

COLLEGE OF ARCHITECTURE, ART, AND PLANNING

ADMINISTRATION

William G. McMinn, dean

Stanley J. Bowman, associate dean

Laurie Roberts, director of public affairs

Cynthia K. Prescott, director of administrative operations

Reginald D. Ryder, director of minority educational affairs

Donna L. Kuhar, registrar

Elizabeth A. Cutter, director of admissions

Margaret Webster, curator of visual resources facility

Helen Johnson, director of career office

FACULTY ADVISERS

Architecture students are assigned faculty advisers for their first year. Upperclass students have one assigned adviser but are encouraged to seek assistance and advice from the most appropriate faculty member or college officer.

First-year students in the fine arts department are assigned faculty advisers for the first year. Students may then choose advisers in their major area of concentration.

Undergraduate students in the Program of Urban and Regional Studies are assigned faculty advisers.

All students in the college are invited to share their concerns and seek advice from the volunteer student advisers at anytime.

Specific inquiries regarding rules, procedures, or deadlines should be addressed to:

Kent L. Hubbell, chair, Department of Architecture

Porus Olpadwala, chair, Department of City and Regional Planning

Roberto Bertoia, chair, Department of Art.

DEGREE PROGRAMS

	<i>Degree</i>
Architecture	B.Arch.
	B.F.A.
Fine Arts	B.F.A.
History of Architecture and Urbanism	B.S.
Urban and Regional Studies	B.S.

The college offers programs leading to the bachelor's degree—the five-year program in architecture leads to the Bachelor of Architecture; four-year programs in art and architecture lead to the Bachelor of Fine Arts. In addition, four-year programs with a concentration in either urban and regional studies or history of architecture lead to the Bachelor of Science.

Graduate-level programs are offered in art, architectural design and urban design, architectural sciences, history of architecture and urbanism, historic preservation planning, city and regional planning, regional science, and landscape architecture.

Students in each of these programs work in physical proximity to one another and thus gain a broader understanding of their own special area of interest through contact with the students and faculty in other disciplines.

Early in its development the college set a limit on the number of students it would enroll and devised a selective method of admission. There are now more than 650 students and a full-time teaching staff of over fifty-five, supplemented by visiting professors and critics, part-time lecturers, and assistants. Teachers and students mix freely, and much instruction and criticism is on an individual basis.

The college's courses are integral parts of the professional curricula. Fundamental subjects are taught by faculty members whose experience provides them with professional points of view. The concentration of professional courses within the college is balanced by the breadth of view gained from courses and informal learning in the rest of the university. The college believes that this breadth is an essential element of professional education. This conviction is evident in the form of the curriculum, the methods of teaching, and the extracurricular life of teachers and students.

FACILITIES

The college occupies Sibley Hall, Olive Tjaden Hall, Rand Hall, and the Foundry. Facilities for architecture, and city and regional planning, as well as college administrative offices, the Visual Resources Facility, and the Fine Arts Library are located in Sibley Hall. The Department of Art is housed in Olive Tjaden Hall. Sculpture facilities are in the Foundry and shop facilities in Rand. The Green Dragon Cafe, a student eatery and lounge, is located in the basement of Sibley Dome. The college has three darkrooms that are available for general use by students in the college and serve as laboratories for the photography courses. A darkroom fee must be paid by each user. Information about darkroom rules and regulations, hours, and equipment is available at the darkroom circulation desk.

NOTE: anticipated renovations of the college buildings will temporarily relocate some of the aforementioned facilities. More information on the current location of college facilities can be obtained by contacting the individual departments.

Through the generosity of the late Lillian P. Heller, the college also owns the Miller-Heller House, home of William H. Miller, the first student to enroll for the study

of architecture at Cornell, and later a practicing architect in Ithaca. This building is used to house visiting teachers and guests of the college and for occasional receptions and social events.

Libraries

The Fine Arts Library, in Sibley Hall, serves the College of Architecture, Art, and Planning through its collections on architecture, fine arts, city and regional planning and landscape architecture. The library, with more than 150,000 books, is capable of supporting undergraduate, graduate, and research programs. Some 1,900 serials are currently received and maintained.

The Visual Resources Facility, made possible through gifts from George and Adelaide Knight, in Sibley Hall contains the F. M. Wells Memorial Slide Collection, which consists of a large and growing collection of slides of architecture, architectural history, and art. The collection now includes approximately 400,000 slides.

The facilities of the libraries of other schools and departments on campus and the John M. Olin Library, designed primarily as a research library for graduate students, are also available.

Museums and Galleries

The Herbert F. Johnson Museum of Art was formally opened in May 1973. Although many of its exhibitions and activities relate directly to academic programs of the university, the museum has no administrative affiliation with any department. In this way, its programs freely cross academic boundaries, stimulating interchange among disciplines. With a strong and varied collection and a continuous series of high-quality exhibitions, it fulfills its mission as a center for the visual arts at Cornell. Art galleries are also maintained in Willard Straight Hall, where loan exhibitions of paintings and graphic work by contemporary artists are held. Throughout the year, works of students, faculty, and staff in the College of Architecture, Art, and Planning and of guest artists may be viewed in the John Hartell Gallery in Sibley Dome and in the Olive Tjaden Gallery in Olive Tjaden Hall.

Rome Program

The College of Architecture, Art, and Planning's Rome Program was founded in the fall of 1986 to provide instruction in Italy for students seeking excellence in art, architecture, and other disciplines. The program offers an educational experience that draws upon the rich past of Rome, its resources in museums, its art and architecture, and its wide variety of cultural offerings. The school is located in the famous Palazzo Massimo in the center of the historical city next to such well-known Roman sights as Piazza Navona, the Pantheon, and Rome's famous outdoor market at the Campo dei Fiori.

The program in Rome offers components for students majoring in liberal arts, architecture, fine arts, and planning. Full course loads are available to all students in a curriculum that stresses the convergence of artistic, cultural, and architectural ideas vital to an understanding of the city. Students are responsible for planning course schedules that ensure their particular requirements can be met, since course offerings in Rome are limited. For additional information, see individual department listings.

COLLEGE ACADEMIC POLICIES

Ownership of Student Work

All drawings, models, paintings, graphic art, and sculpture done in the studios and drafting rooms as a part of the instructional program are the property of the college until they have been graded and released by the instructor. Certain works may be selected by the college for retention for academic purposes.

Exhibitions of Student Work

Exhibitions of student work are held each semester as part of the yearly schedule of the Olive Tjaden Hall gallery and the John Hartell Gallery. These galleries display work from a specific course or exhibit examples of recent work by individual faculty, students, and visitors.

Scholastic Standards

Term by term, a candidate for an undergraduate degree in the college is required to pass all courses in which the student is registered and have a weighted average for the term of not less than C (2.0). The record of each student who falls below the standard will be reviewed by the Student Records Committee for appropriate action, as described below:

- 1) **Warning** means that the student's performance is not up to expectations. Unless improvement is shown in the subsequent term, the student may be placed on final warning or required to take a leave of absence from the college.
- 2) **Final Warning** indicates that the student's record is unsatisfactory. Unless considerable improvement is shown in the subsequent term, the student shall be required to take a leave of absence from the college.
- 3) **Required leave of absence: Academic Deficiency.** The student is dismissed from the college and may not continue studies in the college. A student who has been placed on a required leave of absence may apply for readmission after an absence of at least two semesters. Application for readmission is made by letter, addressed to the Student Records Committee. The student must submit evidence that his or her time has been well used, and, if employed, must submit a letter from an immediate superior. If a student chooses to register for courses, either extramurally at Cornell or at another institution, he or she should be advised that credit for these courses will not apply toward the degree but will appear on the student's transcript. The grades received for any courses taken while on a required leave of absence will

not be counted into the grade point average. Readmission to the college is at the discretion of the Student Records Committee. Application for spring-term readmission must be made by November 15, and application for fall-term readmission must be made by April 15. Refer to the Architecture, Art & Planning Handbook (Whitebook) for further information regarding required leave of absence.

- 4) **Required withdrawal: May Not Reregister,** College of Architecture, Art, and Planning. The student is dismissed from the college and is permanently prohibited from continuing studies in it. This dismissal does not preclude the possibility of applying for admission to another division of the university.

The above actions are not necessarily sequential. A student who has received a warning may be placed on a required leave of absence for academic deficiency at the end of the next term if performance during that time is deemed to be grossly deficient.

A cumulative average of at least C- (1.7) is required for graduation.

ARCHITECTURE

Kent Hubbell, chair; L. Chi, M. Cruvellier, M. Curry, W. Goehner, D. P. Greenberg, S. Gruzdy, G. Hascup, M. Jarzombek, B. G. MacDougall, A. B. Mackenzie, W. G. McMinn, J. C. Miller, L. Mirin, V. Mulcahy, J. Ochshorn, C. F. Otto, A. Ovaska, C. W. Pearman, H. W. Richardson, M. L. Schack, A. Simitch, V. K. Warke, J. Wells, M. Woods, J. Zissovici

Professional Degree Program

The first professional degree in architecture is the Bachelor of Architecture. This degree counts toward the professional registration requirements established by the various states, National Architectural Accrediting Board, and the National Council of Architectural Registration Boards. The professional program is normally five years in length and is designed particularly for people who, before they apply, have established their interest and motivation to enter the field. It therefore incorporates both a general and professional educational base.

The program is oriented toward developing the student's ability to deal creatively with architectural problems on analytical, conceptual, and developmental levels. The sequence courses in design, consisting of studio work augmented by lectures and seminars dealing with theory and method, are the core of the program. Sequences of studies in the history of architecture and cities, culture and society, visual studies, environmental science, structures, and building technology provide a base for the work in design.

In the first three years the student has the opportunity to establish a foundation in the humanities and sciences through electives. During the fourth and fifth years this base may expand through detailed further studies in these areas. Within the professional program a basis for understanding architecture in its contemporary and historical cultural contexts is established.

The structure of the program incorporates considerable flexibility for the individual student to pursue his or her particular interest in the fourth and fifth years. By carefully planning options and electives in the fifth year, it is possible for a qualified student to apply the last year's work for the Bachelor of Architecture degree to one of the graduate programs offered in the department. Some students are then able to complete the requirements for the master's degree in one additional year.

Rome Program

The program offers the opportunity for students from Cornell and other universities to spend one or two terms of study in Rome. This option is open to fourth- and fifth-year Cornell architecture students; outstanding third-year students are admitted by petition and a review of their design record. Courses offered by this department include design, thesis, thesis introduction, history, theory, architectural science, and visual studies. In addition, courses are offered by other departments in Italian language, Italian culture, and history of art. The program provides a unique urban and architectural experience drawing from the rich past of the city for sources of instruction and inspiration.

Overlap Program

For qualified students the department offers an option that combines the fifth year of the undergraduate program with the first year of the Master of Architecture program. In the fall of the fourth undergraduate year interested students petition the department to substitute Arch 601-602 or 603-604 for Arch 501-502. At the same time, they complete graduate school applications and submit them with fee and portfolio to the graduate field secretary for architecture. Students accepted into the program may not normally begin until the fall of their fifth year and, once enrolled, may not transfer back into the 501-502 sequence.

Following admission into the Overlap Program, students may petition to apply toward the requirements of the master's degree a maximum of 30 credits, including Arch 601-602 or 603-604 and other advanced courses taken in excess of distribution requirements for the Bachelor of Architecture degree.

Curriculum

First Year

<i>Fall Term</i>	<i>Credits</i>
101 Design I	6
181 History of Architecture I	3
151 Drawing I	2
Math 111 Calculus or Math 106 or out-of-college elective	3-4
Out-of-college elective	3
	17-18

Spring Term

102 Design II	6
182 History of Architecture II	3
152 Drawing II	2
Math 111 or out-of-college elective	3-4

Out-of-college elective (freshman writing seminar suggested) 3
17-18

Second Year

Fall Term Credits
201 Design III 6
263 Structural Concepts 4
231 Architectural Analysis I 2
261 Site Planning 3
Out-of-college elective 3
18

Spring Term

202 Design IV 6
232 Architectural Analysis II 2
262 Building Technology, Materials, and Methods 3
264 Structural Elements 3
College elective 3
17

Third Year

Fall Term
301 Design V 6
361 Environmental Controls I—Lighting and Acoustics 3
363 Structural Systems 3
Departmental elective 3
Out-of-college elective 3
18

Spring Term

302 Design VI 6
342 Architecture as a Cultural System 3
362 Environmental Controls II—Mechanical and Passive Solar Systems 3
Departmental elective 3
College or out-of-college elective 3
18

Fourth Year

Fall Term
401 Design VII 6
411 Professional Practice 3
Departmental elective 3
College elective 3
Out-of-college elective 3
18

Spring Term

402 Design VIII 6
Departmental elective 3
Departmental elective 3
College or out-of-college elective 3
Out-of-college elective 3
18

Fifth Year

Fall Term

501 Design IX or 601 or 603 Overlap Program 6
Departmental elective 3
College or out-of-college elective 3
Out-of-college elective 3
Out-of-college elective 3
18

Spring Term

502 Design X or 602 or 604 Overlap Program 8
Departmental elective 3
College or out-of-college elective 3
College or out-of-college elective 3
17

Required Departmental Courses

Terms	Course Subject	Numbers	Credits
10	design	101-502	62
1	mathematics	Math 111, Math 106, or approved equivalent	3-4
3	structures	263, 264, 363	10
4	technology	261, 262, 361, 362	12
2	architectural theory	231, 232	4
2	history of architecture	181, 182	6
1	architecture, culture and society	342	3
1	professional practice or seminar	411	3
2	drawing	151, 152	4
			107-108

Electives

Departmental Terms	Credits
3 history of architecture: 300-level	9
1 visual studies or computer graphics	3
2 architectural theory or non-sequence design	6
1 architectural structures, construction, and technology	3
	21

College Terms	Credits
2 art: any courses	6
Out-of-College Terms	Credits
1 computer programming or applications	3
1 freshman seminar	3
1 mathematics, physics, or biological sciences	3
1 humanities	3
	12

Free

Of the electives, 15 credits are to be taken outside the College of Architecture, Art, and Planning, and 15 credits may be taken either in or outside the college. 30
Total credits 176

Transfer Students

Although the program leading to the Bachelor of Architecture is specifically directed to those who are strongly motivated to begin professional study when entering college, it is sufficiently flexible to allow transfers for students who have not made this decision until after they have been in another program for one or two years. Individuals who have already completed a nonprofessional undergraduate degree must also apply to transfer to the Bachelor of Architecture degree program, since the graduate program in architecture requires the Bachelor of Architecture degree or its equivalent for entrance.

Transfer students are responsible for completing that portion of the curriculum that has not been covered by equivalent work. Applicants who have had no previous work in architectural design must complete the ten-term design sequence. Since this sequence may be accelerated by attending summer terms, seven or eight regular terms and two or three summer terms are typically required.

For those who would benefit from an opportunity to explore the field of architecture before deciding on a commitment to professional education, the department offers an introductory summer program that includes an introductory studio in architectural design, lectures, and other experiences designed to acquaint the participants with opportunities, issues, and methods in the field of architecture.

Admission is offered to a limited number of transfer applicants who have completed a portion of their architecture studies in other schools. Each applicant's case is considered individually. Transfer students must complete a minimum of 70 credits and four terms in residence, taking 35 of the 70 credits (including four terms of design) in the Department of Architecture. Placement in the design sequence is based on a review of a representative portfolio of previous work.

Alternative Programs

Bachelor of Fine Arts

After completing the first four years of requirements, the student may choose to receive the degree of Bachelor of Fine Arts (B.F.A.) in architecture, which is not a professional degree.

Bachelor of Science in History of Architecture

The history of architecture major leads to a Bachelor of Science degree, conferred by the College of Architecture, Art, and Planning. The major is intended for transfer students from other programs at Cornell and from colleges and universities outside Cornell. Students in the Department of Architecture and the College of Arts and Sciences may take the major as part of a dual-degree program. The course of study in this major, available to students from a variety of academic back-

grounds, offers the opportunity for a vigorous exploration of architecture and its history.

Admission requirements. Two years of undergraduate study, Arch 181 and 182 or the equivalent. Students transferring from a B.Arch. program must be in good standing in their design sequence.

Procedure. Students from Cornell may transfer to the program at the beginning of the fall term of their third or fourth year of study. They submit a short application as prospective internal transfer students. Before applying, all prospective internal transfer students meet with a history of architecture faculty member to discuss scheduling for the program.

Students who wish to transfer to the program from outside Cornell must apply to the Department of Architecture by March 15. Applications may be considered after this date but are given lower priority. Applications for both internal and external transfer students are available from Elizabeth Cutter, Admissions Office, College of Architecture, Art, and Planning, Cornell University, 135 East Sibley Hall, Ithaca, New York 14853-6701.

