENV	116/116A	(4)
G. Health, Nutrition, and the Integrated Being	PE/FN	203	(4)
or General Psychology	PSY	201	

#### Area 4:

United States History	HST	202	(4)
Intro to American Government	PLS	201	(4)

#### Area 5:

See advisor			(8)
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The total curriculum must include 60 units of upper division courses.

**ART HISTORY MINOR**

History of Western Art . . . . .	.ART	212	(4)
History of Western Art . . . . .	.ART	213	(4)
History of Western Art . . . . .	.ART	214	(4)

The student will select five additional courses (20 units) from the following:

History of Tribal Arts . . . . .	.ART	211	(4)
History of Asian Art . . . . .	.ART	216	(4)
History of Art in the USA . . . . .	.ART	310	(4)
History of Design . . . . .	.ART	311	(4)
Foundations of Modern Art . . . . .	.ART	312	(4)
Contemporary Art . . . . .	.ART	313	(4)
Art of Mexico, Central & South America . . . . .	.ART	314	(4)
Art of the Ancient Near East . . . . .	.ART	315	(4)
Art of the Classical World . . . . .	.ART	316	(4)
Art of the Middle Ages . . . . .	.ART	317	(4)
Art of the Italian Renaissance . . . . .	.ART	318	(4)
Art of the Baroque . . . . .	.ART	320	(4)
History of Design . . . . .	.ART	322	(4)
Art History Seminar . . . . .	.ART	418	(4)

**Course Descriptions****ART 110 The Visual Arts (4)**

Introduction to basic forms, styles, and aesthetics of the visual arts. Includes Western and Non-Western cultures. 4 lecture/discussion.

**ART 130A Introduction to Clay (3)**

Exploration of fundamentals of ceramic materials utilizing slab, coil, and mold making. Emphasis on developing creative ability. 6 hours activity.

**ART 140A Introduction to Drawing (3)**

Analysis and practice of drawing. Problems involving development of perception. Emphasis on concepts and methods. 6 hours activity.

**ART 141A Foundations of Drawing (3)**

Study of drawing with emphasis on depictive concepts, materials, tools and techniques. 6 hours activity. Prerequisite: Art 140 or permission of instructor.

**ART 150A Introduction to Design (3)**

Development of appreciative and creative skills. Variety of materials used, with an emphasis on two dimensional design concepts. 6 hours activity.

**ART 190A Introduction to Crafts (3)**

Basic projects with various craft materials. Development of two- and three-dimensional skills and concepts through the materials and their properties. Criteria applied to craft materials. 6 hours activity.

**ART 200 Special Problems for Lower Division Students (1-2)**

Individual or group investigation, research, studies or surveys of selected problems. Total credit limited to 4 units, with a maximum of 2 units per quarter.

**ART 211 History of Tribal Arts (4)**

Art of tribal cultures-African, Oceanic, North American Indian-within context of religious beliefs and social function. 4 lectures.

**ART 212 History of Western Art (4)**

Comprehensive survey and analysis of the development of art in Western civilizations from prehistoric times to the Renaissance. 4 lectures.

**ART 213 History of Western Art (4)**

Comprehensive survey and analysis of the development of art in Western civilizations from the Renaissance to the 18th century. 4 lectures.

**ART 214 History of Western Art (4)**

Comprehensive survey and analysis of the development of art in Western civilization from the 18th to the 20th centuries. 4 lectures.

**ART 216 History of Asian Art (4)**

Survey of art and architecture of India, Southeast Asia, China, Korea and Japan. 4 lecture/discussion.

**ART 220A Introduction to Painting (3)**

Image as painting. Varied projects designed to foster development of visual equivalents for ideas and emotions using basic painting skills. 6 hours activity. Suggested: Art 140A, 141A and 150A.

**ART 225A Fundamentals of Watercolor Painting (3)**

Methods and techniques with transparent watercolor. Outdoor sketching and studio projects. 6 hours activity. Prerequisite: Art 140A and Art 150A or permission of instructor.

**ART 242A Intermediate Drawing (3)**

A synthesis of the basic drawing elements-line, value, texture, composition and perspective-with an imaginative and self-expressive use of material. 6 hours activity. Prerequisite: Art 140A and Art 141A or permission of instructor.

**ART 244A Beginning Life Drawing (3)**

Skills and techniques in drawing the human figure from studio models. 6 hours activity. Prerequisite: ART 140A or permission of instructor.

**ART 251A Lettering and Typography (3)**

Development of appreciative and skillful usage of alphabets. Techniques of forming and spacing letters. 6 hours activity.

**ART 252A Graphic Layout (3)**

Design principles of visual communication. Projects in page layout, corporate image, and advertising design. 6 hours activity. Prerequisite: Art 251A or permission of instructor.

**ART 253A Two-Dimensional Design (3)**

Elements and principles of two-dimensional design, especially color theory and visual perception. 6 hours activity. Prerequisite: Art 150A or permission of instructor.

**ART 255A Graphics: Introduction to the Computer as a Medium (3)**

Introduction to the use of personal computers in design and visual communication. Emphasis on state-of-the-art design and illustration software. 6 hours activity. Prerequisite: Art 150 or permission of instructor.

**ART 260A Printmaking (3)**

Method and techniques of printmaking. Relief and intaglio processes. 6 hours activity.

**ART 262A Screen Printing (3)**

Screen printing as an art form using paper, glue, lacquer film stencils and photo techniques. 6 hours activity.

**ART 280A Fundamentals of Sculpture (3)**

Fundamentals of sculpture involving modeling, carving or forming clay, plaster, wood, stone and metal. 6 hours activity. Suggested: Art 130A and Art 190A.

**ART 288A Exhibition Design (3)**

Practices and projects in exhibition design and display. Includes wall display and gallery installation. 6 hours activity.

**ART 299/299A/299L Special Topics for Lower Division Students (1-4)**

Group study of a selected topic, the title to be specified in advance. Total credit limited to 8 units, with a maximum of 4 units per quarter. Prerequisite: permission of instructor. Instruction is by lecture, activity, laboratory, or a combination. Corequisites may be required.

**ART 310 Art of the United States (4)**

Survey of the art of the United States from the provincial art of the colonies to the key role of American artists in the development of modern art. 4 lectures.

**ART 311 History of Design (4)**

Survey of the great periods of design from ancient to modern with emphasis on the modern period. Includes both western and non-western civilizations. Analysis of principles and methods. 4 lectures.

**ART 312 Foundations of Modern Art (4)**

Comprehensive survey and analysis of the founding movements and key developments in modern art in Europe and the United States from 1900 to the contemporary period. 4 lectures.

**ART 313 Contemporary Art (4)**

Analysis of the visual arts in Europe and the United States in the last quarter-century with special attention to the current scene. 4 lectures. Prerequisite: Art 312 or permission of instructor.

**ART 314 Art of Mexico, Central and South America (4)**

Arts of pre-Columbian civilizations and the colonial period to the present. 4 lecture/discussion.

**ART 315 Art of the Ancient Near East (4)**

Survey of the arts of ancient civilizations, primarily Egypt and Mesopotamia, showing the interrelations and cultural exchanges of the ancient world. 4 lectures.

**ART 316 Art of the Classical World (4)**

Survey of the arts of the classical world; the development of Greek, Etruscan, and Roman art. 4 lectures.

**ART 317 Art of the Middle Ages (4)**

Survey of art and architecture of the European Middle Ages, from early Christian art through late Gothic. 4 lectures.

**ART 318 Art of the Italian Renaissance (4)**

Survey of art and architecture of Italy of the 14th through 16th centuries. 4 lectures.

**ART 320 Art of the Baroque Period (4)**

Survey of art and architecture of the 17th and 18th centuries in both Northern and Southern Europe. Prerequisite: Art 212 or 213 or 214 or permission of instructor. 4 lecture/discussion.

**ART 324A Intermediate Painting (3)**

Painting methods and techniques with emphasis on form and composition. 6 hours activity. Prerequisite: Art 220 or permission of instructor. May be repeated for total of 9 units.

**ART 325A Transparent Watercolor (3)**

Methods and techniques with transparent watercolor. Outdoor sketching and studio projects. 6 hours activity. Prerequisite: Art 225A or permission of instructor. May be repeated for total of 9 units.

**ART 327A Multimedia Painting (3)**

Painting projects in mixed media. Discovering visual effects by combining traditional and nontraditional methods and techniques. 6 hours activity. Prerequisite: Art 220A or permission of instructor. May be repeated for total of 9 units.

**ART 332A Pottery (3)**

Basic methods of forming, decorating, glazing and firing pottery forms with an emphasis on use of the potter's wheel. 6 hours activity. May be repeated for a total of 9 units.

**ART 334A Ceramics (3)**

Intensified study of ceramic and sculptural forms; study of glaze calculation and firing processes. 6 hours activity. Prerequisite: Art 130A or permission of instructor. May be repeated for a total of 9 units.

**ART 335A Raku (3)**

Introduction to asymmetrical forms with an emphasis on low-fire glaze calculations. Aspects of primitive kiln construction with concentration on reduction firings. 6 hours activity. Prerequisite: Art 130A or permission of instructor.

**ART 338A Ceramics: Glaze Calculations (3)**

Analytical approach to the development of glazes; working knowledge of the empirical formula; understanding of glaze materials. 6 hours activity. Prerequisite: Art 130A.

**ART 342A Drafting for Artists (3)**

Basic mechanical drawing techniques and interpretations; architectural drafting, furniture detailing, blueprint reading, and graphic communication. 6 hours activity. Prerequisite: Art 242A or permission of instructor.

**ART 344A Life Drawing (3)**

Drawing for creative expression from studio models using variety of drawing materials. 6 hours activity. Prerequisite: Art 244A or permission of instructor. May be repeated for a total of 9 units.

**ART 345A Expressive Drawing (3)**

Advanced problems in draftsmanship with special emphasis on linear and textural expression. 6 hours activity. Prerequisite: Art 242A or permission of instructor. May be repeated for a total of 9 units.

**ART 346A Drawing for Illustration (3)**

Developing graphic images that accurately depict objects and situations. Communicating concepts through graphic media. 6 hours activity. Prerequisite: Art 244A or permission of instructor. May be repeated for a total of 9 units.

**ART 351A Graphic Media and Production (3)**

Advanced study of the graphic media and their practical applications. Methods and procedures for preparing two-dimensional design for reproduction. 6 hours activity. Prerequisites: Art 251A, 252A.

**ART 352A Advanced Graphics (3)**

Advanced projects in layout, corporate image and advertising design. 6 hours activity. Prerequisite: Art 251A, 252A, 351A or permission of instructor. May be repeated once for credit.