Curriculum. A student entering the program is assigned an adviser from the history of architecture faculty in the Department of Architecture. Adviser and student together prepare an appropriate two-year course of study according to the following guidelines:

- 1) 24 credits of 300-level courses in architectural history: Arch 380 through Arch 399
- 2) 12 credits in 600-level architectural history seminars: Arch 681 through Arch 699; or 8 credits in a 600-level seminar plus Arch 499, offered for honors candidates only
- 3) One 300-, 400-, or 600-level course in architectural theory
- 4) 24 credits in electives selected in consultation with the student's adviser
- 5) Language requirement, to be met in the manner specified for students enrolled in the College of Arts and Sciences

Honors program. Students will graduate with honors if, during their two years of study in the program, they have a cumulative average of B or better in all courses, have no grade lower than A- in all history of architecture courses taken at the 300 level, and have completed an honors thesis (Arch 499) deemed to be of distinguished quality by the history of architecture faculty.

Dual Degree Options

Students can earn both the B.S. and B.Arch. degrees either simultaneously or sequentially. Students who have transferred into the B.Arch. program at Cornell may find this to be a special opportunity for an enlarged and enriched program of study.

Students currently enrolled in the College of Arts and Sciences at Cornell can earn a B.A. in an arts college major and a B.S. in the history of architecture in five years. In this option, students complete a minimum of 150 credits, which includes the B.S. prerequisites and curriculum requirements and 100 credits of the usual distribution and major requirements in the College of Arts and Sciences. Further information about this option is available at the Admissions Office, 135 East Sibley Hall, and at the Academic Advising Center of the

College of Arts and Sciences, 55 Goldwin Smith Hall.

Students may also elect to continue toward a Master of Arts degree in the history of architecture. The M.A. ordinarily requires a minimum of two years of graduate work beyond the bachelor's degree; with this special sequential degree arrangement that time is shortened to one year.

Summer Term in Architecture

The summer term offers students the opportunity of a concentrated period of design work. Design is offered at both undergraduate and graduate levels; the term is six to eight weeks in duration.

Undergraduate design sequence courses, including thesis, are offered at first- through fifth-year levels in Ithaca. Normally there is also a design program abroad for third-, fourth-, and fifth-year students.

Students from schools of architecture other than Cornell are welcome to apply to enroll in any summer program.

At the graduate level participation in the summer program cannot be undertaken without the consent of the student's Special Committee.

Furniture design, architectural structures, and computer visualization may be offered as elective courses, contingent upon student interest and faculty availability.

The department offers a Career Discovery Program in Architecture for high school students and undergraduates interested in exploring the possibility of a career in architecture.

Architectural Design

Courses in brackets are not offered this year.

A studio fee of \$65 is charged each semester for every design course (these fees are subject to change).

Sequence Courses

ARCH 101 Design I

Fall. 6 credits. Limited to department students.

An introduction to design as a conceptual discipline directed at the analysis, interpretation, synthesis, and transformation of the physical environment. Exercises are aimed at developing an understanding of the issues, elements, and processes of environmental design.

ARCH 102 Design II

Spring. 6 credits. Limited to department students. Prerequisite: Architecture 101 and Architecture 151. A continuation of Architecture 101.

Human, social, technical, and aesthetic factors related to space and form. Design problems range from those of the immediate environment of the individual to that of small social groups.

ARCH 201-202 Design III and IV

Fall and spring. 6 credits each term. Coregistration in Architecture 231-232 and completion of Architecture 151-152 required. Limited to department students. Prerequisite for Architecture 201 is Architecture 102 and Architecture 152. Prerequisite for Architecture 202 is Architecture 201.

ARCH 301-302 Design V and VI

Fall and spring. 6 credits each term. Limited to department students. Prerequisite for Architecture 301 is Architecture 202. Prerequisite for Architecture 302 is Architecture 301.

ARCH 401-402 Design VII and VIII

Fall and spring. 6 credits each term. Limited to department students. Prerequisite for Architecture 401 is Architecture 302. Prerequisite for Architecture 402 is Architecture 401.

Programs in architectural design, urban design, or architectural technology and environmental science, etc.

ARCH 501 Design IX

Fall or spring. 6 credits. Limited to department students. Prerequisite: Architecture 402.

Programs in architectural design, building typology investigations, and research leading to complete development of the student's thesis program. General instruction in the definition, programming, and development of a thesis is followed by tutorial work with the student's advisory committee.

ARCH 502 Design X—Thesis

Fall or spring. 8 credits. Prerequisite: Architecture 501 or Architecture 500 and Architecture 510. Required of B.Arch. candidates who must satisfactorily complete a thesis. Students accepted for admission to the Overlap Program are exempt from the thesis requirement.

ARCH 601-602 Special Program in Architectural Design

Fall and spring. 9 credits each term. Limited to students who have been accepted into the Overlap Program. Registration by petition only.

ARCH 603-604 Special Program in Urban Design

Fall and spring. 9 credits each term. Limited to students who have been accepted into the Overlap Program. Registration by petition only.

Graduate Courses

ARCH 701-702 Problems in Architectural Design

Fall and spring. 9 credits each term. Basic first-year design course for graduate students whose major concentration is architectural design.

ARCH 703-704 Problems in Urban Design

Fall and spring. 9 credits each term. Basic first-year design course for graduate students whose major concentration is urban design.

ARCH 801 Thesis or Research in Architectural Design

Fall or spring. 9 credits. Prerequisite: Architecture 701 and Architecture 702. Second-year design course for graduate students whose major concentration is architectural design.

ARCH 802 Thesis or Research in Urban Design

Fall or spring. 9 credits. Prerequisite: Architecture 703 and Architecture 704. Second-year design course for graduate students whose major concentration is regional design.

Elective Design Courses**ARCH 103-104 Elective Design Studio**

103, fall; 104, spring. 6 credits each term. Limited to students from outside the department. Prerequisite for Architecture 103: permission of instructor required. Prerequisite for Architecture 104: Architecture 103 and permission of instructor.

ARCH 303 Special Problems in Architectural Design

Fall or spring. Variable credit (maximum, 3). Prerequisite: permission of instructor and approved independent study form. Independent study.

ARCH 200, 300, 400, 500 Elective Design

Fall or spring. 6 credits each term. Open by permission to transfer students who have not been assigned to a sequence course. Prerequisite: permission of department office. Each student is assigned to a class of appropriate level. Prerequisite for Architecture 500 is Architecture 402.

ARCH 605 Special Problems in Design

Fall and spring. Variable credit (maximum 3). Prerequisite: permission of instructor. Independent study.

Related Courses and Seminars**ARCH 110 Introduction to Architecture: Design Studio**

Summer session. 3 credits. S-U option. Open to non-architectural majors in college, high school students in 11th and 12th grades, and any individuals with a minimum of a high school diploma interested in exploring the field of architecture. Not offered every year.

A course designed to introduce students to ideas, principles, and methods of solving architectural problems in a studio setting. Through a graduated sequence of exercises culminating in a major term project, students explore the architectural concepts of space, form, function, and technology. Instruction is via highly personalized critiques of individual student work by assigned department faculty as well as by periodic reviews of group by invited faculty and guest critics. The course grade is based on the overall performance in the studio with special emphasis on the quality of a major studio project.

[ARCH 111 An Introduction to Architectural Design

Fall or spring. 4 credits. Open to out-of-department students only. Not offered 1996-97.

An introduction to architectural design as a conceptual discipline. Exercises will develop an understanding of architectural space and its elements.]

ARCH 317 Contemporary Italian Culture

Fall or spring. Variable credit (maximum, 3). For students in the Rome program only.

This course provides a broad view of the culture and social structure of Italy, drawing from Italian literature, history, and current events.

ARCH 411 Professional Practice

Fall or spring. 3 credits each term. An examination of organizational and management theories and practices for delivering professional design services. Included is a historic overview of the profession and a review of the architect's

responsibilities from the precontract phase through construction. Application of computer technology in preparing specifications.

ARCH 510 Thesis Introduction

Foreign summer programs and Rome program only. 3 credits. Must be taken in conjunction with Architecture 500. Prerequisite for Architecture 500 is Architecture 402. Architecture 500 will be considered equivalent to Architecture 501 when taken concurrently with Architecture 510 during a foreign summer program or in Rome.

Lectures, seminars, and independent research leading to complete development of the student's thesis program. General instruction in the definition, programming, and development of a thesis.

ARCH 610 Graduate Design Seminar

Fall. 3 credits. Intended for but not limited to graduate students in the Architectural Design and Urban Design Program.

Issues in architectural and urban design. Required for first-year graduate students in design.

ARCH 611-612 Urban Housing Developments

611, fall; 612, spring. 3 credits each term. Limited to fourth- and fifth-year students in architecture and graduate students. Prerequisite: permission of instructor. Not offered every year.

ARCH 613 Transportation

Fall. 3 credits. Prerequisite: permission of instructor. Not offered every year.

The impact of various transportation forms on the environment is considered from the perspectives of architects, engineers, planners, and human ecologists. Readings and discussions of past, current, and future transportation modes focus on aesthetic and physical aspects.

ARCH 614 Low-Cost Housing

Spring. 3 credits. Prerequisite: permission of instructor. Not offered every year.

Aspects of low-cost housing involving engineering technology, architecture, physical planning, economics, and sociology.

ARCH 618-619 Seminar in Urban and Regional Design

618, fall; 619, spring. 3 credits each term. Limited to fifth-year and graduate students. Not offered every year.

A broad range of issues and problems of urban and regional development and the context in which the designer functions are surveyed. Selected case studies are presented by the participants and visitors.

Architectural Theory**ARCH 130 An Introduction to Architecture: Lecture Series**

Summer. 3 credits. S-U option. Open to non-architectural majors in college, high school students in 11th and 12th grades, and any individuals with a minimum of a high school diploma interested in exploring the field of architecture. Not offered every year.

A survey course that covers the many facets of architecture: history, design principles, preservations, landscape architecture, building technology, and cultural factors. The format of the course comprises lectures, demonstra-

tions, films, and field trips. Course evaluation is based on quizzes and a final examination.

ARCH 131 An Introduction to Architecture

Fall. 3 credits. Open to out-of-department students only. Architecture 131 is not a prerequisite for Architecture 132.

Intended to familiarize non-architecture students with the art and science of architecture. Fundamentals of plan, section, and elevation, the primary elements that comprise an architectural form; basic organizational principles; the ways in which we perceive architectural space; and the various concepts of function in relation to form will be included among the topics to be covered, using examples from numerous times and cultures as well as from the contemporary Cornell campus.

ARCH 132 An Introduction to Architecture

Spring. 3 credits. Open to out-of-department students only. Architecture 131 is not a prerequisite for Architecture 132.

Non-architecture students are initiated into various types of architectural drawings and exposed to a variety of methods whereby architectural forms communicate both simple and complex meanings. Architecture in its relation to fields such as landscape architecture, urban design, structural design, interior design, set design, architectural history, preservation, and computer graphics will be included in the presentations, which will also deal with the various relationships established between an architect and a society. Cross-historical and cross-cultural examples will be used in developing in the student a degree of fluency in the languages of architectural discourse.

ARCH 231 Architectural Analysis I

Fall. 2 credits. Architecture students must register concurrently in Architecture 201.

An introduction to analysis of the object of study in the interest of broadening one's understandings of the ways in which architecture can connote and denote meanings.

ARCH 232 Architectural Analysis II

Spring. 2 credits. Architecture students must register for this course concurrently with Architecture 202.

Advanced analytical studies focusing on complex architectural spaces, objects, images, and representations.

ARCH 335 Theory of Architecture

Fall or spring. 3 credits. Prerequisite: Architecture 231-232 or permission of instructor. Not offered every year.

ARCH 336 Theory of Architecture

Fall or spring. 3 credits. Limited to third-year students and above. Not offered every year.

Theories of modern architecture: De Stijl, cubist and purist painting, industrialized architecture, Le Corbusier's architecture and urban theories, architectural sequence, facades, the free plan, "DOM-INO" theory.

ARCH 337 Special Investigations in the Theory of Architecture I

Fall or spring. Variable credit (maximum, 3). Prerequisite: permission of instructor and approved independent study form.

Independent study.

ARCH 338 Special Topics in the Theory of Architecture I

Fall or spring. 3 credits. Prerequisite: permission of instructor. Not offered every year.

Topic to be announced before preregistration.

ARCH 339 Elements, Principles, and Theories in Japanese Architecture

Spring. 3 credits. Not offered every year.

An examination of Japanese architecture—buildings and gardens—and their contexts—landscapes, settlements, and cities. The course is addressed to those interested in Japanese architecture as a manifestation of Japanese culture and as a subject for analysis. Emphasis is on underlying concepts, ordering principles, formal typologies, space and its representation, perceptual phenomena, and symbolic content. Readings focus on theoretical treatments of these aspects by Japanese and western writers.

ARCH 431 Theory of Architecture

Fall. 3 credits. Prerequisite: third-year status. Not offered every year.

Gardening and architecture: urban parks; villas and country houses; and Italian, French, and English landscape gardens. Site planning.

ARCH 432 Theory of Architecture

Spring. 3 credits. Prerequisite: third-year status. Not offered every year.

The development of urban form, urban intervention, contextualism, ideal cities, historic new towns, streets, piazzas, fortifications, public buildings and social housing types, site planning, and transportation.

ARCH 435 Architecture and Representation

Fall. 3 credits. Limited to degree candidates in architecture. Prerequisite: successful completion of Architecture 231–232. Not offered every year.

A study of architecture as it functions as a representational art, referring to its past while inferring its present.

ARCH 635 Critical Theory in Architecture

Spring. 3 credits. Prerequisite: permission of instructor. Not offered every year.

An inquiry into the fundamental principles of architectural criticism in theory and practice, with emphasis on the structures of criticism in the twentieth century.

ARCH 637 Special Investigations in the Theory of Architecture II

Fall or spring. Variable credit (maximum, 4). Prerequisite: permission of instructor and approved independent study form.

Independent study.

ARCH 638 Special Topics in the Theory of Architecture II

Fall or spring. 3 credits. Prerequisite: permission of instructor. Not offered every year.

Topic to be announced before preregistration.

ARCH 639 Principles of Design Process

Fall or spring. 3 credits. Limited to third-year architecture students and above; students in other colleges must have permission of instructor. Not offered every year.

Analysis of the major theories and techniques of design developed during the past fifteen years, with special emphasis on application to the solution of whole problems in architectural design.

Architecture, Culture, and Society**ARCH 342 Architecture as a Cultural System**

Spring. 3 credits. Architecture 445, 446, 447, or 448 can substitute with permission of instructor.

What have been the major issues in the theory and practice of architectural design through time and across cultures, and how is aesthetic judgment related to more general systems of ordering within a particular society or group? This course draws on concepts, methods, and findings from the broad field of cultural anthropology to address these questions. Case studies and examples are drawn from a wide range of architectural traditions around the world for which there is a significant ethnographic literature, with special emphasis on sub-Saharan Africa, India, and the United States. Topics include the ideational and formal relationships between folk and monumental traditions in complex societies, the structure of the ideal social order and its refraction in the material world, cosmological models and architectural form, geometries of non-Western traditions, and the relationship between indigenization and culture change.

ARCH 349 Undergraduate Investigations in Architecture, Culture, and Society

Fall or spring. Variable credit (maximum, 3). Prerequisite: permission of instructor and approved independent study form.

Independent study.

ARCH 441–442 Special Topics in Architecture, Culture, and Society

Fall and spring. 3 credits each term.

Prerequisite: permission of instructor.

Topic to be announced before preregistration.

ARCH 445 Architecture and the Mythic Imagination

Fall. 3 credits. Prerequisite: Architecture 342 or permission of instructor. Not offered every year.

This course focuses on traditional societies in which beliefs about architectural order are borne out of the mythic and religious imagination. Certain themes that are common to a range of cultures are explored in detail. They include the model of the human body as a source of architectural knowledge, the sacred center, the cosmic mountain, and architectural rituals as enactments of myths. Such themes are traced across cultures, through time and into contemporary theory.

ARCH 446 Topics in Architecture, Culture, and Society

Fall or spring. 3 credits. Prerequisite: Architecture 342 or permission of instructor.

ARCH 447 Architectural Design and the Utopian Tradition

Fall. 3 credits. Prerequisite: Architecture 342 or permission of instructor. Not offered every year.

This course explores the relationship between visionary architecture of the late 19th and 20th centuries and the wider utopian literature of the time. It first explores themes in utopian fiction as well as in anti-utopian tracts and then turns to the attempts of architects, planners, and artists to concretize visions of the ideal world. The course will devote special attention to the ways in which ideals grounded in the utopian tradition have emerged in the social criticism of housing and neighborhood design in the urban setting in recent times.

ARCH 448 The Indian Example and the Visual Tradition in Culture

Spring. 3 credits. Prerequisite: Architecture 342 or permission of instructor. Not offered every year.

This course provides a concise chronological summary of the major building traditions of Hindu India and explores the relationship between form and more general beliefs about the power of vision to reveal and transform. Topics include the sculptural program of the Hindu temple as a vehicle for the preservation and transmission of mythic texts, the oculus as an element and the eye as a motif, darshan, the spiritually transforming vision, and the destructive power of vision as revealed in myth and beliefs about "evil eye."

[ARCH 647–648 (667–668) Architecture in Its Cultural Context I and II]

647, fall; 648, spring. 4 credits each term.

Prerequisite: permission of instructor.

Not offered 1996–97.

Fall term, theory; spring term, problem solving and method. An examination of the relationship between architecture and other aspects of culture. Emphasis on the motivations for particular architectural forms and especially on theories of architecture. Examples from the United States and Asia.]

ARCH 649 Graduate Investigations in Architecture, Culture, and Society

Fall or spring. Variable credit (maximum

4). Prerequisite: permission of instructor and approved independent study form.

Independent study.

Visual Studies

Darkroom fees charged for all photography courses.

ARCH 151 Drawing I

Fall. 2 credits.

Freehand drawing with emphasis on line and perspective representation of form and space.

ARCH 152 Drawing II

Spring. 2 credits. Prerequisite: Architecture 151.

Freehand drawing as a means of conceiving and expressing spatial form; line weight, shades and shadows, and figure drawing.

ARCH 251 Introductory Photo I (also Art 161)

Fall or spring. 3 credits each term.

For description see Art 161.

ARCH 351 Photography II (also Art 261)

Spring. 4 credits. Prerequisites: Architecture 251 or Art 161, or permission of instructor.

For description see Art 261.

[ARCH 356 Architectural Simulation Techniques]

Fall or spring. 3 credits. Prerequisite: Architecture 151 or permission of instructor. Not offered 1996–97.

Two- and three-dimensional simulation techniques in architecture. Emphasis on simulation of environment, space, materials, and lighting as visual tools for architectural design.]

ARCH 450 Architectural Publications

Fall and spring. Variable credit (maximum 3). May be repeated for credit.

Colloquy and practicum on issues related to the production of an architectural journal, as well as other theoretical and practical production related to the exchange of

architectural ideas. Exercises will cover both theoretical as well as hands-on aspects of architectural publication.

ARCH 457 Special Project in Photography

Fall or spring. Variable credit (maximum, 3). Prerequisites: written proposal outlining the special project and permission of instructor. Not offered every year. Independent study.

ARCH 458 Special Investigations in Visual Studies

Fall or spring. Variable credit (maximum, 3). Prerequisites: permission of instructor and approved independent study form. Independent study.

ARCH 459 Special Topics in Visual Studies I

Fall or spring. 3 credits. Prerequisite: permission of instructor. Topics to be announced before preregistration.

ARCH 458 Special Investigations in Visual Studies II

Fall or spring. Variable credit (maximum, 4). Prerequisites: permission of instructor and approved independent study form. Independent study.

ARCH 459 Special Topics in Visual Studies II

Fall or spring. 3 credits. Prerequisite: permission of instructor. Topic to be announced before preregistration.

Architectural Science and Technology Structures

ARCH 263 Structural Concepts

Fall. 4 credits. Prerequisite: Mathematics 111 or approved equivalent. Fundamental concepts of structural behavior. Statics and strength of materials. Introduction to and analysis of simple structural systems.

ARCH 264 Structural Elements

Spring. 3 credits. Prerequisite: Architecture 263. Concepts and procedures for the design of individual structural components (columns, beams, etc.) in steel, concrete, and timber construction.

ARCH 363 Structural Systems

Fall. 3 credits. Prerequisite: Architecture 264. Concepts and procedures for the design of overall structural framing systems in steel, concrete, and timber construction.

ARCH 463 Special Topics in Structures

Fall or spring. 3 credits. Limited to 30 students. Prerequisites: Architecture 263, 264, and 363 or permission of instructor. Not offered every year. Topic to be announced by preregistration.

ARCH 473 Special Investigations in Structures

Fall or spring. Variable credit (maximum, 3). Prerequisite: permission of instructor and approved independent study form. Independent study.

Construction

[ARCH 160 The History of Architectural Technology]

Fall or spring. 3 credits. Not for students in the Department of Architecture. Not offered 1996-97.

Architectural technology is a seemingly illogical blend of scientific knowledge and empirical experience. Whereas it may seem chaotic to the nonprofessional, it is a product of logic in the widely differing areas of design, structure, installation, production and erection, material use, law, economics, and historical development. The evolution of this interdependence is treated using examples of architectural and civic engineering works and processes.]

[ARCH 161 An Introduction to Building Technology]

Fall. 3 credits. Open to out-of-department students only. Not offered 1996-97.

An introduction to building technology, materials, and construction systems for non-architecture majors. Topics will include structure (why buildings stand up); enclosure (mediation of environmental conditions); mechanical systems (how buildings provide comfort, hygiene, and life safety); and interior surfaces (walls, floors, ceilings, acoustical behavior, and fire safety). The relationship between the principles and practices underlying the construction of buildings ("technology") and what buildings look like ("design") will also be explored. Concepts rather than computation will be emphasized.]

ARCH 262 Building Technology, Materials, and Methods

Spring. 3 credits. Properties of materials—their use and application to the design of buildings and building systems. Discussion of various methods of building construction and assembly.

ARCH 465 Special Topics in Construction

Fall or spring. 3 credits. Limited to 30 students. Prerequisites: Architecture 262 or permission of instructor. Not offered every year. Topic to be announced by preregistration.

ARCH 475 Special Investigations in Construction

Fall or spring. Variable credit (maximum, 3). Prerequisite: permission of instructor and approved independent study form. Independent study.

Environmental Controls

ARCH 261 Environmental Controls—Site Planning

Fall. 3 credits. The basic principles involved in design in the outdoor environment. A brief historical perspective. A development of inventory including grading and drainage. Foundations, surfacing, and construction.

ARCH 361 Environmental Controls—Lighting and Acoustics

Fall. 3 credits. Basic properties and principles of sound and light. Sound phenomena, noise control, absorption, acoustical design. Light, color, and form. Natural lighting possibilities and constraints. Good and bad examples of artificial lighting.

ARCH 362 Environmental Controls—Mechanical and Passive Solar Systems

Spring. 3 credits. Basic thermal analysis of buildings, human comfort criteria, energy conservation, passive solar design, HVAC distribution systems, overview of mechanical conveying systems and plumbing.

ARCH 464 Special Topics in Environmental Controls

Fall or spring. 3 credits. Limited to 30 students. Prerequisites: Architecture 261, 361, and 362 or permission of instructor. Not offered every year. Topic to be announced by preregistration.

ARCH 474 Special Investigations in Environmental Controls

Fall or spring. Variable credit (maximum, 3). Prerequisite: permission of instructor and approved independent study form. Independent study.

Computer Applications

ARCH 372 Imaging and the Electronic Age

Spring. 3 credits. For undergraduate, non-computer-scientists. 2 lectures. 1 recitation. D. Greenberg. Historical technological advances which created major paradigm shifts for communications as well as advances in computer technology will be presented. Technical fundamentals of computer graphics capabilities will be emphasized. The latter half of the course will cover the effect of these scientific advances on many discipline-specific areas including architecture, art and animation, photography and the film industry, medicine, engineering design, the corporate structure, and education itself. The course will be heavily supplemented with pictorial content consisting of slides, movies, and live interactive demonstrations.

ARCH 374 Computer Graphics and Visualization

For description, see Computer Science 417.

ARCH 375 Practicum in Computer Graphics (also Computer Science 418)

Spring. 2 credits. Prerequisite: Computer Science 211. Recommended: Computer Science 314. Corequisite: Architecture 374. Not offered every year. Two or three programming assignments dealing with sophisticated interactive vector graphics programs on calligraphic displays and solid-image generation on raster graphics displays.

ARCH 378 Microcomputer Applications in Design

Fall. 3 credits. Prerequisites: previous knowledge of PC-based CAD or permission of instructor. This course covers advanced principles, concepts, and applications of microcomputer-aided design, synthetic imaging, and animations. It combines seminar-style presentation with hands-on laboratory sessions. The course uses IBM PC platforms exclusively.

ARCH 379 Design by Computer

Spring. 3 credits. Prerequisites: Limited to third-year students and above. Not offered every year. Exploration of the formalization of the design process for compatibility with the computer,

and the role of computers in design. Lecture with CAD lab.

ARCH 476 Special Topics in Computer Applications

Fall or spring. 3 credits. Limited to 30 students. Prerequisites: Architecture 374 or 379 or permission of instructor. Not offered every year.

Topic to be announced by preregistration.

ARCH 477-478 Special Projects in Computer Graphics

477, fall; 478, spring. Variable credit (maximum, 4). Limited to third-year students and above. Prerequisites: Architecture 374 plus concurrent registration in Computer Science 314 or equivalent, and permission of instructor.

Advanced work in computer graphics input and display techniques, including storage tube, dynamic vector and color raster displays.

Graduate Courses

ARCH 761-762 Architectural Science Laboratory

761, fall; 762, spring. 6 credits each term. Open to architectural science graduate students only.

Projects, exercises, and research in the architectural sciences.

ARCH 763-764 Thesis or Research in Architectural Science

763, fall; 764, spring. Variable credit (maximum, 12). Limited to architectural science graduate students.

Independent study.

Architectural History

The history of the built domain is an integral part of all aspects of the architecture curriculum, from design and theory to science and technology. Incoming students take Architecture 181-182 in the first year, and three additional courses from the 380-399 series, preferably in the third and fourth years. Seminars are intended for advanced undergraduate and graduate students and do not satisfy undergraduate history requirements. Courses with the same number may only be taken once to satisfy history of architecture or in-college requirements.

Sequence Courses

ARCH 181 History of Architecture I

Fall. 3 credits. Required of all first-year students in architecture; open to all students in other colleges with an interest in the history of the built domain.

The history of the built environment as social and cultural expression from the earliest to more recent times. Themes, theories, and ideas in architecture and urban design are explored, beginning with the earliest written records.

ARCH 182 History of Architecture II

Spring. 3 credits. Required of all first-year students in architecture. Open to all students in other colleges with an interest in the history of the built domain; may be taken independently of Architecture 181.

The history of the built environment as social and cultural expression from more recent times to the present. Themes, theories, and ideas are addressed in greater detail for architecture and urban design leading to the present.

Directed Electives

ARCH 380 History of Theory

Fall or spring. 3 credits. Prerequisites: Architecture 181-182 or permission of instructor. Not offered every year.

This course, in which classroom discussion and debate play a central role, explores the history of important theoretical issues involving art and architecture. The readings, which span from the Greeks to today, focus on more than just questions of aesthetics and include theories of ethics, origins, imagination, nature, society, and pedagogy.

ARCH 381 Greek and Roman Architecture and Urbanism

Fall or spring. 3 credits. Prerequisites: Architecture 181-182 or permission of instructor. Not offered every year.

The history of architecture and urban design in ancient Mediterranean civilizations, with emphasis on Greece and Rome. The course considers change and transformation of building types and their elements within the general context of social demands.

[ARCH 382 Architecture of the Middle Ages

Fall. 4 credits. Prerequisites: Architecture 181-182 or permission of instructor. Credit for this course may be obtained by taking History of Art 332. Not offered every year. Not offered 1996-97.

A survey of medieval architecture from the Early Christian period to the late Gothic (A.D. 300-1500). Emphasis is given to the development of structural systems, form, function, and meaning of important medieval buildings.]

ARCH 383 The City

Fall or spring. 3 credits. Prerequisites: Architecture 181-182 or permission of instructor. Not offered every year.

This course looks at the development of urban form and urban consciousness from the bronze age to the industrial revolution. It studies conceptions of the city, competing urban paradigms, images of cities both real and fictive, as well as the religious and cultural practices associated with city design.

ARCH 384 The Italian Renaissance: Architecture, Politics, and Urbanism

Fall or spring. 3 credits. Prerequisites: Architecture 181-182 or permission of instructor. Not offered every year.

This course focuses on the leading architects and theorists of the Renaissance from within the context of the political and cultural developments in Italy from 1300 to the mid-sixteenth century. The course also investigates specific architectural problems faced by designers as well as questions of architectural patronage, practices, and theories.

ARCH 385 Magnificent Utility—Architecture and the Arts of Persuasion

Fall or spring. 3 credits. Prerequisites: Architecture 181-182 or permission of instructor. Not offered every year.

Architects put revolutionary attitudes about form, space, light, and the arts into practice during the course of the seventeenth century. Focusing on the urban centers of Rome and Paris and the cultural landscapes of Spain, England, and Central Europe, this course explores how architecture, urban design, and the arts were employed to promote state and church.

ARCH 387 The Nineteenth Century—Style, Technology, and Individuality in the West

Fall or spring. 3 credits. Prerequisites: Architecture 181-182 or permission of instructor. Not offered every year.

An examination of the nineteenth-century efforts to create appropriate stylistic forms and expressions for emerging building technologies and typologies. The preservation of individual artistic expression against the backdrop of industrialization, urbanization, and professionalization will be emphasized. The course begins with Rationalist theory and its architectural expression and concludes with considerations of Art Nouveau, Modernismo, and Jugendstil.

ARCH 388 Modernism

Fall or spring. 3 credits. Prerequisites: Architecture 181-182 or permission of instructor. Not offered every year.

Precursors and proponents of the modern movement from the late nineteenth century into the 1940s are considered in this course. The cultural intents of the modern are examined in architectural and urban design for individuals, groups, and institutions, from Mies van der Rohe, Le Corbusier, and Frank Lloyd Wright to de Stijl, the Bauhaus, and design education. Attention is paid to the politics of design in the service of the state during the 1930s.

ARCH 389 Architecture, Revolution and Tradition

Fall or spring. 3 credits. Prerequisites: Architecture 181-182 or permission of instructor. Not offered every year.

From early eighteenth to early nineteenth century, European society underwent profound change. Political absolutism—the doctrine of unlimited government control—was challenged; Enlightenment attitudes—commitments to human reason, science and education—gained ascendancy. This course considers architectural and urban design in these times of tumult. It begins with efforts to foment architectural revolution within inherited traditions and ends with attempts to establish design traditions within revolutionary settings.

ARCH 390 American Architecture and Building I

Fall or spring. 3 credits. Prerequisites: Architecture 181-182 or permission of instructor. Not offered every year.

A review of architecture, building, and responses to the landscape from the prehistoric period to the Civil War. Architecture and building as social and collaborative arts will be emphasized and thus the contributions of artisans, clients, and users as well as professional architects and builders will be examined. The architectural expressions of Native Americans, African Americans, women, and others will be treated in addition to those of European colonists and settlers.

ARCH 391 American Architecture and Building II

Fall or spring. 3 credits. Prerequisites: Architecture 181-182 or permission of instructor. Not offered every year.

A continuation of Architecture 390 but may be taken independently. An account of American architecture, building, and responses to the environment from the post-Civil War period to the present day. Particular attention will be paid to the processes of industrialization, professionalization, and urbanization as well

as to the manifestations of gender, class, race, and ethnicity in the built and architectural environments.

ARCH 392 Modern Architecture On Film

Fall or spring. 3 credits. Prerequisites: Architecture 181-182 or permission of instructor. Not offered every year.

An exploration of certain themes deemed critical to modern architecture and urbanism through their representation in both commercial and avant-garde films from the medium's birth until the present day. The focus will vary each semester with particular emphases to include the modern house and housing, the modern city, technology and visions of the future, and finally the image of the architect. Representations of these themes in other forms such as painting, photography, theatre, literature, and advertising will also be examined. Selected readings in modern architecture and film, screenings in class, class discussions, presentations, and papers.

ARCH 393 The Cumulative City

Fall or spring. 3 credits. Prerequisites: Architecture 181-182 or permission of instructor. Not offered every year.

Well established cities were transformed by radical and unimagined change in the nineteenth and twentieth centuries. Politics and economies were recast, populations exploded, and new technologies reshaped transportation, communication, and building. This course explores transformation historically in the cumulative city, focusing on specific cities in America and Europe, Africa, and Asia. The cultural context of each city is examined to understand how it changed and how meanings became associated with evolving urban forms.

ARCH 394 Toward the Millennium

Fall or spring. 3 credits. Prerequisites: Architecture 181-182 or permission of instructor. Not offered every year.