**ART 355A Design by Computer I (3)**

The use of personal computers in design, visual communication and fine arts. Emphasis on aesthetics in computer generated images created through the use of existing, menu-driven software and a variety of input devices. Prerequisite: Art 255A. 6 hours activity. May be repeated once for credit.

**ART 356A Design by Computer II (3)**

Application of the computer and video systems in the development of fine arts images. Prerequisite: Art 355A or permission of instructor. 6 hours activity. May be repeated once for credit.

**ART 361A Relief Printmaking (3)**

Exploration of materials and processes in relief printing including block carving, collage and assemblage techniques. 6 hours activity. Prerequisite: Art 260A or permission of instructor. May be repeated for a total of 9 units.

**ART 362A Advanced Screen Printing (3)**

Advanced projects in screen printing. 6 hours activity. Prerequisite: Art 262A or permission of instructor. May be repeated for a total of 9 units.

**ART 363A Intaglio Printmaking (3)**

Techniques and skills in intaglio methods of printmaking including drypoint, etching, aquatint, mezzotint, and engraving. 6 hours activity. Prerequisite: Art 260A or permission of instructor. May be repeated for a total of 9 units.

**ART 364A Lithography (3)**

Techniques and skills in lithographic methods of printmaking on metal plates. 6 hours activity. Prerequisite: Art 242A and Art 260A or permission of instructor. Suggested: Art 345A. May be repeated for a total of 9 units.

**ART 375/375A Photography as an Expressive Art Form (3)**

Explores the technical and aesthetic aspects of photography for creative expression in the fine arts and design. 6 hours lecture/activity. Corequisites: ART 375/375A. Prerequisite: COM 131/131L or experience in black/white darkroom techniques, and permission of instructor.

**ART 381A Intermediate Sculpture (3)**

Work in sculpture using variety of techniques and materials. 6 hours activity. Prerequisite: Art 280A or permission of instructor. May be repeated for a total of 9 units.

**ART 387A Three-Dimensional Design (3)**

Theory and application of aesthetic elements in three-dimensional forms. 6 hours activity. Prerequisite: Art 280A or permission of instructor. May be repeated for a total of 9 units.

**ART 388A Gallery and Exhibition Design (3)**

Professional practices in gallery exhibition design and installation. 6 hours activity. Prerequisite: Art 288A or permission of instructor. May be repeated for a total of 9 units.

**ART 395A Crafts Design (3)**

Development of concepts, methods, and skills in basic craft media such as clay, wood, metal, and fiber construction. 6 hours activity. Prerequisite: Art 190A or permission of instructor. May be repeated for a total of 9 units.

**ART 400 Special Problems for Upper Division Students (1-2)**

Individual or group investigation, research, studies or surveys of selected problems. Total credit limited to 4 units, with a maximum of 2 units per quarter.

**ART 405 Art and the Child (4)**

Understanding the development of visual language and perception through study of children and their art. 4 lecture/discussion.

**ART 418 Art History Seminar (4)**

Intensive study of selected issues and topics in the history of art, with emphasis on developing skills in research and writing. Each seminar will have a sub-title describing its focus. Essential for prospective graduate students in Art History. 4 lecture/discussion. Prerequisites: ART 212, 213, and 214.

**ART 424A Advanced Painting-Acrylic (3)**

Advanced methods and techniques in acrylic media and compositional development. 6 hours activity. Prerequisite: Art 324A or permission of instructor. May be repeated for a total of 9 units.

**ART 425A Advanced Watercolor (3)**

Advanced techniques in wet, cross wash and compositional development. 6 hours activity. Prerequisite: Art 225A, 325A or permission of instructor.

**ART 428A Advanced Painting (3)**

Advanced work in relationship of form to idea. Greater development of personal imagery and paint materials. 6 hours activity. Prerequisite: Art 345A and Art 424A or permission of instructor. May be repeated for a total of 9 units.

**ART 430A Advanced Ceramics (3)**

Advanced work in ceramic sculpture and design in clay. 6 hours activity. Prerequisite: Art 332A or 334A or permission of instructor. May be repeated for a total of 9 units.

**ART 453A Advanced Design (3)**

Advanced projects in two-dimensional design. 6 hours activity. Prerequisite: ART 253A, 352A or permission of instructor. May be repeated once for credit.

**ART 456A Design by Computer III (3)**

Motion graphics/video and computer for advanced computer graphics course emphasizing the creation of images in motion as may be used in visual communications, entertainment, advertising and fine arts. 6 hours activity. Prerequisite: ART 355A, CS 101. May be repeated once for credit.

**ART 458 Internships in the Fine Arts and Graphic Design (1-2)**

On-the-job training involving learning and production. Department guidelines must be followed, and internships must be approved in advance by department internship coordinator. One unit of credit given for each 50 or more hours of training with artist or design professional. Prerequisite: Contract with instructor and sponsor. Total credit limited to 4 units with a maximum of 2 per quarter.

**ART 461, 462 Senior Project (2) (2)**

Selection and completion of a project under faculty supervision and culminating in a public exhibit or presentation of research. Minimum 120 hours total time. Prerequisite: senior standing and completion of 12 units in area of emphasis.

**ART 463 Undergraduate Seminar (2)**

An open forum of senior students in which the latest developments and practices in art criticism, education, and professional studio and gallery management are discussed. 2 lectures.

**ART 482A Installation, an Introduction to Conceptual Art (3)**

Installation art, as a vehicle for 3-dimensional, conceptual self-expression, explores concept, content, format, technique, and documentation in the manipulation of hybrid materials and methods in both gallery and site-specific/public context. 6 hours activity. Prerequisites: ART 280A or permission of instructor. May be repeated for a total of 9 units.

**ART 484A Advanced Sculpture (3)**

Intensified study of sculpture with emphasis on new developments in sculptural media. 6 hours activity. Prerequisite: Art 381A or permission of instructor. May be repeated for a total of 9 units.

**ART 499/499A/499L Special Topics for Upper Division Students (1-4)**

Group study of a selected topic, the title to be specified in advance. Total credit limited to 8 units, with a maximum of 4 units per quarter. Prerequisite: permission of instructor. Instruction is by lecture, activity, laboratory, or a combination. Corequisites may be required.

## LANDSCAPE ARCHITECTURE

Kenneth S. Nakaba, *Chair*

Stephen F. Bochkor

John T. Lyle

Robert C. Perry, Jr.

Sharon Stine

Takeo Uesugi

Mark J. von Wodtke

Jeffrey K. Olson

Joan Safford

D. Rodney Tapp

Noel Dorsey Vernon

Joan Woodward

Landscape architects are professionally concerned with the design, management, preservation, and use of the land. The curriculum in Landscape Architecture provides a foundation in all of these areas with particular emphasis on design, along with the cultural and technical subjects that support it. Coursework includes study of the elements and principles of art, design and planning processes, graphic communication, plants and planting design, construction methods and environmental history. Instruction fosters the development of creative and problem-solving abilities, communication skills, technical knowledge, environmental awareness and professional attitudes. In most courses, students develop design proposals or technical solutions for actual sites with instruction, guidance, and criticism from faculty members. In the final year of study, students may choose to emphasize urban or regional landscape issues.

The Bachelor of Science in Landscape Architecture is a professional degree, nationally accredited by the Landscape Architectural Accreditation Board and approved by the California Board of Landscape Architects. Holders of this degree find career opportunities in private practice; with municipal, county and state departments of planning and of parks and recreation; with corporate organizations; and with federal agencies such as the United States National Forest Service and Park Service. The student organization is affiliated with the American Society of Landscape Architects.

The curriculum requires a minimum of four years. New students must begin the program in the fall quarter. Students may enter the program directly from high school or as transfers from other institutions. In order to enter the four year design sequence at the second year level a portfolio review is required. Students must achieve a grade of "C" or better in all core courses in order to advance in the program. Concurrent enrollment in core courses is required for each year within the curriculum.

Students who maintain a grade point average of 3.2 or higher are eligible for membership in Sigma Lambda Alpha, a national honorary society for students of landscape architecture.

### CORE COURSES FOR MAJOR\*

(Required of all students)

Design Foundations I	.ENV	101	(4)
Design Foundations II	.ENV	102	(4)
Landscape Design Methods	.LA	103	(3)
History of Art and Design II	.ENV	116	(4)
Basic Landscape Design	.LA	201	(4)
Basic Landscape Design	.LA	202	(4)
Basic Landscape Design	.LA	203	(3)
Landscape Graphics	.LA	232	(3)
Plants and Design	.LA	241	(3)
Plants and Design	.LA	242	(3)
Plants and Design	.LA	243	(3)
Inter Landscape Des	.LA	301	(5)
Inter Landscape Des	.LA	302	(5)
Inter Landscape Des	.LA	303	(5)
Landscape Constr	.LA	331	(4)
Landscape Constr	.LA	332	(4)
Landscape Constr	.LA	333	(5)

\* A 2.0 cumulative GPA is required in core courses including option courses for the major in order to receive a degree in the major.

# Select two of the three courses.

Plant Design	.LA	341	(3)
Plant Design	.LA	342	(3)
Adv Landscape Des	.LA	401	(5)
Adv Landscape Des	.LA	402	(5)
Adv Landscape Des	.LA	403	(5)
#Regional Landscape History	.LA	322	(3)
#The Urban Landscape	.LA	423	(3)
#World Gardens	.LA	424	(3)
Senior Seminar	.LA	463	(2)
Landscape Arch Practice	.LA	464	(2)
Landscape Arch Proj	.LA	465	(2)

### SUPPORT AND GENERAL EDUCATION COURSES

(Required of all Students)

General Surveying	.AE	232	(3)
Intro to Drawing	.ART	140	(3)
LA Hort Prin	.OH	131	(4)
Basic Soil Sci	.SS	231	(4)
Intro to Computers in Design	.ENV	120	(2)

### GENERAL EDUCATION COURSES

Area 1: Lower division 12 units required.

A. Freshman English I	.ENG	104	(4)
B. Advocacy and Argument	.COM	204	(4)
C. Freshman English II	.ENG	105	(4)

Area 2: 16 units required.

A. Trigonometry	.MAT	106	(4)
B. Fundamentals of Chemistry	.CHM	103	(4)
C. Life Science	.BIO	110/L	(4)
D. Any approved upper division math or science course (See Advisor)			(4)

Area 3:

A. Hist of Art & Design I	.ENV 115/115A	(4)
B. Select one course		(4)
C. Select one course		(4)
D. Business and Its Environment	.OM 103	(4)
E. Select one course		(4)
F. Select one course		(4)
G. General Psychology	.PSY 201	(4)

Area 4:

U.S. History	.HST	202	(4)
Intro American Gov	.PLS	201	(4)

Area 5: Upper Division.

See Department advisor			(8)
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### DIRECTED ELECTIVES

See Department for approved list.