Theory and practice in architecture and urbanism are investigated from the 1950s to the present. From the Americanized International Style to the recent internationalism of design attitudes, the immediate past is explored historically to probe the matrix of meanings associated with contemporary form, urbanism, and technology.

ARCH 395 Contemporary Issues in the Built Environment

Fall or spring. 3 credits. Prerequisites: Architecture 181-182 or permission of instructor. Not offered every year.

A consideration of how certain social, cultural, political, ethical, and economic issues are manifest in the architectural and built environments of the United States. Overarching issues will be examined through case studies such as the question of monuments and monumentality in a contemporary, multicultural society through the Vietnam Memorial in Washington, D.C., Holocaust museums and memorials, and the preservation of the Audubon Ballroom as a memorial to Malcolm X. Historical concerns and examples will be brought to bear on these contemporary manifestations of preservation, monumentality, gender, class, professional responsibility, and ethics and design as a collaborative art. A course for architects, planners, and preservationists but also clients and users of buildings and landscape.

ARCH 396 Special Topics in the History of Architecture and Urbanism

Fall or spring. 3 credits. Prerequisites: Architecture 181-182 or permission of instructor. Not offered every year. Topic to be announced.

ARCH 397 Special Topics in the History of Architecture and Urbanism

Fall or spring. 3 credits. Prerequisites: Architecture 181-182 or permission of instructor. Not offered every year. Topic to be announced.

ARCH 398 Special Topics in the History of Architecture and Urbanism

Fall or spring. 3 credits. Prerequisites: Architecture 181-182 or permission of instructor. Not offered every year. Topic to be announced.

ARCH 399 Special Topics in the History of Architecture and Urbanism

Fall or spring. 3 credits. Prerequisites: Architecture 181-182 or permission of instructor. Not offered every year. Topic to be announced.

Courses in Preservation

ARCH 583 Measured Drawing

For description, see CRP 567.

ARCH 584 Problems in Contemporary Preservation Practice

For description, see CRP 563.

ARCH 585 Perspectives on Preservation

For description, see CRP 562.

ARCH 586 Documentation for Preservation

For description, see CRP 560.

ARCH 587 Building Materials Conservation

For description, see CRP 564.

ARCH 588 Historic Preservation Planning Workshop: Surveys and Analyses

For description, see CRP 561.

Graduate Seminars in the History of Architecture and Urbanism

ARCH 680 Seminar in Historiography

Fall. 4 credits. Prerequisite: permission of instructor. Historiographic and methodological issues are examined in relation to the history of architecture and urbanism. Taught by different faculty members in successive years, the seminar is required of all first- and second-year graduate students in the History of Architecture and Urbanism program.

ARCH 682 Seminar in Urban History

Fall or spring. 4 credits. Prerequisite: permission of instructor. Not offered every year. Topic to be announced.

ARCH 683 Seminar in the History of Theory

Fall or spring. 4 credits. Prerequisite: permission of instructor. Not offered every year. Topic to be announced.

ARCH 684 Seminar in the Italian Renaissance: Architecture, Politics, and Urbanism

Fall or spring. 4 credits. Prerequisite: permission of instructor. Not offered every year. Topic to be announced.

ARCH 686 Seminar in Seventeenth- and Eighteenth-Century Architecture and Urbanism

Fall or spring. 4 credits. Prerequisite: permission of instructor. Not offered every year. Topic to be announced.

ARCH 688 Seminar in Twentieth-Century Architecture and Urbanism

Fall or spring. 4 credits. Prerequisite: permission of instructor. Not offered every year. Topic to be announced.

ARCH 689 Seminar in the History of Cities

Fall or spring. 4 credits. Prerequisite: permission of instructor. Not offered every year. Topic to be announced.

ARCH 690 Seminar in American Architecture, Building, and Urbanism

Fall or spring. 4 credits. Prerequisite: permission of instructor. Not offered every year. Topic to be announced.

ARCH 692 Seminar in Nineteenth-Century Architecture, Building, and Urbanism

Fall or spring. 4 credits. Prerequisite: permission of instructor. Not offered every year. Topic to be announced.

ARCH 696 Seminar in Special Topics in the History of Architecture and Urbanism

Fall or spring. 4 credits. Prerequisites: permission of instructor. Not offered every year. Topic to be announced.

ARCH 697 Seminar in Special Topics in the History of Architecture and Urbanism

Fall or spring. 4 credits. Prerequisite: permission of instructor. Not offered every year. Topic to be announced.

ARCH 698 Seminar in Special Topics in the History of Architecture and Urbanism

Fall or spring. 4 credits. Prerequisite: permission of instructor. Not offered every year. Topic to be announced.

ARCH 699 Seminar in Special Topics in the History of Architecture and Urbanism

Fall or spring. 4 credits. Prerequisite: permission of instructor. Not offered every year. Topic to be announced.

Independent Study, Thesis, Dissertation**ARCH 299 Undergraduate Independent Study in the History of Architecture and Urbanism**

Fall or spring. Variable credit (maximum, 3). Prerequisite: permission of instructor. May not be taken by students in design to satisfy undergraduate history requirements. Independent study for undergraduate students.

ARCH 499 Undergraduate Thesis in the History of Architecture and Urbanism

Fall or spring. 4 credits. For B.S. honors candidates in history only.

ARCH 799 Graduate Independent Study in the History of Architecture and Urbanism

Fall or spring. Variable credit. Prerequisite: permission of instructor. Independent study for graduate students.

ARCH 899 M.A. Essay in the History of Architecture and Urbanism

Fall or spring. 4 credits. Independent preparation of the M.A. essay, often developed from topics investigated in Arch 680.

ARCH 999 Ph.D. Dissertation in the History of Architecture and Urbanism

Fall or spring. Variable credit. Independent study for the doctoral degree.

ART

R. Bertoia, chair; Z. Blum, S. Bowman, N. D. Daly, V. G. Kord, J. N. Locey, E. Meyer, G. Page, B. Perlus, director of graduate studies; S. Poleskie, J. L. Squier, W. S. Taft, K. WalkingStick, G. S. White, and visiting critics.

Undergraduate Program

The undergraduate curriculum in art, leading to the degree of Bachelor of Fine Arts, provides an opportunity for the student to combine a general liberal education with the studio concentration required for a professional degree. During the first four semesters all students follow a common course of study designed to provide a broad introduction to the arts and a basis for the intensive studio experience in the last two years. Beginning with the third year, students concentrate in painting, sculpture, photography, printmaking, or combined media.

Studio courses occupy approximately one-half of the student's time during the four years at Cornell; the remainder is devoted to a diversified program of academic subjects with a generous provision for electives.

The curriculum in art is a program of study within the College of Architecture, Art, and Planning.

The undergraduate curriculum in art is an excellent background for a career in applied art although no specific technical courses are offered in such areas as interior design, fashion, or commercial art.

All members of the faculty in the Department of Art are active, practicing artists, whose work represents a broad range of expression.

A candidate for the B.F.A. degree may also earn a Bachelor of Arts degree from the College of Arts and Sciences or the College of Human Ecology, or a Bachelor of Science degree from the College of Engineering. This decision should be made early in the candidate's career (no later than the third semester) so that he or she can petition to be registered in both colleges simultaneously. Each student will be assigned an adviser in both colleges, of their dual degree program, to provide needed guidance. As a candidate for two degrees you must satisfy all requirements for both degrees. At least 67 of the total credits must come from courses offered in the Department of Art and an additional 6 credits of History of World Art. In addition, all Department of Art requirements for freshman writing seminars, art history, and distribution must be met.

It is expected that a dual degree candidate will complete the pre-thesis and thesis requirements for the B.F.A. degree during the fifth year.

Bachelor of Fine Arts Degree Requirements**Credits and Distribution**

130 credits are required for the BFA degree. A minimum of 67 are taken in the Department of Art and an additional 6 credits of Survey of World Art. A minimum of 49 are taken outside the department.

Curriculum

Students are expected to take an average course load of 16 credits per semester during their four years. No more than three studio courses may be taken in any one semester. Studio courses may be repeated for elective credit. All students must take at least one studio course a semester unless there are exceptional circumstances expressed in the form of a petition. **Any request to deviate from the standard curriculum must be petitioned prior to the act.**

Specific Course Requirements

By the end of the second year, students must have completed an introductory course in each of the areas of painting, sculpture, printmaking, and photography and four drawing courses. By the end of the third year, all students must have completed an additional 12 credits beyond the introductory level in three of the four areas.

Concentration

Students must plan their programs to complete 27 credits in one of the studio areas of painting, sculpture, or photography or printmaking. Declaration of the area of concentration must be made during the second semester of the sophomore year. B.F.A. students must complete a senior thesis in one area of concentration and are required to participate in the Senior Exhibition in the semester the thesis is taken.

Concentration Requirements (27 credits total)

The required courses for each concentration are as follows:

Painting: ART 121, 221, 321, 322, 421, 422 (Thesis)

Sculpture: ART 141, 241, 341, 342, 441, 442 (Thesis)

Printmaking: ART 130; 231/232/233 (1 of 3); 231, 232, 233, 234, 235, 236, 264 (2 of 7); 431, 432 (Thesis)

Photography: ART 161, 261, 263, 461, 462 and one of the following: ART 234, 264, and 265

Dual Concentration

If a student is interested in studying in more than one area, he or she may choose to do a dual concentration. The dual concentration requires a first area, in which the thesis is conducted, and a non-thesis second area. Pre-thesis and thesis must be taken in the first area of concentration. Students must take 23 credits in the first area of concentration. Students must take 15 credits in the second area of concentration. Drawing is only available as a second area of concentration.

The required courses for the dual concentration are:

<i>First Area of Concentration</i>	<i>Total Credits</i>
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Painting: ART 121, 221, 321, 421, 422	23
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Sculpture: ART 141, 241, 341, 441, 442	23
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Printmaking: ART 130, 231/232/233 (1 of 3), 231, 232, 233, 234, 235, 236, 264 (1 of 7); 431, 432	23
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Photography: ART 161, 261, 234/263/264/265 (1 of 4), 461, 462	23
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<i>Second Area of Concentration</i>	<i>Total Credits</i>
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Drawing: ART 151, 152, 251, 252, repeat 251	15
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Painting: ART 121, 221, 321, 322	15
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Sculpture: ART 141, 241, 341, 342	15
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Printmaking: ART 130 and 231/232/233/234/235/236/264 (2 of 7)	15
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Photography: ART 161, 261, 263/264/234 265 (2 of 4)	15
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Note: The total number of out-of-college elective credits required will be adjusted to allow for the additional credits required of the dual concentration.

Combined Media Concentration

The combined media program enables students to fulfill concentration requirements by combining several studio disciplines, including out-of-department studio courses such as those offered in the departments of music, theatre, and dance, etc.

The required courses for the concentration in **Combined Media** (33 credits) are:

100 and 200 level studios ART 1__, 2__	7
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200 and 300 level studios ART 2__, 2__, 3__, 3__ (2 of 4)	8
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Pre-Thesis and Thesis ART 481, 482	12
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Out-of-college studio electives (minimum of 2)	6
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OCE Studio, OCE Studio

Total	33 credits
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Note: The total number of in/out-of-college elective credits required will be adjusted to allow for the additional credits required of the combined media concentration.

Out-of-College Requirements

A minimum of 49 electives credits must be taken outside of the college. In the first year, students must take two freshman writing seminars. Students are required to take courses from among three groups, which include: Physical and Biological Sciences (minimum of two courses, of at least 3 credits each); Social Sciences (minimum of three courses, of at least 3 credits each); and, Humanities and Expressive Arts (minimum of three courses, of at least 3 credits each). All BFA students are required to take 12 credits in the History of Art. One course must be taken in each of the following areas:

Modern: 260, 265, 270, 361, 362, 364, 366, 367, 370, 376.

Non-Western: 280, 380, 381, 383, 384, 385, 386, 389, 396.

Elective: Any art history elective at the 300 level or above or any architectural history elective.

The university requirement of two terms in physical education must be met.

A candidate for the B.F.A. degree at Cornell is required to spend the last two terms of candidacy in residence at the university, subject to the conditions of the Cornell faculty legislation of November 14, 1962. No student may study in absentia for more than two terms.

Students who transfer into the undergraduate degree program in art must complete a minimum of four terms in residence at Cornell and a minimum of 60 credits at the university, of which 30 credits must be taken in the Department of Art, including four terms of studio work.

Rome Program

Students in good standing who have completed the requirements of the first two years of the curriculum are eligible for participation in the Rome Program. Students are admitted to the program by application and review of their record. Applications are submitted to the Rome Program coordinator. Students applying to the Rome Program must meet with their faculty adviser, the art department Rome Program adviser, and the department chair to obtain signatures of approval for admission to the program. Students in the department wishing to attend the Rome Program must register for a full semester of credits. The department recommends that students attend the program during the first or second semester of their junior year. Under special circumstances, seniors may also attend the Rome Program. Students wishing to spend two consecutive semesters in Rome are encouraged to do so. In both cases students must petition for special consideration. This petition must include the proposed course schedule for both semesters and must show signatures of approval by the adviser in the student's area of concentration, the department chair, and by the Rome Program adviser.

Rome Curriculum

Art 400	Rome Studio	4
Fulfills 4 credits of concentration		
Art 312*	Modern Art in Italy	3
Art 317	History of Art in Rome: Early Christian to the Baroque Age	4

or

Art 318	History of Art in Rome: Renaissance in Rome and Florence	4
Itala 111/112	Italian Language	4
Arch 317	Contemporary Italian Film	1

16 Total

Students may not take more than 16 credits a semester in the Rome Program. Only four studio credits may be taken in any one semester. Students may study in Rome for one or two academic semesters.

*Fulfills 300-level Theory and Criticism requirement.

For those students matriculating in fall of 1996:

Students are required to take ART 100, Basic Studio in Art; ART 111, Introductory Art Seminar; ART 121, Introductory Painting; or ART 141, Introductory Sculpture; ART 112, History of World Art; and a Freshman Writing Seminar during the fall semester of the freshman year. ART 113, History of World Art, and an additional Freshman Writing Seminar must be taken during the spring semester of the freshman year. A 300-level course in Theory and Criticism must be taken sometime during the junior or senior year.

Courses that will fulfill Theory and Criticism requirement:

Art 310, 312	
Art History 367, 370, 470, 494, 570, 594, 595, 596	
German Studies 660	

First Year

<i>Fall Term (Required Curriculum)</i>	<i>Credits</i>
100 Basic Studio in Art	4
111 Introductory Art Seminar	1
112 History of World Art	3
121 Introductory Painting	3
or	
141 Introductory Sculpture	3
151 Drawing I	3
Freshman Writing Seminar	3
	17

Spring Term (Required Curriculum)

113 History of World Art	3
121 Introductory Painting	3
or	
141 Introductory Sculpture	3
152 Drawing II	3
171 Electronic Imaging in Art	3
Freshman Writing Seminar	3
	15

Second Year

<i>Fall Term (Required Curriculum)</i>	<i>Credits</i>
130 A Survey of the Printmaking Processes	3
161 Introductory Photography	3
251 Drawing III	3
Out-College Elective (OCE)/Art History	4
OCE	3
	16

Spring Term

200 Level Studio	3
200 Level Studio	4
252 Drawing IV	3
OCE/Art History	4
OCE	3
	17

Third Year

Fall Term

200 Level Studio	4
Art Studio concentration	4
300-level course in Theory and Criticism	3
OCE	3
In/OCE	3
	17

Spring Term (Rome)

Art Studio concentration	4
OCE/Art History	4
In/OCE's	8
	16

Fourth Year

Fall Term

Pre-Thesis	6
In/OCE's	10
	16

Spring Term

Thesis	6
In/OCE's	9
	15

The M.F.A. Program

The Master of Fine Arts program requires four terms of residence and sixty credits. Transfer credit for graduate work done elsewhere or in the summer session is not acceptable. The curriculum leading to the master's degree is flexible to accommodate the needs of the individual student and to enable the student to partake of the greater Cornell community. The ratio of graduate faculty to students is greater than one-to-one, allowing exceptional opportunity for individual mentoring. Graduate students are provided individual studios and have 24-hour access to specialized studios and labs.

Graduate students in art may enroll in introductory or advanced courses in any field of study offered at the university: specialty courses in writing, stagecraft, cinema, and music are available as well as general education courses in the history of art, philosophy, anthropology, and so forth. Fifteen credits are required in each term; of these, nine credits are in studio work, and three credits are in Graduate Seminar (ART 611, 612, 613, 614). Students are required to take at least twelve credits of academic work outside the Department of Art during their four terms in residence. Candidates for the Master of Fine Arts degree must have completed eighteen credits in the history of art in the course of their graduate and/or undergraduate study. Every M.F.A. candidate must prepare a written thesis, offer a thesis exhibition of studio work completed during residency, and give an oral defense of the

written and visual thesis. Gallery space is provided for a one-week solo thesis exhibition during the final spring semester.

Course Information

Most courses in the Department of Art are open to students in any college of the university who have fulfilled the prerequisites or have permission of the instructor.

Fees are charged for all studio courses. See the specific course description for course fees.

To take advantage of the special opportunities afforded by summer study, the department has developed several summer-only courses.

Guidelines for Independent Study

A student who wants to undertake Independent Study must be a junior in good standing. Fine Arts students must have completed two years of the curriculum, **including all first- and second-year studios and four semesters of drawing.** An independent study cannot be used to fulfill any of the four drawing requirements. All students must have taken a minimum of one Cornell Art Department course in the area of the proposed independent study. It is recommended that the student take the independent study with a professor with whom they have previously studied. Out-of-department students may be exempt from the studio sequence requirement at the discretion of the supervising professor. Independent studies do NOT count toward studio requirements. Credit hours are variable up to a maximum of four.

Courses in Theory and Criticism

ART 111 Introductory Art Seminar

Fall. 1 credit. S-U only. Limited to B.F.A. students.

Students meet each week with a different member of the faculty. The varying artistic interests of the faculty are presented and discussed.

ART 112 History of World Art

Fall and spring. 3 credits.
This two-semester course will survey world art from the Paleolithic era to the present. While primary emphasis will be placed upon the art and architecture of the western tradition, lectures on the visual arts outside that tradition will also be presented. The course will emphasize major monuments, important trends and developments, and critical approaches to the art of the past and present. The history of artistic styles will be studied in relation to cultural factors shaping the work of art such as patronage, politics, religion, and economics. The original settings and functions of works of art and buildings will be emphasized as will the possibilities and limitations of materials and techniques.

[ART 113 History of World Art

Fall and spring. 3 credits. Not offered 1996-97.

Continuation of Art 112.]

ART 214 Art and the Multicultural Experience

Fall. 3 credits.
This course will investigate selected topics related to art and the multicultural experience. Students will study the basic vocabulary and tools used in the expression of art. They will question the nature of the visual arts as a discipline and survey art created by under-

represented American minority cultural groups.

ART 310 Pictorial Analysis

Fall or spring. 3 credits.
A lecture course using historical illustrative material which is presented in a comparative, nonchronological order for the purpose of examining how each painting uses principles that are constant throughout art history. The foundations of these principles are studied separately as the elements of abstract order. These elements are to be demonstrated by original compositions that proceed sequentially from relatively simple arrangements to those of maturity.

[ART 311 Issues in Contemporary Art

Fall. 3 credits. Not offered 1996-97.
A seminar course in issues of contemporary art, including lectures by visiting artists.]

ART 312 Modern Art in Italy

Fall or spring. 3 credits. Rome Program only.

This course is designed to introduce students to contemporary developments in Italian art and to major issues concerning the art world. Significant movements of the twentieth century, including Futurism, Metaphysical painting, and Magic Realism will be discussed, post-war painting and sculpture will be emphasized. Visits with artists in studios, galleries and museums will introduce students to the exchange between artists, dealers and critics. Fulfills 300-level Theory and Criticism requirement for Fine Arts majors.

ART 317 History of Art in Rome: Early Christian to the Baroque Age

Fall. 4 credits. Rome Program only.
General survey of the early Christian period to the fantastic vision of Piranesi in the eighteenth century. Special emphasis will be placed on the developments of the Renaissance and Baroque periods. Weekly lecture and field trips.

ART 318 History of Art in Rome: Renaissance in Rome and Florence

Spring. 4 credits. Rome Program only.
A direct knowledge of art in its historical context is the aim of this course. Open both to students interested in history and to those concentrating on the visual impact of art. Included are lectures and field trips.

ART 419 Independent Study/Supervised Readings in Art

Fall, spring or summer. 4 credits variable.
Prerequisite: student must be a junior in good standing and have the written permission of the instructor.
Independent reading and research allows a student the opportunity to investigate special interests that are not treated in regularly scheduled courses. The student develops a plan of study to be pursued under the supervision of a faculty member.

ART 611 Professional Skills for the Visual Artist

Fall. 4 credits.
This seminar will help fine arts graduate students build professional skills that will assist them in their careers as practicing artists and in their work at art-related employment. Students will complete a resource notebook that should be useful to them in the years after they graduate. Topics will include: funding resources, exhibition opportunities, employment options, documentation of work, health, safety, and legal issues.

ART 612 Recent Practice in the Visual Arts

Spring. 3 credits.
This seminar is designed to provide graduate students with an overview of recent visual artwork. Students will study work from a wide range of artists who have received significant recognition within the visual arts community. Reviews of major exhibitions such as Documenta, La Biennale di Venezia, and the Whitney Biennial will be discussed. Students will be encouraged to travel to nearby cities to look at contemporary work.

ART 613 On-Line Publication for the Visual Artist

Fall. 3 credits.
This course is designed to introduce graduate students to the basic principles of electronic imaging. As a major project, each student will interview a contemporary visual artist. These interviews will be illustrated with digital images of each artist's work and combined in an on-line magazine. Additionally each student will learn to create a home page on the World Wide Web.

ART 614 Contemporary Theory in the Visual Arts

Spring. 3 credits.
This seminar explores selected writings on the current issues represented within the visual arts. It is designed to introduce graduate students to several approaches to critical inquiry and analysis of contemporary visual practice. Topics will vary but may include related criticism in areas such as visual culture, semiotics, identity politics, and institutional frames.

Studio Courses in Painting

Fees for painting courses:
121, 221, 321, 322, 323, 421, 422, 429: \$40

ART 121 Introductory Painting

Fall, spring, or summer. 3 credits.
An introduction to the problems of artistic expression through the study of pictorial composition; proportion, space, shapes, and color as applied to abstract and representational design.

ART 123 Landscape Painting

Summer. 3 credits.
Class meets outdoors at selected sites in the Ithaca area. A different motif is explored each week. Pen, pencil, and water- or oil-based colors (optional) are the materials employed. Analysis and discussion of the landscape work of Corot, Cézanne, van Gogh, Seurat, and others are included.

ART 221 Painting II

Fall or spring. 4 credits. Prerequisite: Art 121 or permission of instructor.
A continuation of Art 121.

ART 321 Painting III

Fall or spring. 4 credits. Prerequisite: Art 221 or permission of instructor.
Continued study of the principles of painting and the selection and expressive use of materials and media. Group discussions and individual criticism.

ART 322 Painting IV

Fall or spring. 4 credits. Prerequisite: Art 321 or permission of instructor.
Continued study of the principles of painting and the selection and expressive use of materials and media. Group discussions and individual criticism.

ART 323 Painting V

Fall or spring. 4 credits. Will not be offered after spring 1997. Prerequisite: Art 322 or permission of instructor.

Continued study of the principles of painting and the selection and expressive use of materials and media. Group discussions and individual criticisms.

ART 421 Pre-Thesis in Painting

Fall or spring. 6 credits. Prerequisite: Art 323.

Further study of the art of painting through both assigned and independent projects executed in various media. Instruction through group discussions and individual criticism.

ART 422 Thesis in Painting

Fall or spring. 6 credits. Prerequisite: Art 421.

Advanced painting project to demonstrate creative ability and technical proficiency.

ART 429 Independent Studio in Painting

Fall, spring, or summer. 4 credits variable. Prerequisite: student must be a junior in good standing and have the written permission of the instructor.

Independent studio in painting allows students the opportunity to pursue special interests not treated in regularly scheduled courses. The student plans study and projects under the supervision of a faculty member selected to guide their progress and evaluate their results.

ART 721-722, 821-822 Graduate Painting

721 Fall, 722 Spring, first-year M.F.A. students. 9 credits. 821 Fall, 822 Spring, second-year M.F.A. students. 9 credits.

Students are responsible, under faculty direction, for planning their own projects and selecting the media in which they are to work. All members of the faculty are available for individual consultation.

Studio Courses in Printmaking

Fees for printmaking courses:

Art: 130, 234, 235, 236:	\$55
Intaglio: 231, 431.1, 432.1, 439.1:	\$65
Lithography: 233, 431.2, 432.2, 439.2:	\$85
Screenprinting: 232, 431.3, 432.3, 439.3:	\$45

ART 130 A Survey of the Printmaking Processes

Fall. 3 credits.

An introduction to the printmaking processes of intaglio, screen printing, and lithography. Students will produce introductory-level projects utilizing each of these printmaking processes. This class will also address the procedures and protocol of the printshop.

ART 231 Intaglio

Spring. 4 credits. Prerequisite: Art 130.

A studio course in advanced etching techniques. Refinement of processes and ideas through the uses of aquatint, spit bite, lift ground, soft ground, and dry point in black and white with an introduction to multiple plate color printmaking.

ART 232 Screen Printing

Fall. 4 credits. Prerequisite: Art 130.

An exploration of the screen printing process as it applies to the Fine Arts. Students will develop skills in multicolor printing using transparent inks and additives. Stencils will be made by the handcut and the photo process.

ART 233 Lithography

Spring. 4 credits. Prerequisite: Art 130.

The theory and practice of lithographic printing using lithographic stones and aluminum plates. Traditional techniques in crayon, tusche wash, and color printing as well as photolithography using kodalith and computer-generated transparencies.

ART 234 Art of the Book

Fall. 4 credits.

A studio course that investigates the expanding genre of artists' and one-of-a-kind books. Assignments guide the student's exploration of elements of the book: page, type, scale, covers, dynamics. Projects involve a variety of structures, media, and binding techniques. A valuable course for artists, architects, poets, and others who are curious about the book form.

ART 235 Large Relief/ Monoprint

Spring. 4 credits. Prerequisite: Art 130.

A studio course that investigates large-scale composition through the specific print techniques of wood cut, linoleum cut, and monoprint. The multiple state print will be utilized for this painterly approach to printmaking. The large format is especially suitable for understanding scale and its relationship to printing.

ART 236 Non-Press Printing

Spring. 4 credits.

A consideration of the various methods of printing available to the artist that do not involve a press or other mechanical means. Included will be linocuts, woodcuts, collage prints, rubbings, pochoir, and monoprints as well as various experimental techniques.

ART 431 Pre-Thesis in Printmaking

Fall or spring. 6 credits. Prerequisites: Art 231/232/233 (1 of 3) and 231/232/233/234/235/236/264 (1 of 7).

Further study of the art of graphics through both assigned and independent projects executed in various media. Instruction through group discussions and individual criticism.

ART 432 Thesis in Printmaking

Fall or spring. 6 credits. Prerequisite: Art 431.

Advanced printmaking project to demonstrate creative ability and technical proficiency.

ART 439 Independent Studio in Printmaking

Fall, spring, or summer. 4 credits variable.

Prerequisite: student must be a junior in good standing and have the written permission of the instructor.

Independent studio in printmaking allows the student the opportunity to pursue special interests not treated in regularly scheduled courses. The student plans study and projects under the supervision of a faculty member selected to guide their progress and evaluate their results.

ART 731-732, 831-832 Graduate Printmaking

731 Fall, 732 Spring, first-year M.F.A. students. 9 credits. 831 Fall, 832 Spring, second-year M.F.A. students. 9 credits.

Students are responsible, under faculty direction, for planning their own projects and selecting the media in which they will work. Members of the faculty are available for consultation; discussion sessions of work in progress are held.

Studio Courses in Sculpture

Fees for sculpture courses:

141, 148, 149	\$50
241, 341, 342, 343, 441, 442	\$75

ART 141 Introductory Sculpture

Fall, spring, or summer. 3 credits.

A series of studio problems introduce the student to the basic considerations of artistic expression through three-dimensional design, i.e., modeling in Plasteline, building directly in plaster, casting in plaster, and constructing in wood and metal.

ART 148 Figurative Sculpture

Summer. 3 credits. Three-week session only.

This course will introduce students to the figure by working directly from observation. Students will learn the basics of modeling in clay, making plaster molds, and casting in plaster. Daily hands-on demonstrations and slide lectures will provide a historical overview. Open enrollment.

ART 149 Metal Fabrication and Bronze Casting

Summer. 3 credits. Three-week session only.

This course will introduce students to materials, techniques, and processes associated with metal fabrication and bronze casting. Through a series of assignments, students will explore the unique character of metals.

ART 241 Sculpture II

Fall or spring. 4 credits. Prerequisites: Art 141, or an Arch design studio, or permission of instructor.

Various materials, including clay, plaster, wood, stone, and metal, are used for exercises involving figurative modeling, abstract carving, and other aspects of three-dimensional form and design. Beginning in the second year, students are encouraged to explore the bronze casting process. The sculpture program, which is housed in its own building, contains a fully equipped bronze casting foundry.

ART 341 Sculpture III

Fall or spring. 4 credits. Prerequisite: Art 241 or permission of instructor.

Continued study of the principles of sculpture and the selection and expressive use of materials and media. Group discussions and individual criticism.

ART 342 Sculpture IV

Fall or spring. 4 credits. Prerequisite: Art 341 or permission of instructor.

Continuation and expansion of Art 341.

ART 343 Sculpture V

Fall or spring. 4 credits. Will not be offered after spring 1997. Prerequisite: Art 342 or permission of instructor.

Continued study of the principles of sculpture and the selection and expressive use of materials and media. Group discussions and individual criticism.

ART 441 Pre-Thesis in Sculpture

Fall or spring. 6 credits. Prerequisite: Art 343.

Further study of the art of sculpture through both assigned and independent projects executed in various media. Instruction through group discussions and individual criticism.

ART 442 Thesis in Sculpture

Fall or spring. 6 credits. Prerequisite: Art 441.

Advanced sculpture project to demonstrate creative ability and technical proficiency.

ART 449 Independent Studio in Sculpture

Fall, spring, or summer. 4 credits variable. Prerequisite: student must be a junior in good standing and have the written permission of the instructor.

Independent studio in sculpture allows the student the opportunity to pursue special interests not treated in regularly scheduled courses. The student plans study and projects under the supervision of a faculty member selected to guide their progress and evaluate their results.

ART 741-742, 841-842 Graduate Sculpture

741 Fall, 742 Spring, first-year M.F.A. students. 9 credits. 841 Fall, 842 Spring, second-year M.F.A. students. 9 credits.

Students are responsible, under faculty direction, for planning their own projects and selecting the media in which they are to work. All members of the faculty are available for individual consultation. Weekly discussion sessions of works in progress are held.

Studio Courses in Photography

Darkroom fees for photography courses:

Fee for B & W courses:	\$80.00
Fee for color courses:	\$160.00
Fee for an additional B & W course taken the same term:	\$25.00
Fee for an additional color course taken the same term:	\$105.00

ART 161 Photography I (also Architecture 251)

Fall, spring, or summer. 3 credits. A basic lecture-studio course in black and white photography for beginners. Emphasis is on basic camera skills, darkroom techniques, and understanding of photography imagery.

ART 168 Black-and-White Photography

Summer. 3 credits. Three-week session only. Intended for students at all levels, from introductory to advanced. Emphasis on camera skills, darkroom techniques, and the content of black-and-white photographic imagery.

ART 169 Color Photography

Summer. 3 credits. Three-week session only. Intended for students at all levels, from introductory to advanced. Emphasis on camera skills, darkroom techniques, and the content of color photographic imagery.

ART 261 Photography II (also Architecture 351)

Fall, spring, or summer. 4 credits. Prerequisites: Art 161 or Architecture 251, or permission of instructor. A continuation of Photography I concentrating on black and white photographic processes, history and theory of creative practice, and individual projects.

ART 263 Color Photography

Fall, spring, or summer. 4 credits. Prerequisite: Art 161 or Arch 251, or permission of instructor.

A studio course in color photography with emphasis on camera skills, darkroom techniques, and the content of color photography.

ART 264 Photo Processes

Fall, spring, or summer. 4 credits. Prerequisite: Art 161 or Arch 251, or permission of instructor.

A studio course in alternative and nonsilver photographic processes. Emphasis is on camera skill, basic techniques and processes, image content, and creative use of photo processes.

[ART 265 Studio Photography]

Fall or spring. 4 credits. Prerequisite: Art 161 or Arch 251, or permission of instructor. Not offered 1996-97.

A course in the use of medium- and large-format cameras that explores technique, lighting, and the use of larger-format cameras for personal expression both in the studio and outdoors.]

ART 461 Pre-Thesis in Photography

Fall or spring. 6 credits. Prerequisite: Art 261, 263.

A studio course intended for photography majors and other qualified students.

ART 462 Thesis in Photography

Fall or spring. 6 credits. Prerequisite: Art 461.

A studio course intended for photography majors and other qualified students. Advanced photography project to demonstrate creative ability and technical proficiency.