### Course Descriptions

(Open to LA majors only unless otherwise specified)

#### LA 103/103L Landscape Design Methods (1/2)

Techniques for organizing and synthesizing varied elements in the shaping of landscape form; recognition of major design determinants and the role of landscape architects and other professionals in dealing with diverse aspects of design, stressing application of ideas through construction of full-scale experimental projects. 1 one-hour lecture, 2 three-hour laboratories. Prerequisite: ENV 102, with a grade of "C" or better.

#### LA 200 Special Problems for Lower Division Students (1-2)

Individual or group investigation, research, studies or surveys of selected problems. Total credit limited to 4 units, with a maximum of 2 units per quarter.



**LA 201/201L, 202/202L, 203/203L Basic Landscape Design (2/2) (2/2) (1/2)**

Fundamental concepts of site planning and design and their application to basic landscape problems, with particular emphasis on varying conditions of climate, plant communities, land forms and orientation. LA 201, 202: 2 lectures, 2 three-hour laboratories. LA 203: 1 lecture, 2 three-hour laboratories. Prerequisite: LA 103, with a grade of "C" or better. A grade of "C" or better is required to advance within the sequence. Concurrent enrollment required.

**LA 232/232L Landscape Graphics (1/2)**

Development of communication skills emphasizing perspective and delineation techniques as they relate to landscape architecture. May be repeated once for credit. Laboratory course; 1 lecture, 2 three-hour laboratories. To be taken concurrently with LA 201. Prerequisite: LA 103, with a grade of "C" or better. Concurrent enrollment required.

**LA 241/241L, 242/242L, 243/243L Plants and Design (1/2) (1/2) (1/2)**

An introduction to planting design issues based upon ecological, functional and aesthetic design principles. Instruction includes the identification of plant materials appropriate for use in California including: trees, shrubs, vines and herbaceous plants. 1 lecture, 2 three-hour laboratories. A grade of "C" or better is required to advance within the sequence. Concurrent enrollment required.

**LA 299/299A/299L Special Topics for Lower Division Students (1-4)**

Group study of a selected topic, the title to be specified in advance. Total credit limited to 8 units, with a maximum of 4 units per quarter. Prerequisite: Permission of instructor. Instruction is by lecture, laboratory, or a combination of both. Corequisites may be required.

**LA 301/301L, 302/302L, 303/303L Intermediate Landscape Design (2/3) (2/3) (2/3)**

Application of design concepts and principles to more difficult problems involving a wide range of conditions in the physical environment. 2 lectures, 3 three-hour laboratories. Prerequisites: LA 203, 241, 242, 243, with a grade of "C" or better; ENG 104, 105 or equivalent. A grade of "C" or better is required to advance within the sequence. Concurrent enrollment required.

**LA 322/322L Regional Landscape History (2/1)**

How the landscape has guided human activity and habitat patterns on the regional and global scales, and how these patterns have in turn changed the natural landscape. Emphasis on major periods of urbanization, agricultural expansion, and development of recreation, conservation and open space systems, along with projections for the future. 2 lectures, 1 three-hour laboratory. Prerequisite: ENV 115. May be taken by non-LA majors with instructor's permission.

**LA 331/331L, 332/332L, 333/333L Landscape Construction (2/2) (2/2) (3/2)**

Landscape construction problems involving the formulation and preparation of plans for grading, drainage, staking, reference and lighting, planting, irrigation, construction details, structures, and other working drawings; relationship to specifications and contract documents. For LA 331, 332: 2 lectures, 2 three-hour laboratories. For LA 333: 3 lectures, 2 three-hour laboratories. Prerequisites: MAT 106; LA 203, AE 232. A grade of "C" or better is required to advance within the sequence. Concurrent enrollment required.

**LA 341/341L, 342/342L Planting Design (1/2) (1/2)**

A continuation of LA 241, 242, 243 with greater emphasis given to the organization and composition of plant materials towards solving design problems. Instruction includes development of planting plans, details, cost estimates, and specifications. 1 lecture, 2 three-hour laboratories. Prerequisites: LA 203, 241, 242, 243. A grade of "C" or better is required to advance within the sequence. Concurrent enrollment required.

**LA 400 Special Problems for Upper Division Students (1-2)**

Individual group investigation, research, studies or surveys of selected problems. Total credit limited to 4 units, with a maximum of 2 units per quarter.

**LA 401/401L, 402/402L, 403/403L Advanced Landscape Design (2/3) (2/3) (2/3)**

Processes of design as applied to complex projects in landscape architecture, including proposal, programming, analysis, concept development and presentation. Each student selects an area of concentration: urban, rural, regional, or special problems. 2 lectures, 3 three-hour laboratories. Prerequisite: BOT 316, LA 303, LA 342, with a grade of "C" or better. A grade of "C" or better is required to advance within the sequence. Concurrent enrollment required.

**LA 423/423L The Urban Landscape (2/1)**

Urban space as traced through history, concentrating primarily on the development of the square and the park from the classic agora to the complexities of public space in modern western cities. The design of the city park is traced from the industrial era to present. Innovations and changing concepts in leisure and recreation are noted. 2 lectures, 1 three-hour laboratory. Prerequisite: ENV 116, LA 303. May be taken by non-LA majors with instructor's permission. Concurrent enrollment required.

**LA 424/424L World Gardens (2/1)**

History of garden design emphasizing Italian Renaissance, 17th century France and the English Natural period. Primary development of American gardens from colonial times to present. Oriental, Moorish, Hindu and Mogul gardens. 2 lectures, 1 three-hour laboratory. Prerequisite: ENV 116, LA 303. Concurrent enrollment required.