ART 469 Independent Studio in Photography

Fall, spring or summer. 4 credits variable. Prerequisite: student must be a junior in good standing and have the written permission of the instructor.

Independent studio in photography allows the student the opportunity to pursue special interests not treated in regularly scheduled courses. The student plans study and projects under the supervision of a faculty member selected to guide their progress and evaluate their results.

ART 761-762, 861-862 Graduate Photography

761 Fall, 762 Spring, first-year M.F.A. students. 9 credits. 861 Fall, 862 Spring, second-year M.F.A. students. 9 credits.

Students are responsible, under faculty direction, for planning their own projects and selecting the media in which they will work. Members of the faculty are available for consultation. Discussion sessions of work in progress are held.

Studio Courses in Drawing

Fees for drawing courses:

151, 152, 251, 252, 459:	\$25
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ART 151 Drawing I

Fall, spring, or summer. 3 credits. A course that is general in nature and introduces students to principles and techniques of representation. Emphasis will be on creating the illusion of space and form through line, the rendering of light and shade, and studies in perspective. In addition, the student will have the opportunity to explore various media such as charcoal, chalk, pencil, pen, ink and wash, etc.

ART 152 Drawing II

Spring. 3 credits. Prerequisite: Art 151. A general course in drawing that will emphasize figure study and life drawing. This course will build on the foundation of Art 151 concentrating on the analytical study of the figure. Students will explore a variety of materials, traditional and contemporary.

ART 158 Conceptual Drawing

Summer. 3 credits. Emphasis on drawing from the imagination. The generation of ideas and their development in sketches is stressed. The intent is not to produce finished art but rather to experience a series of problems that require image and design concepts different from those of the artist working directly from nature.

ART 159 Life and Still-Life Drawing

Summer. 3 credits. The human figure and still life are studied both as isolated phenomena and in relation to their environment. Focuses on helping the student observe and discover.

ART 251 Drawing III

Fall. 3 credits. Prerequisites: Art 152. An intermediate drawing course in which students will study composition, the articulation of form, and the illusion of space in a variety of materials. Expressive content, conceptualization, and the exploration of materials will be stressed.

ART 252 Drawing IV

Spring. 3 credits. Prerequisites: Art 251. Advanced drawing with an emphasis on life drawing and figure composition. Individual expression will be encouraged along with creative investigation of materials and processes.

ART 459 Independent Studio in Drawing

Fall, spring, or summer. 4 credits variable. Prerequisite: student must be a junior in good standing and have the written permission of the instructor.

Independent studio in drawing allows the student the opportunity to pursue special interests not treated in regularly scheduled courses. The student plans study and projects under the supervision of a faculty member selected to guide their progress and evaluate their results.

Special Studio Courses

Course fees:

100	\$25
171, 479	\$100
481, 482, 489	\$70

ART 100 Basic Studio in Art

Fall. 4 credits. An introductory course designed to teach basic art concepts and theory, to introduce all art media, and provide a basis for the study and practice of the visual arts.

ART 171 Electronic Imaging in Art

Fall or spring. 3 credits. An introductory studio course using the computer as a tool for making art. Students will explore various approaches to 2-D image creation using software programs for still image generation and processing.

ART 372 Special Topics in Art Studio

Fall, spring, or summer. Variable credit. An exploration of a particular theme or project.

[ART 372 Special Topics: Digital Photography]

Fall. 4 credits. Not offered 1996-97.

An advanced studio course in digital photography. Emphasis on individual projects exploring developing technologies in photography.]

ART 379 Independent Studio in Rome for Non-Majors

Fall and spring. 4 credits variable.

Prerequisite: student must be a junior in good standing, and have the written permission of the instructor. Rome Program only.

Independent studio in Rome allows non-art majors the opportunity to pursue special interests in Fine Arts not treated in regularly scheduled courses. The student plans a course of study or projects that meet the approval of the faculty member selected to guide their progress and evaluate the results.

ART 400 Rome Studio

Fall or spring. 4 credits. Prerequisite: permission of instructor. Fee: \$25. Rome Program only.

The content for the Rome studio will be determined by the instructor. Emphasis will be divided between work accomplished in the studio and work executed outdoors in the environs of Rome. Media will consist primarily of painting, drawing, sculpture, and photography, or those assigned by the instructor. Art 400 fulfills four credits of the concentration requirement.

ART 479 Independent Studio in Electronic Imaging

Fall, spring or summer. 4 credits variable.

Prerequisite: student must be a junior in good standing and have the written permission of the instructor.

Independent studio in electronic imaging allows the student the opportunity to pursue special interests not treated in regularly scheduled courses. The student plans study and projects under the supervision of a faculty member selected to guide their progress and evaluate their results.

ART 481 Pre-Thesis in Combined Media

Fall or spring. 6 credits. Prerequisite: written permission of instructor on a combined media thesis form must be received in the art department, prior to enrollment in this course.

Students are responsible, under faculty direction, for planning their own projects and selecting the media in which they will work. The projects should reflect experiences gained by exploring and combining various media including those taken in studio courses outside the department. Students select a faculty member from the area of concentration most appropriate to their area of combined media.

ART 482 Thesis in Combined Media

Fall or spring. 6 credits. Prerequisite: 481 and written permission of instructor on a combined media thesis form must be received in the art department, prior to enrollment in this course.

Students are responsible, under faculty direction, for planning their own projects and selecting the media in which they will work. The projects should reflect experiences gained by exploring and combining various media including those taken in studio courses outside the department. Students select a faculty member from the area of concentration most appropriate to their area of combined media.

ART 489 Independent Studio in Combined Media

Fall, spring, or summer. 4 credits variable.

Prerequisite: student must be a junior in good standing and have the written permission of the instructor.

Independent studio in combined media allows the student the opportunity to pursue special interests not treated in regularly scheduled courses. The student plans study and projects under the supervision of a faculty member selected to guide their progress and evaluate their results.

CITY AND REGIONAL PLANNING

P. Olpadwala, chair; S. Baugher, L. Beneria, R. S. Booth, S. Christopherson, P. Clavel, S. Czamanski (emeritus), M. Drennan, J. F. Forester, director, URS; W. W. Goldsmith, W. Isard, B. G. Jones, B. Kelly (emeritus), D. Lewis, B. Lynch, K. C. Parsons, J. W. Reps (emeritus), S. Saltzman, S. W. Stein (emeritus), M. A. Tomlan, R. T. Trancik, T. Victorisz (visiting)

The department offers several programs of study at both the undergraduate and graduate levels.

The Undergraduate Program in Urban and Regional Studies

The Program in Urban and Regional Studies (URS) is a four-year academic program aimed at assessing the problems of human communities and regions. Students who graduate from the program receive a Bachelor of Science degree. The program provides both an excellent liberal arts education and a strong concentration of studies respecting urban and regional issues. The urban and regional studies courses in the program provide students with a broad understanding of relevant issues, the ability to assess those issues, and technical analysis skills. The URS Program is truly interdisciplinary. Students learn to evaluate urban and regional problems by using a wide range of analytic tools and disciplinary perspectives.

Basic Degree Requirements

Requirements for Graduation: URS requirements include (1) eight semesters of residence, (2) 120 credits, (3) two freshman seminars, (4) qualification in one foreign language, (5) four groups of distribution requirements, (6) required courses for major, (7) area requirements for major, (8) free electives, (9) a minimum of 34 courses. The university requires students to complete two semesters of physical education.

1. General education

- a. Freshman writing seminars: 2 courses
- b. Foreign language: 3 courses or qualification in one foreign language
- c. Distribution Requirements: 9 courses

Students must take a total of nine courses for the distribution requirement: four courses (of three or more credits each) from Groups 1 and 2, at least two of which are from Group 1, and at least one of which is from Group 2; five courses from Groups 3 and 4, with at least two in each group and two in the same department. No single course may satisfy more than one distribution requirement. URS students must follow the College of Arts and

Sciences guidelines specifying courses that meet the requirements for groups 1-4.

Group 1: Physical and biological sciences (2-3 courses required)

Group 2: Quantitative and formal reasoning (1-2 courses required)

Group 3: Social sciences and history (2-3 courses required)

Group 4: Humanities and the arts (2-3 courses required)

Advanced Placement Credit

Students may apply up to two courses of approved advanced placement credit in calculus, computer science, and science toward satisfaction of the distribution requirement in Groups 1 and 2 above, if they complete at least one science course during their undergraduate career. They may apply no advanced placement credit toward the distribution requirement in Groups 3 and 4. Grades of S-U courses applied to distribution requirements are not acceptable.

2. Required Courses for the Major in Urban and Regional Studies: 5 courses

CRP 100: The American City

CRP 101: The Global City: People, Production, and Planning in the Third World

CRP 320: Introduction to Statistical Reasoning for Urban and Regional Analysis (statistics course)

Micro Economics course (at least 3 credits, from approved list)

Architecture course (at least 3 credits, from approved list)

Approved List of Micro Economics and Architecture Courses

Micro Economics:

CE&H 110: Introductory Micro Economics

CE&H 210: Intermediate Micro Economics

ECON 101: Introduction to Micro Economics

ECON 203: Micro Economics

ECON 313: Intermediate Micro Economics

Architecture:

ARCH 131: An Introduction to Architecture I

ARCH 132: An Introduction to Architecture II

ARCH 181: History of Architecture I

ARCH 182: History of Architecture II

3. Area Requirements for the Major in Urban and Regional Studies: 11 courses

A. Students must take one listed CRP course in each of the following 6 areas: Design, Economics, Environment, History, Politics/Policy, Quantitative Analysis

a. Design

CRP 415: Gender Issues in Planning and Architecture

CRP 481: Principles of Spatial Design and Aesthetics

CRP 482: Urban Land Use Concepts

b. Economics

CRP 400: Introduction to Urban and Regional Theory

CRP 401: Seminar in Urban Political Economy

CRP 404: Urban Economics

CRP 417: Industrial Restructuring: Implications for State and Local Policy

NOTE: This requirement **may not** be satisfied with the same course taken to complete the micro-economics course requirement under B.

c. Environment

CRP 380: Environmental Politics

CRP 451: Environmental Law

d. History

CRP 261: Urban Archaeology

CRP 360: Pre-Industrial Cities and Towns of North America

CRP 361: Seminar in American Urban History

CRP 461: Methods of Archival Research

CRP 462: The American Planning Tradition

e. Politics/Policy

CRP 314: Planning, Power, and Decision Making

CRP 315: The Progressive City

CRP 363: American Indians, Planners, and Public Policy

CRP 413: Planning and Political Economy I

CRP 448: Social Policy and Social Welfare

f. Quantitative Analysis

CRP 321: Introduction to Quantitative Methods for the Analysis of Public Policy

CRP 421: Introduction to Computers in Planning

B. Students must take any additional 5 CRP courses (of at least 3 credits each, letter grade only)

4. Free Electives: 6-9 courses

5. Physical Education (2 terms of PE)

Required courses for graduation: 34

Required credits: 120

Honors Program

Each year a few well-qualified junior-year students can join the honors program. Each honors student will develop and write an honors thesis under the guidance of his or her faculty adviser.

Off-Campus Opportunities

Cornell-in-Washington Program. Students in good standing can earn degree credits in the Cornell-in-Washington program through course work and an urban-oriented externship in Washington, D.C. Students may work as externs with congressional offices, executive-branch agencies, interest groups, research institutions, and other organizations involved in the political process and public policy.

Students also select one or two other seminars from such fields as government, history, economics, human development, architectural history, natural resources, and social policy. Cornell faculty members teach these seminars, which provide credit toward fulfillment of major, distribution, and other academic requirements.

Cornell Abroad. We encourage qualified undergraduates to study abroad because exposure to foreign cultures can be an eye-opening part of a university education. In an increasingly interdependent world, the experience of living and learning in a foreign country is invaluable. We work continually to develop study abroad opportunities. Current programs are available in Great Britain, Spain, and Germany. Opportunities in Asia, the Mideast, and France should be forthcoming. We encourage URS students to explore these opportunities.

Cornell-in-Rome Program. The College of Architecture, Art, and Planning has a teaching facility in Rome located in the sixteenth-century Palazzo Massimo. Students in good standing can earn degree credits through courses taken with Cornell faculty assigned to Rome and with accredited instructors. Courses are available in areas of urban development, regional development, and architecture and art.

Research and fieldwork. Students are welcome to work with department faculty members on research or other opportunities that are appropriate to their particular interests. Fieldwork and community-service options also exist for students in the Urban and Regional Studies Program.

Additional Degree Options

Linked degree options. Urban and regional studies students can earn both a Bachelor of Science degree and a Master of Regional Planning (M.R.P.) degree in a fifth year of study. Ordinarily the professional M.R.P. degree requires two years of work beyond that for the bachelor's degree. Under this option, a minimum of 30 credits and a master's thesis or thesis project are required for the M.R.P. degree. Interested students apply to the Graduate School, usually in the senior year.

Dual degree option. A student accepted in the Cornell College of Arts and Sciences can earn both a B.A. in a College of Arts and Sciences major and a B.S. in urban and regional studies in a total of five years. Special requirements have been established for this dual degree program. Cornell students interested in pursuing the dual degree program should contact either the director of the Urban and Regional Studies Program or the appropriate dean of the College of Arts and Sciences for further information.

Admissions Requirements and Procedures

Among the most important criteria for admission to the Urban and Regional Studies Program are intellectual potential and commitment—a combination of ability, achievement, motivation, diligence, and use of educational and social opportunities. Nonacademic qualifications are important as well. The department encourages students with outstanding personal qualities, initiative, and leadership ability. Above all, the department seeks students with a high level of enthusiasm and depth of interest in the study

of urban and regional issues. Applicants must complete a university admission application.

Transfer Students

In most cases, transfer applicants should no longer be affiliated with a high school and should have completed no fewer than 12 credits of college or university work at the time of application. High school students who have completed graduation requirements at midyear and are taking college courses for the rest of the academic year should apply as freshmen. Prospective candidates who believe that their circumstances are exceptional should consult with the Director of Admissions in the Cornell division of interest to them before filing an application.

Forms for transfer application and financial aid are available from the Cornell University Office of Admissions, 410 Thurston Avenue, Ithaca, New York 14850-2488. Official transcripts of all high school and college work must be submitted along with SAT or ACT scores and letters of recommendation.

Prospective transfers should have taken at least 6 credits in English. In addition, students should have taken basic college-level courses distributed across the natural and social sciences, humanities, and mathematics. Applicants whose previous course work closely parallels the "General Education" requirements of the Urban and Regional Studies curriculum will have relative ease in transfer. Nevertheless, students with other academic backgrounds, such as engineering, architecture, fine arts, management, and agriculture, are eligible to apply.

Although an interview is not required, applicants are urged to visit the campus. Applicants who want further information regarding the Urban and Regional Studies Program, may contact Professor John Forester, Program Director, Urban and Regional Studies, Cornell University, 106 West Sibley Hall, Ithaca, New York 14853-6701 (telephone: 607-255-4613).

The Graduate Program in City and Regional Planning

The major concentrations of course work in city and regional planning are in the following areas:

Built environment and urban development planning is concerned with physical facilities; the social, economic, and environmental forces that affect their design; and the process of development, plan making and administration.

History and historic preservation planning is a special program of study preparing students for work in history, analysis, and preservation of buildings, urban environments, and neighborhoods, including downtown business areas.

Regional planning and regional science are concerned with socioeconomic issues and functional planning at the regional level, the forces that generate economic growth and social development, and the ways in which resources can best be used.

Local and regional economic development is concerned with understanding and influencing how economic change may be harnessed to the benefit of communities, counteracting plant closings and more general regional decline and stimulating more equitable

programs of socioeconomic change and development.

International planning offers a broad range of courses in international economic development, development planning, and political economy.

Quantitative methods and policy analysis courses are offered to prepare planners and researchers for a variety of situations and problems.

Complementing these concentrations, planning theory and political economy courses examine the organizational and planning processes and the political and economic conditions in which planning and international development operate.

Several graduate degrees are offered: the Ph.D.; the Master of Regional Planning (M.R.P.), for a two-year program; the Master of Arts (M.A.) in historic preservation planning, for a two-year program; and, in special cases, the Master of Professional Studies (International Development) [M.P.S.(I.D.)], for the twelve-month international planning program.

Off-Campus Opportunities

Rome Program. Graduate students have the opportunity to spend one or two semesters in Rome, studying at Cornell's center at the Palazzo Massimo. Instruction is given by Cornell professors-in-residence and by other faculty. The program is structured to include work assignments in one of the international development organizations headquartered in Rome.

Course Information

Most courses in the Department of City and Regional Planning are open to students in any college of the university who have fulfilled the prerequisites and have the permission of the instructor.

The department attempts to offer courses according to the information that follows. However, students should check with the department at the beginning of each semester for late changes.

Undergraduate Program in Urban and Regional Studies

CRP 100 The American City

Fall. 3 credits.

An introductory course on the evolution of urban problems and opportunities facing the majority of this country's population as we approach the last decade of the twentieth century. Readings, discussions, and brief papers exploring topics ranging from suburban development to central city poverty, from environmental threats to downtown revitalization, and from municipal finance to the new position of women in the urban economy.

CRP 101 The Global City: People, Production, and Planning in the Third World

Spring. 3 credits.

A critical look at the physical and social development of giant cities in the Third World. Their origins, roles, contributions, and shortcomings are examined. Their place in world political economy is evaluated. Policy prescriptions for their principal problems are discussed.

CRP 261 Urban Archaeology

For description, see LA 261.

CRP 314 Planning, Power, and Decision Making

Fall. 3 credits.

This seminar examines various bases of political and professional power. We ask, What do professionals who want to serve the public need to know about power and decision-making processes in the institutional settings in which they operate? How and why can professionals make a difference when facing problems characterized by great complexity and severe inequalities among affected groups?

CRP 315 The Progressive City

Spring. 3 credits.

A review of attempts to incorporate the interest of working-class and poor constituencies through majority control of local governments. Topics to be covered include the role of the city in class formation; historical perspectives on urban political administration; contemporary populist, socialist, and progressive urban governments; and the search for an economic basis for progressive reforms.

CRP 320 Introduction to Statistical Reasoning for Urban and Regional Analysis

Fall. 4 credits.

An introduction to the role and use of quantitative methods in the study of urban and regional issues. Emphasis will be on statistical and related computer methods for the formulation, analysis, and testing of hypotheses and models of social, economic, and physical phenomena of cities and regions. This course will cover applicable methods in probability, descriptive statistics, estimation, hypothesis testing, and regression.

CRP 321 Introduction to Quantitative Methods for the Analysis of Public Policy

Spring. 3 credits.

An introduction to the role and use of quantitative methods in the study of urban and regional issues. This course will focus on various types of models commonly used to analyze urban and regional policy, including techniques for decision analysis, linear programming, cost-benefit analysis, simulation, and regression models, among others. Strengths and weaknesses of those methods will also be considered.

[CRP 360 Pre-Industrial Cities and Towns of North America (also CRP 666, LA 360, and LA 666)]

Fall. 3 credits. S-U grades optional. For description, see LA 360. Not offered 1996-97.]

CRP 361 Seminar in American Urban History (also CRP 662)

Spring. 3 credits. Prerequisite: permission of instructor.

Seminar in the historical evolution of the American city. Emphasis on factors in urban growth, the process of urbanization, the urban reform movement, and intellectual and social responses to the city.

CRP 363 American Indians, Planners, and Public Policy (also CRP 547, LA 363, and LA 547)

Spring. 3 credits.

For description, see LA 363.

CRP 370 The Regional Question: The Case of Italy

Fall. 3 credits. Rome Program only. Economists, sociologists, and planners have written extensively about severe regional inequalities and regional development planning in Italy. This literature offers a route to understanding why some regions remain less developed than others. We will look at the case of the "the third Italy," which includes several highly successful manufacturing regions in the north, and at southern Italy, which is underdeveloped. Introduced by a series of lectures, the course will include field trips to Naples and to the industrial districts of the North.

CRP 380 Environmental Politics

Spring. 4 credits.

Examines the politics of public decisions affecting the environment. Focuses on the roles played by different political actors, the powers of various interest groups, methods for influencing environmental decisions, and the political and social impacts of those decisions.

CRP 400 Introduction to Urban and Regional Theory

Fall. 4 credits. Open to juniors and seniors.

Introductory review of theories dealing with the spatial distribution of population and economic activity, drawn from various social science disciplines such as geography, economics, and sociology. Review of recent research dealing with such topics as population distribution, migration, location of industry and economic activity, and the spatial organization of urban and regional social systems.

CRP 401 Seminar in Urban Political Economy

Spring. 4 credits. Prerequisites: introductory economics or sociology; for URS students, CRP 400 also.

The world economy, the global city, and social change. Population, technology, and work in industrial and developing countries. Race, ethnicity, and nationality. Profits, subsistence, and poverty. Students may read and direct discussions on outstanding texts, write book reviews, and prepare brief reports.

[CRP 404 Urban Economics (also CRP 604)]

Fall or spring. 4 credits. Prerequisite: basic economics. Not offered 1996-97.

Urban phenomena are analyzed from an economic point of view. Areas examined include economic aspects of urbanization processes and policies, determinants of urban growth and decline, urban land and housing markets, urban transportation, and urban public services. Some time will be spent in discussing problems of cities in developing countries.]

CRP 408 Introduction to Urban Geographic Information Systems (GIS) (also CRP 608)

Spring. 4 credits. Letter grade.

Geographic Information Systems (GIS) have revolutionized the way we manage, analyze, and present spatial information. This course will focus on GIS in the social sciences. Many of the exercises and examples will be based on planning issues, but the concepts can be applied to many other disciplines such as government, economics, natural resources, and sociology. Some of the issues to be covered include: fundamentals of spatial analysis; overview of GIS technology and

applications; designing a GIS project; gathering and analyzing data; and creating thematic maps.

CRP 417 Industrial Restructuring: Implications for State and Local Policy (also CRP 517)

Fall. 4 credits.

A basic introduction to new issues arising from the way in which national and international economic shifts are affecting diverse United States localities. The course will focus on intra-industry restructuring, the location of economic activities, and state and local economic policy. Cases will be drawn from a variety of industries and national situations, with specific application to New York and other Northeast locations.

CRP 421 Introduction to Computers in Planning (also CRP 522)

Fall. 4 credits.

Students learn how to use microcomputers and software packages in the planning and problem-solving processes. Included are word processing, spreadsheets, mapping, and other types of packages that are useful for other classes and for professional work in the field. (WordPerfect, Lotus 1-2-3, dBase and MacGIS are examples of packages that have been taught in previous years.)

CRP 442 The Sociology of Science
For description, See S&TS 442.

[CRP 448 Social Policy and Social Welfare (also CRP 548)]

Spring. 4 credits. Not offered 1996-97.

This course addresses conceptual issues underlying social policy and the provision of social welfare and analyzes how different positions are reflected in a set of current social welfare controversies. The first part of the course will introduce principles that guide the development of social policy including fairness and justice. Various conceptions of society will be examined with reference to their influence on the extent and nature of social welfare provision, comparing the U.S. and other industrialized countries. The second part of the course will examine the relationship between economic change and social policy in the United States. A series of current social policy controversies (such as AIDS, homelessness, abortion, and welfare) will illustrate how values and assumptions about state, economy, and society affect the forms of social welfare provisions and how they are administered.]

CRP 451 Environmental Law (also CRP 551)

Fall. 4 credits.

An introduction to how the legal system handles environmental problems. Study of federal statutes such as the National Environmental Policy Act, the Clean Air Act, and the Clean Water Act, and of important judicial decisions that have been handed down under federal environmental statutes and regulations. Discussion of environmental law topics from a policy management perspective. This course is designed for undergraduate and graduate students interested in urban issues, planning, natural resources, government, environmental engineering, law, business, architecture, landscape architecture, etc. Course assignments for graduate students will differ in some aspects from those for undergraduates.

CRP 453 Environmental Aspects of International Planning (also CRP 683)

Fall. 3 credits.

This seminar will examine the roles of diverse environmental actors—international organizations, national bureaucracies, scientific communities, NGOs, and social movement organizations in shaping environmental debates and designing conservation and remediation programs in the Third World. Open to advanced undergraduate and graduate students in planning, environmental studies, and related social and natural sciences.

CRP 457 Community Service Fieldwork

Fall or spring. 4 credits variable. Permission is granted by instructor.

Undergraduate students work under the direction of a faculty member in the CRP department on a project that assists a public or nonprofit organization. Projects will involve urban and regional issues as defined by a "client" and agreed upon by the faculty member.

CRP 461 Methods of Archival Research

Fall. 3 credits.

Examination of methods of using archival materials, including documents in the Cornell archives and regional history collection, for research in the history of architecture, historic preservation, and history of urban development.

CRP 477 Issues in African Development (also CRP 677)

Fall and spring. 1 credit. S-U only.

This course examines a broad range of critical concerns in contemporary Africa including food production, human resource development, migration, urbanization, environmental resource management, economic growth, and policy guidance. The weekly presentations are made by invited specialists. Students are required to write a term paper.

CRP 481 Principles of Spatial Design and Aesthetics (also CRP 581 and Landscape Architecture 480)

Fall. 3 credits. Course enrollment is restricted to planning and landscape architecture students unless special permission is granted by instructor.

A lecture course that introduces the spatial and visual design vocabularies of cities. Aesthetic principles and theories of design are investigated for different types of urban spaces drawn from a variety of international examples, historic and modern. Included in the course are design methods and applications in the contemporary urban context of Europe and North America.

CRP 482 Urban Land Use Concepts

Fall. 3 credits.

Explorations of the use of land in urban areas, with an emphasis on the experience of North American cities. The course reviews use types, use characteristics, and use relationships in terms of conflicting social and economic demands. Concepts of organizing urban space in the past and present are reviewed. Physical planning, site planning and urban design issues are discussed.

CRP 490 Student-Faculty Research

Fall or spring. 1-4 credits. Limited to undergraduate students in the Urban and Regional Studies Program. S-U grades only.

Research, reading, and/or writing project in which a student and faculty member choose a topic related to urban and regional studies.

CRP 492 Honors Thesis Research

Fall or spring. 4 credits. Limited to Urban and Regional Studies Program majors who have been selected as honor students by the department faculty.

Each selected student works with his or her thesis adviser.

CRP 493 Honors Thesis Writing

Fall or spring. 4 credits. Prerequisite: Completion of CRP 492.

Each selected student works with his or her thesis adviser.

CRP 495 Special Topics

Fall, spring, summer. 4 credits. Hours to be arranged.

CRP 495.27 Cuban Transitions: The Search for Development Alternatives

Fall. 3 credits. Open to sophomores, juniors, seniors. No prerequisites.

Cuba is a symbol; it is also a society. This course looks beyond the symbol to Cuban society, environment, and political economy within a Caribbean context. Cuba's relations with other nations and their impacts on Cuban development will be emphasized. The 1959 Revolution was a defining moment in Cuban history and a central element in Cuban culture. Students will learn about the experiences that shaped the revolution, altered its course in the 1970s and 1980s, and led to profound experimentation and a renewed search for authenticity in the 1990s.

CRP 497 Supervised Readings

Fall or spring. Variable 4 credits. Limited to upperclass students. Prerequisite: permission of instructor.

Graduate Courses and Seminars

Courses numbered from 500 to 599 and 600 to 699 are generally considered introductory or first-year courses; those numbered from 700 to 799 and 800 to 899 are generally considered more advanced. Upperclass undergraduate courses are numbered from 300 to 499. (Undergraduate students with the necessary prerequisites and permission of the instructor may enroll in courses numbered 500 and above.)

CRP 508 Introductory Workshop

Fall. 2 credits. First-year MRP students.

A short, intensive workshop course designed to engage entering MRP students and selected faculty in a simulated or real world planning problem. Group problem solving, oral and written report presentation, and graphics.

CRP 512 Public and Spatial Economics for Planners

Fall. 3 credits. Letter grade. No prior knowledge of economics.

Covers basic microeconomic theory and some topics in macroeconomics. What distinguishes it from foundation courses in economics is that the context of every topic is both spatial and public. The concept of space is central to city and regional planning, and the perspective of the public and nonprofit sectors is the perspective of city and regional planning. Both space and the public-nonprofit sectors are peripheral to (or absent from) the usual graduate foundations courses in economics. The course will also cover the economic theory necessary to understand the many applications of economics presented in

subsequent courses in city and regional planning.

CRP 513 Planning Practice and Urban Structure Seminar

Fall. 4 credits.

This introductory graduate seminar has several objectives. It exposes students to the theory and history of (1) planning, administration, and related public intervention in urban affairs, (2) the growth and development of cities, and (3) the built environment. Topics are analyzed from the perspective of political economy. Students improve their understanding of the planning process and of the urban application of the social sciences, get practice in writing short papers, and explore one research topic in depth.

CRP 517 Industrial Restructuring: Implications for State and Local Policy (also CRP 417)

Fall. 4 credits. For description, see CRP 417.

CRP 520 Statistical and Mathematical Concepts for Planning

Fall. 3 or 4 credits.

An introduction to statistical and mathematical concepts and methods of importance in planning and policy analysis. Topics will include matrix algebra, probability, sampling, estimation, and regression as well as the use of a microcomputer statistical package.

CRP 521 Mathematical Foundation for Planning Analysis.

Fall. 1 credit. S-U only. Meets for two hours, once each week, for approximately half the semester.

Review of mathematical foundations for planning analysis. Topics include probability statistics, mathematical functions, and matrix algebra. Intended for students with prior course work as a refresher course in preparation for higher-level courses in planning analysis. Departmental permission required.

CRP 522 Introduction to Computers in Planning

For description, see CRP 421.

CRP 532 Real Estate Development Process

Fall. 3 credits.

Examination of various forms of development as well as the role of major participants in the processes. Review issues in residential, retail, industrial, office, and low-income housing projects. Some guest speakers and case studies.

CRP 533 Real Estate Marketing and Management

Spring. 3 credits.

The course focuses on the tenant or user as the basic source of the value of real estate. Students explore the characteristics and needs of tenants, and how the ownership and management of buildings respond to these needs. Office buildings are considered in detail while key elements common to the operation and marketing of all types of property are reviewed. Topics include examination of tenant types, factors creating preferred locations, building services and operations, negotiation of lease agreements, marketing campaigns, and governmental regulations. Guest speakers and case studies.

CRP 541 The Politics of Technical Decisions I (also Government 628 and Science and Technology Studies 415)

Spring. 4 credits. For description, see S&TS 415.

CRP 545 Introduction to Public Policy Analysis and Management

For description, see CRP 321.

CRP 546 Conflict Resolution in Community and Environment

Fall. 3 credits.

This course will explore the theories and techniques of conflict resolution as they apply to community, environmental, and related public policy disputes. Analysis will complement skill-building. Issues of power, participation, and strategy are central to our examinations of negotiation and mediation practice.

CRP 547 American Indians, Planners, and Public Policy (also CRP 363, LA 363, and LA 547)

Spring. 3 credits.

For description, see LA 363.

[CRP 548 Social Policy and Social Welfare (also CRP 448)]

Spring. 4 credits. Not offered 1996-97.

For description, see CRP 448.]

CRP 549 Ethics and Practical Judgment in Planning

Spring. 4 credits variable.

An introduction to problems of practical judgment and ethics as they arise in planning and public-serving professional practice. Issues such as consent, interests, deliberation, and legitimacy are central concerns.

CRP 551 Environmental Law (also CRP 451)

Fall. 4 credits. For description, see CRP 451.

CRP 552 Urban Land-Use Planning I

Fall. 3 credits.

Surveys, analyses, and plan-making techniques for guiding physical development of urban areas; location requirements, space needs, and interrelations of land uses. Emphasis on residential, commercial, and industrial activities and community facilities; housing and neighborhood conditions. Lectures, seminars, and field exercises.

CRP 553 Urban Land-Use Planning II

Spring. 3 credits. Prerequisite: CRP 552 or permission of instructor.

In-depth consideration of special issues in urban land-use planning, such as industrial districts, large-scale integrated development, Planned Unit Development, public and institutional facilities, open space, land banking, central business districts, neighborhoods, energy impacts, transportation impacts, and others.

CRP 555 Urban Systems Studio (also Landscape Architecture 701)

Fall. 6 credits. Prerequisite: permission of instructor.

Application of urban design and town planning techniques to specific contemporary problems of city environments. Issues of urbanism are investigated and applied to physical design interventions involving the street, square, block, garden, and park systems. Topics covered in the studio include urban land-use development, spatial systems and aesthetics, and public and private

implementation of urban-design plans. Computer modeling and digital design media will be introduced as tools for urban design. This is a specially arranged collaborative studio with the Landscape Architecture Program.

CRP 557 City Planning Design Studio

Spring. 4 credits. Prerequisite: previous design courses or permission of instructor.

A series of individual and team small area design projects at district, neighborhood, and project scale. The course objective is to develop an understanding of the spatial issues, knowledge, and skills needed to design for the functional, aesthetic, social, and cost needs of urban communities. Studio projects, field trips, and reading.

CRP 558 City and Regional Planning Workshop

Fall and spring. 4 credits. S-U only.