**LA 441 Internship (1-2)**

On-the-job training in the profession dealing with some aspect of landscape architecture. The experience must involve learning as well as production. Internships must be approved in advance by the departmental internship coordinator. One unit of credit is granted for each 50 hours of training under a licensed professional. May be repeated for a maximum of 6 units. Prerequisite: Approval of instructor.

**LA 452 Seminar on the Literature of Landscape Architecture (2)**

Review and analysis of the existing body of literature concerning landscape architecture, relationships between man and the natural environment, and man and the designed environment. Seminar, 2 hours.

**LA 453 Seminar on Professional Directions (2)**

Analysis and discussion of current and future activities in the profession of landscape architecture; emphasis on individual development and specialization. Seminar, 2 hours.

**LA 454 Seminar on Landscape Architecture Research (2)**

Discussion and analysis of basic research methods; investigation of contemporary research issues in landscape architecture. Seminar, 2 hours.

**LA 459 Seminar on Design Theory (2)**

Investigation and discussion of design theories in landscape architecture and other design professions. Seminar, 2 hours.

**LA 463 Senior Seminar (2)**

Discussions of environmental design problems. The role of the landscape architect in society. Seminar, 2 hours.

**LA 464 Landscape Architectural Practice (2)**

The practice of landscape architecture, covering professional responsibilities and ethics, client and contractor relationships. Lecture, 2 hours.

**LA 465 Landscape Architectural Project (2)**

Selection and completion of a project with formal report done under faculty supervision. Projects typical of problems which graduates must solve in their field of employment. Minimum of 120 hours.

**LA 475 Topics in Landscape Architecture (2)**

Presentation of special topics in landscape architecture through lectures, readings and discussion. Topics selected to correspond with changes in the field or needs of advanced students. Lecture-discussion-2 hours.

**LA 499/499A/499L Special Topics for Upper Division Students (1-4)**

Group study of a selected topic, the title to be specified in advance. Total credit limited to 8 units, with a maximum of 4 units per quarter. Prerequisite: permission of instructor. Instruction is by lecture, laboratory, or a combination of both. Corequisites may be required.

Graduate courses are listed in the graduate section of this catalog.

## URBAN AND REGIONAL PLANNING

Richard W. Willson, *Chair*  
 Felix R. Barreto  
 Charles M. Hotchkiss  
 Charles E. Loggins  
 Gwendolyn H. Urey

David E. Bess  
 Richard E. Lloyd  
 Jerry V. Mitchell  
 Ana Maria C. Whitaker

The profession of Urban and Regional Planning works with the critical issues of physical change in cities and regions, and is concerned with environmental, social, and economic improvement. This unique program develops problem-solvers with imagination, desire, and ability to serve people. The curriculum offers classes which seek a balance among the physical, social, economic, ecological, and political forces so important in working with problems of human settlement. Throughout the program, students study real life issues and propose solutions to them. Simply stated, learning current planning theory, practice, and techniques-as they apply to California, the nation and the world-constitutes the essence of the program.

The Bachelor of Science in Urban and Regional Planning is accredited by the Planning Accreditation Board. For information about the graduate program in Urban and Regional Planning, see the Graduate Studies section of this catalog.

### QUANTITATIVE RESEARCH MINOR

The Quantitative Research Minor is an interdisciplinary program which can be taken by students majoring in any field other than Mathematics. Its purpose is to prepare students to conduct quantitative analyses in their chosen discipline. Students acquire practical experience using statistics, principles of experimental design, survey and data analysis techniques. This minor is particularly suited for students majoring in Urban and Regional Planning. A full description of this minor is included in the "University Programs" section of this catalog.

### CORE COURSES FOR MAJOR\*

(Required of all students)

Design Foundations I	ENV	101/101L	(4)
Design Foundations II	ENV	102/102L	(4)
Introduction to Computers & Design	ENV	120/120L	(2)
Introduction to Cities & Planning	URP	101/101A	(4)
Process & Theory of Planning	URP	102/102A	(4)
Evolution of Cities	URP	104	(4)
Communication Graphics for Planning	URP	203/203L	(4)
Quantitative Methods for Planning	URP	331/331L	(4)
Applied Demography for Planning	URP	332/332L	(4)
Planning and Policy Analysis	URP	334/334A	(4)
Urban Land Use Planning and Theory	URP	335/335A	(4)
Planning Public Infrastructure	URP	337/337L	(4)
Institutional Framework for Planning	URP	351	(4)
Intergovernmental Framework for Planning	URP	352	(4)
Community Planning Studio I	URP	431/431L	(4)
Community Planning Studio II	URP	432/432L	(4)
Senior Project	URP	461	(2)
Senior Project	URP	462	(2)
Undergraduate Seminar	URP	463	(4)

Choose a minimum of 32 units with approval of advisor from courses listed below:

Evolution of American Cities and Planning Movement	URP	411	(4)
Planning and Urban Design in Europe	URP	412	(4)
Community Development Theory and Process	URP	434/434A	(4)
Urban Growth Management	URP	466	(4)
Planning in a Global Economy	URP	475	(4)
Rural and Small Town Planning	URP	481/481A	(4)

\* A 2.0 cumulative GPA is required in core courses including option courses for the major in order to receive a degree in the major.

# Select two of the three courses.

The Urban Development Process	URP	483/483A	(4)
Neighborhood Revitalization	URP	484/484A	(4)
Urban Design Seminar	URP	485/485L	(4)
Computer Applications in Planning	URP	486/486L	(4)
Environmental Factors in Regional Planning	URP	487	(4)
Urban Transportation Planning	URP	488/488L	(4)
Advanced Planning Studio	URP	498/498L	(4)
Special Topics for Upper Division Students	URP	499	(1-4)

### SUPPORT AND ELECTIVE COURSES

History of Art and Design	ENV	115/115A	(4)
Statistics with Applications	STA	120	(4)
Principles of Economics	EC	201	(4)
Advocacy and Argument	COM	204	(4)
Report Writing	COM	216	(4)
Urban Geography	GEO	315	(4)

### GENERAL EDUCATION COURSES (TRACK A OR B)

See Advisor, 72 units required.

### Course Descriptions

#### URP 101/101A Introduction to Cities and Planning (3/1) F

Study of the contemporary American city, with emphasis on observing and understanding urban phenomena. Uses examples from Southern California, with field trips. This course, required of all incoming planning majors, includes orientation to the planning curriculum and the profession. 3 lectures, 1 two-hour activity. Concurrent enrollment required.

#### URP 102/102A Process and Theory of Planning (3/1) W

Study of urban and metropolitan development, theories of urban change, and the role of planning. Issues include planning in a pluralistic, multicultural society; the role of planning in government and the private sector; and the environmental and ethical responsibilities of planners. 3 lectures, 1 two-hour activity. Prerequisites: URP 101. Concurrent enrollment required.

#### URP 104 Evolution of Cities (4)

Historical review of cities from antiquity to modern times. The origins and development of cities in Europe, Asia, Africa, and America. Critical examination of social, economic, political, cultural and technological interrelationships that have determined city location, form, growth and decline over time. The relationships of those factors to modern urban planning. Two two-hour lectures.

#### URP 203/203L Communications Graphics For Planning (2/2) SP

Examination and experimentation in graphic techniques as a communicative tool for planners. 2 lectures, 2 three-hour laboratories. Prerequisites: ENV 101 and ENV 102. Concurrent enrollment required.

#### URP 299/299A/299L Special Topics for Lower Division Students (1-4)

Group study of a selected topic, the title to be specified in advance. Total credit limited to 8 units, with a maximum of 4 units per quarter. Instruction is by lecture, laboratory, or a combination of both.

#### URP 301 Principles of Urban Planning (4)

The planning function in government. The planning process. Principles for projecting land requirements and locations for various urban land uses. Ways of implementing the plans. Not open to URP majors. 4 lectures.

#### URP 331/331L Quantitative Methods for Planning (3/1)

Quantitative methods in the context of planning and decision-making. Review of probability and descriptive statistics. Types and sources of basic planning data. Collection and organization of data in tables, graphs, and figures. Analysis and interpretation of quantitative information. 3 lectures; 3 hours of laboratory. Prerequisites: URP 102, STA 120. Concurrent enrollment required.

**URP 332/332L Applied Demography for Planning (3/1)**

Introduction to demographic concepts and terminology. Methods for making population estimates and projections. Organization and use of U.S. Census materials. Techniques for analyzing population characteristics, particularly for small geographic areas (counties and smaller). 3 lectures; 3 hours of laboratory. Prerequisite: URP 331. Concurrent enrollment required.

**URP 334/334A Planning and Policy Analysis (2/2)**

Theories and methods for evaluating planning proposals and projects. Use of analysis techniques drawn from the social sciences dealing with urban planning policies and programs. 2 lectures, 2 seminars. Prerequisites: URP 332, EC 201, COM 216. Concurrent enrollment required.

**URP 335/335A Urban Land Use Planning and Theory (3/1)**

Reviews macro-level land use shifts in metropolitan areas, focusing on problems of housing, transportation and the environment. Emphasis on spatio-economic/demographic patterns and dynamics between urban centers and suburbs as well as between metropolitan and non-metropolitan areas in the United States during the twentieth century. 3 lectures; 1 two-hour activity. Prerequisite: URP 203. Concurrent enrollment required.

**URP 337/337L Planning Public Infrastructure (3/1)**

Examines how infrastructure systems such as transportation, energy, water, and public facilities serve people and their activities. Teaches skills for infrastructure planning, evaluation, and implementation. 3 lecture-discussions; 3 hours of laboratory. Prerequisite URP 335. Concurrent enrollment required.

**URP 351 Institutional Framework for Planning (4)**

Introduces the institutional framework for planning. Reviews the development of the General Plan, zoning, and the legal basis for modern planning. Emphasis is placed on gaining an understanding of the legal process that planners work within and applicable constitutional rights. 4 lecture-discussions. Prerequisites: URP 101 and URP 102.

**URP 352 Intergovernmental Framework for Planning (4)**

Introduces the modern intergovernmental framework for planning. Reviews the development of national, state, and regional land use policy, environmental controls and intergovernmental financing that provides the basis for modern land use planning and growth management. 4 lecture-discussions. Prerequisite: URP 351

**URP 400 Special Problems for Upper Division Students (1-2)**

Individual or group investigation, research, studies or surveys of selected problems. Total credit limited to 4 units, with a maximum of 2 units per quarter.

**URP 411 Evolution of American Cities and the Planning Movement (4)**

Evolution of American development patterns. Emphasis on how location and form reflect the needs of changing multicultural communities. Planning as a social reform movement. Growth in California and the Los Angeles metropolitan region. Not open to graduate students. 4 lectures. Prerequisite: URP 351.

**URP 412 Planning and Urban Design in Europe (4)**

Illustrated lectures on contemporary planning and urban design theory and practice currently in evidence in Western Europe. Contemporary theories and concepts as related to present social concerns. Relevance of the European experience to the solution of America's urban problems. 4 lecture/seminars. Prerequisite: upper division standing.

**URP 431/431L Community Planning Studio I (2/2)**

Application of research, analysis and community planning procedures. Programming a planning activity. Using teamwork and communication in planning. 2 lectures, 6 hours of laboratory. Prerequisites: Completion of 300 level core. Concurrent enrollment required.

**URP 432/432L Community Planning Studio II (2/2)**

Analysis and synthesis of planning and community design topics interpreted from problems or sub-issues emphasized in URP 431. 2 hours lecture, 6 hours laboratory. Prerequisite: URP 431 or approval by instructor. Concurrent enrollment required.

**URP 434/434A Community Development Theory and Process (3/1)**

The history, legal background and process of community development and urban renewal. Study of conservation, rehabilitation and redevelopment practices. Problems involved in federal, state, and local, public and private community development programs. 3 lectures, 1 2-hour activity. Prerequisite: URP 332. Concurrent enrollment required.

**URP 441 Field Work (2-3)**

Practical application of urban and regional planning techniques through supervised field work. Written report and evaluation of experience required. (One unit of credit will be allowed for each 60 hours of field work.) May be repeated for a maximum of 6 units for undergraduates, maximum of 3 units for graduate credit. 1 lecture and 6 to 12 hours of field work. Prerequisite: permission of instructor.

**URP 461, 462 Senior Project (2) (2) FWSp**

Selection and completion of a project under faculty supervision. Projects typical of problems which graduates must solve in urban and regional planning field. Project results presented in a formal report. Minimum 60 hours total time per two-unit course. Prerequisite: All required URP 300-level courses, COM 216, successful completion of GWT.

**URP 463 Undergraduate Seminar (4)**

Intensive study of the legal, ethical, and professional aspects of urban and regional planning in public and private practice. Review of planning problems with regard to planning theory. 4 seminars. Prerequisite: All required URP 300-level courses.

**URP 466 Urban Growth Management (4)**

The impact of urban growth on the environment. Preparation of Environmental Impact Reports. Current methods, procedures and trends for managing urban growth. 4 lecture/discussions. Prerequisite: URP 332.

**URP 475 Planning in a Global Economy (4)**

Major issues confronting planners in a global economy. Explores spatial, cultural and economic factors associated with major problems and examines development of appropriate policies and programs. 4 lecture/discussions. Prerequisite: URP 335.

**URP 481/481A Rural and Small Town Planning (3/1)**

Theories and methods of planning in small towns and rural communities. The changing role of the traditional small town and agricultural trade center in rural development. Conflicts and contradictions of various development strategies. Rural resettlement programs. 3 lectures, 1 2-hour activity. Prerequisite: URP 434. Concurrent enrollment required.

**URP 483/483A The Urban Development Process (3/1)**

Introduction to the roles of the many participants in the design and development of urban projects. Procedural aspects of development, requests for proposals, methods of finance, project feasibility analysis, program evaluation and review, and government incentives. 3 lectures, 1 two-hour activity. Prerequisite: URP 332. Concurrent enrollment required.

**URP 484/484A Neighborhood Revitalization (3/1)**

Delimiting the urban neighborhood. Traditional functions and life cycle of urban neighborhoods. Revitalization policy options and strategies. Public and private sector involvement in neighborhood revitalization. Citizen initiated revitalization programs. 3 lectures, 1 two-hour activity. Prerequisite: URP 434. Concurrent enrollment required.

**URP 485/485L Urban Design Seminar (3/1)**

Design in the planning process, with emphasis on research, analysis and programming for the context of design decisions. Preparation of solutions for variety of urban design decisions. Prerequisite: URP 203. 3 lecture; 1 three-hour laboratories. Concurrent enrollment required.

**URP 486/486L Computer Applications in Planning (1/3)**

Introduction to the microcomputer and specialized application programs: geographic information systems, data bases, calculations and computer generated graphics. Specific planning applications and the development of templates. Studio preparation of a computer-based planning application program. Prerequisite: URP 332, 1 lecture; 3 three-hour laboratories. Concurrent enrollment required.

**URP 487 Environmental Factors in Regional Planning (4)**

Analysis of environmental problems and the regional planning institutions that work to solve them. Review of contemporary planning practices and their application to emerging environmental issues. Prerequisite: URP 332. 4 lectures.

**URP 488/488L Urban Transportation Planning (3/1)**

Supply and demand management approaches to transportation planning. Land use/transportation relationships. Function of travel modes, modeling local and regional flows. Finance, politics and policy in transportation planning. Prerequisite: URP 337. 3 lecture-discussions and one three hour laboratory.

**URP 498/498L Advanced Planning Studio (3/1)**

Study of a selected topic through advanced studio, subject matter to be specified in advance. Total credit limited to 8 units, with a maximum of 4 units per quarter. 3 seminars and one three hour laboratory.

**URP 499/499A/499L Special Topics for Upper Division Students (1-4)**

Group study of a selected topic, the title to be specified in advance. Total credit limited to 8 units, with a maximum of 4 units per quarter. Instruction is by lecture, laboratory, or a combination of both.

Graduate courses listed in the graduate section of this catalog.