Students work on urban issues, such as housing, traffic and parking, economic development, zoning, and related planning issues, with public or non-profit organizations in New York State. Projects are undertaken on a community-service basis for "clients" who specifically request planning assistance. Students work individually or in teams.

CRP 560 Documentation for Preservation (also Architecture 586)

Fall or spring. 3 credits.

Methods of identifying, recording, collecting, processing, and analyzing information dealing with historic and architecturally significant structures, sites, and objects.

CRP 561 Historic Preservation Planning Workshop: Surveys and Analyses (also Architecture 588)

Fall or spring. 4 credits.

Techniques for the preparation of surveys of historic structures and districts; identification of American architectural styles, focusing on upstate New York; and explorations of local historical resources, funding sources, and organizational structures. Lectures and training sessions. Emphasis on fieldwork with individuals and community organizations.

CRP 562 Perspectives on Preservation (also Architecture 585)

Fall. 3 credits.

Introductory course for preservationists. A survey of the historical development of preservation activity in Europe and America leading to a contemporary comparative overview. Field trips to notable sites and districts.

CRP 563 Problems in Contemporary Preservation Practice (also Architecture 584)

Spring. Variable credit.

A review and critique of ongoing preservation projects and an investigation of areas of expertise currently being developed. Presented by staff and guest lecturers.

CRP 564 Building Materials Conservation (also Architecture 587)

Spring. 3 credits. Open to juniors, seniors, and graduate students.

A survey of the development of building materials in the United States, chiefly during the nineteenth and early twentieth centuries, and a review of the measures that might be taken to conserve them.

CRP 565 Fieldwork or Workshop in History and Preservation

Fall or spring. Variable credit.
Work on applied problems in history and preservation planning in a field or laboratory setting or both.

CRP 567 Measured Drawing (also Architecture 583)

Fall. 3 credits. For undergraduate architecture students and graduate students in history and preservation. Prerequisite: permission of instructor.
Combines study of architectural drawing as historical documents with exercises in preparing measured drawings of small buildings. Presents the basic techniques of studying, sketching, and measuring a building and the preparation of a finished drawing for publication.

CRP 569 Archaeology on Preservation Planning and Landscape (also LA 569)

Fall. 3 credits. Offered alternate years.
Not offered 1997-98.
For description, see LA 569.

CRP 581 Principles of Spatial Design and Aesthetics (also Landscape Architecture 480)

For description, see CRP 481.

[CRP 604 Urban Economics]

Not offered 1996-97.
For description, see CRP 404.]

CRP 605 Urban Public Finance

Fall. 4 credits. Letter grade. Prerequisite: prior exposure to microeconomics.
An overview of neoclassical public economics theory, particularly those aspects of the theory that are central to urban public finance. In part two, the unusual three-tiered fiscal system of the United States is described along with the evolving fiscal and economic role of large municipal governments. Part three of the course presents the public finance theory of taxation. Major taxes and other revenue sources utilized by large municipalities are described and analyzed. Part four is the heart of the matter, namely the measurement and analysis of the fiscal condition of cities.

CRP 608 Introduction to Urban Geographic Information Systems (GIS) (also CRP 408)

Spring. 4 credits. Letter grade.
For description, see CRP 408.

[CRP 614 Gender and International Development (also Women's Studies 614)]

Spring. 3 credits. Not offered 1996-97.
This course has four main objectives. First, to provide an analysis of the location of women in processes of development and to understand the centrality of gender in each case. Second, to examine theoretical and conceptual frameworks for the analysis, including an understanding of gender divisions and their interaction with other forms of inequality such as class, race, and ethnicity. Third, to reflect upon the linkages between the global economy and the gendered macro and micro processes of development. Fourth to provide a basis for research, practical action, and policy formulation and for evaluating directions and strategies for social change.]

CRP 616 Development and Change in the World Economy

Fall. 3 credits. Letter grade only.
This course concentrates on the current dynamics of national and international development, the globalization of national economies, and the forces and trends that are shaping this process. Beginning with an analysis of economic restructuring taking place since the late 1960s, the emphasis is on the factors affecting the new international division of labor and production, the labor market, consumption, trade and finance, and the distribution of resources. This includes the analysis of processes through which the current neoliberal model is being built, such as trade liberalization, labor market flexibilization, the erosion of nation states as economic units, and the formation of trade blocks and global institutions.

CRP 620 Planning Analysis

Spring. 4 credits.
A survey of commonly used techniques for analyzing various aspects of subnational socioeconomic systems. Emphasizes planning applications.

CRP 631 Local Economic Policy—Field Workshop

Spring. 4 credits.
A group policy analysis exercise in an upstate New York city. Students do a combination of data analysis; interviews with labor, business, and public leaders; and problem papers addressed to current issues presented by a client group. Individual work is synthesized into a comprehensive report at the end of the semester.

CRP 635 Workshop: State Economic Development Strategies

Spring. 4 credits. S-U grades optional.
The purpose of this course/workshop is twofold: 1) to provide students with research tools useful in developing state-level economic development strategies; and 2) to provide a critical understanding of the primary economic development strategy used by U.S. state policymakers: firm specific subsidies. The course will consist of lecture and discussion meetings. The workshop sessions will include exercises in qualitative information gathering on economic development topics; use of the census in combination with geographic information systems for analysis and presentation; and shift-share analysis.

CRP 639.05 Special Topic: Regional Development, Planning, and the Market, with Emphasis on the Third World-I: Historical and Theoretical Perspective

Fall. 4 credits variable.
Historical and conceptual background, and relevant case material, for dealing with urban and regional development using production analysis with a focus on the Third World. Consequences of the organization of production for urban-rural and regional interactions will be emphasized. This historically oriented theoretical framework will be compared to location, central place, and interregional feedback theories.

CRP 639.06 Special Topic: Regional Development, Planning, and the Market, with Emphasis on the Third World-II: Current Policy Perspective

Spring. 4 credits variable.
The course focuses on what the market can or cannot accomplish in terms of guiding economic industrial, and regional develop-

ment. Points of view represented range from completely unrestricted market operations to proactive industrial development policies in market contexts. Lessons are drawn for Third World regional development policy drawn from the experience.

CRP 642 Critical Theory and the Micro-politics of Practice

Spring. 4 credits variable.
Trying to "solve problems," planners and policy analysts set agendas, shape participation, negotiate relations of power. This seminar explores theories illuminating the communicative micro-politics of their daily practice. We explore issues of power and discourse, practical judgment and deliberation, productive and reproductive aspects of ordinary speech and action.

CRP 653 Legal Aspects of Land-Use Planning

Spring. 3 credits.
Survey of leading cases and legal concepts in land-use planning, with particular attention to zoning, subdivision control, condemnation, and growth-control issues.

CRP 661 Historic Preservation Planning Workshop: Plans and Programs

Fall or spring. 1-4 credits. Prerequisite: CRP 561.
Preparation of elements of historic preservation plans, designs, legislation, and special studies. Individual or group projects are selected by students. Fieldwork is emphasized.

CRP 662 Seminar in American Urban History (also CRP 361)

Spring. 3 credits. Prerequisite: permission of instructor.
For description, see CRP 361.

[CRP 663 Historic Preservation Law]

Spring. 3 credits. Offered alternate years.
Not offered 1996-97.
Law of historic district and landmark designation, tools for preservation (such as police power, taxation, eminent domain), and recent developments in state and federal historic preservation.]

CRP 664 Economics and Financing of Neighborhood Conservation and Preservation

Fall. 3 credits.
The economic and financial aspects of historic preservation and neighborhood conservation. Topics include public finance, selected issues in urban economics, real estate economics, and private financing of real estate projects.

CRP 665 Preservation Planning and Urban Change

Fall. 3 credits.
An examination of fundamental planning concepts and issues as they relate to historic preservation. Neighborhood revitalization, federal housing programs, the role of public and private institutions, displacement, and other social issues are among the primary topics.

[CRP 666 Pre-Industrial Cities and Towns of North America (also CRP 360, LA 360 and LA 666)]

Spring. 3 credits. S-U grades optional.
Not offered 1996-97.
For description, see LA 360.]

CRP 670 Regional Planning and Development in Developing Nations

Fall or spring. 4 credits. Prerequisite: second-year graduate standing.

Extensive case studies of development planning are analyzed. Focus is on the political economy of the process of regional development through urbanization and in particular on the concepts of equity and efficiency, external economies, export linkages, and internal self-sufficiency and integration. Resource development, national integration, human development, and migration problems are discussed.

CRP 671 Seminar in International Planning

Spring. 1 credit. S-U grades only.

The international planning lecture series sponsors lectures by visiting scholars or professionals in the field of international development and planning. The only formal requirement for the course is a brief evaluation of the series at the end of the semester.

CRP 675 Seminar in Project Planning in Developing Countries

Spring. 4 credits.

An examination of the problems and issues involved in preparing project proposals for presentation to funding agencies. Topics include technical design, financial feasibility, social impact analysis, and policy relevance, as well as techniques for effective presentation of proposals. The course is organized as seminar-workshop providing both an analysis of the critical elements of effective proposals and an opportunity to use those elements in the preparation of proposals. A multidisciplinary perspective is emphasized.

CRP 677 Issues in African Development (also CRP 477)

Fall or spring. 1 credit. S-U only.

For description, see CRP 477.

CRP 683 Environmental Aspects of International Planning (also CRP 453)

Fall. 3 credits.

For description, see CRP 453.

[CRP 703 Contemporary Theories of Regional Development

Fall or spring. 4 credits. Not offered 1996-97.

An advanced seminar, mainly for doctoral candidates, to review recent contributions to the literature. After a fast-paced review of basic material in political economy, students will read and present summaries of works by major contemporary theorists. A final paper is required.]

CRP 711 Planning and Organization Theory

Fall or spring. 4 credits.

Advanced seminar on theoretical models of planning, organization, and urban structure. The first part of the course, which may be taken separately for one credit, provides an overview of administrative issues affecting planning. Next, attention is given to theories of organizational structure, growth, and change. Final sessions are devoted to the influence of urban and regional structures as context. Critical reading, short papers, and seminar discussion characterize the course.

CRP 720 Quantitative Techniques for Policy Analysis and Program Management

Fall. 4 credits.

Selected analytical techniques used in the planning and evaluation of public policy and public investments are examined. Topics include simulation modeling, benefit-cost and cost-effectiveness analysis (including capital budgeting), and optimization strategies.

CRP 730 Methods of Regional Science and Planning I

Fall or spring. 4 credits variable.

An introduction to some of the major methods and models used in regional science and planning. This course is half of a two-semester sequence (see CRP 731). Either course may be taken first. Both courses will cover topics related to the structure and assumptions of the models, model development, and their applications in regional science and planning. Where appropriate, computer implementation will be considered. The spring semester emphasizes statistical and econometric models.

CRP 731 Methods of Regional Science and Planning II

Fall or spring. 4 credits.

See CRP 730. The fall semester will provide an introduction to deterministic methods and models such as input/output models, social accounting models, and optimization models.

CRP 732 Methods of Regional Science and Planning III

Fall or spring. 3 credits. Prerequisites:

CRP 730 and CRP 731 or permission of the instructor.

An introduction to the design and implementation of Social Accounting Matrix and Computable General Equilibrium models and their uses, primarily in a regional context, for planning and policy analysis. The use of econometric methods and CGE models will be discussed. The GAMS software package will be used in related computer exercises.

[CRP 733 Seminar in Regional Models

Fall or spring. 3 credits. S-U grades optional. Prerequisites: sufficient methodological background to read the current literature. Not offered 1996-97.

A review of the classical and important current literature on socioeconomic and/or environmental models of subnational regions. Each student will be expected to identify his or her own area of interest and critically review and report to the class on important papers in that area.]

CRP 790 Professional Planning Colloquium I

Fall. 1 credit.

Visiting lecturers treat problems and opportunities in the practice of planning. Topical focus to be announced. The only formal requirements for the course are attendance and a brief evaluation at the semester's end.

CRP 792 Master's Thesis, Project, or Research Paper

Fall or spring. 10 credits variable. S-U grades optional.

CRP 794 Planning Internships

Fall, spring, or summer. 1-12 credits.

Combines a professional planning internship in a metropolitan area with academic study to provide experience and understanding of the planner's role in formulating and implementing plans and policies. Salaried internships in federal or state agencies, legislative offices, and comparable settings include development of research, analysis, and other technical skills. Weekly seminars draw on student field

experiences, assigned readings, and guest speakers to examine current issues of federal, urban, and regional policy from the perspective of planning practice.

CRP 795 Master's Thesis in Preservation Planning

Fall or spring. 1-6 credits.

CRP 796 Colloquial Journal Publication Workshop

Fall or spring. 2 credits. S-U grades only.

Individual and group projects culminating in the production of a professional journal.

CRP 797 Supervised Readings

Fall or spring. 4 variable credits. Limited to graduate students. Prerequisites: permission of instructor.

CRP 798 Colloquium in Regional Science, Planning, and Policy Analysis

Fall or spring. 1 credit.

Presentation and discussion of current research by faculty, visitors, and graduate students working on their dissertations. Typically, the colloquium will meet once a week during the semester.

CRP 800 Advanced Seminar in Urban and Regional Theory I

Fall. 3 credits. Prerequisite: CRP 500.

The theory of urban spatial organization. Economic, technological, and social factors leading to urbanization and various kinds of spatial organizations are explored. Major theoretical contributions to the understanding of intraregional and intraurban distribution of population and economic activity are reviewed.

CRP 801 Advanced Seminar in Urban and Regional Theory II

Spring. 3 credits. Prerequisite: CRP 800.

A continuation of City and Regional Planning 800, concentrating on recent developments.

CRP 810 Advanced Planning Theory

Fall. 3 credits. Prerequisite: CRP 500 or 710.

A survey of the works of scholars who have contributed to current thinking about planning theory. Alternative assumptions concerning models of man and theoretical concepts concerning the nature of planning today are considered.

CRP 830 Seminar in Regional Sciences, Planning, and Policy Analysis

Fall or spring. Variable-4 credits. S-U grades only.

This seminar will provide an opportunity to review some of the literature and current research in regional science, planning, and policy analysis. Specific topics covered will vary each year. Empirical and analytical research will be emphasized. Students will be expected to prepare and present a research paper during the semester on some aspect of the topics under review.

CRP 890 Planning Research Seminar I

Fall or spring. 2 credits.

Intended for doctoral candidates in city and regional planning; other students welcome. Presentation and discussion of current problem areas and research by advanced doctoral students, faculty members, and visitors.

CRP 892 Doctoral Dissertation

Fall or spring. 1-2 credits.

Special Topic Courses

Fall or spring. Variable credit.
Typical topics are:

- CRP 609 Urban and Regional Theory**
- CRP 619 Planning Theory and Politics**
- CRP 629 Quantitative Methods and Analysis**
- CRP 639 Regional Development Planning**
- CRP 649 Social-Policy Planning**
- CRP 659 Urban Development Planning**
- CRP 669 History and Preservation**
- CRP 679 Planning and Developing Regions**
- CRP 689 Environmental Planning**
- CRP 699 Regional Science**
- CRP 719 Planning Theory and Politics**

LANDSCAPE ARCHITECTURE

The Landscape Architecture Program at Cornell is jointly sponsored by the College of Agriculture and Life Sciences (in association with the Department of Floriculture and Ornamental Horticulture) and the College of Architecture, Art, and Planning.

The Program

Program faculty: M. I. Adleman, S. Baugher, H. Gottfried, E. D. Hermann, P. Horrigan, D. W. Krall, L. J. Mirin, R. T. Trancik, P. J. Trowbridge, K. A. Wolf.

The Landscape Architecture Department offers a four-year Bachelor of Science degree administered through the College of Agriculture and Life Sciences. The Landscape Architecture Graduate Program offers two professional degree alternatives: a two-year graduate curriculum directed to those who have undergraduate degrees in landscape architecture or architecture and a three-year graduate curriculum directed to those who have undergraduate degrees in other fields. Graduate studies in landscape architecture are administered through the Graduate School and lead to a Master of Landscape Architecture degree. Both of these degrees are accredited by the Landscape Architecture Accreditation Board (LAAB) of the American Society of Landscape Architects.

Dual Degree Options

Graduate students can earn a Master of Landscape Architecture and a Master of Science (Horticulture) or a Master of City and Regional Planning simultaneously. Students need to be accepted into both fields of study to engage in a dual degree program and must fulfill requirements of both fields of study. Thesis requirements are generally integrated for dual degrees.

Course Information

- *LA 141 Grounding in Landscape Architecture**
Fall. 4 credits.
- *LA 142 Introduction to Landscape Architecture**
Spring. 4 credits.

- *LA 201 Medium of the Landscape**
Fall. 6 credits.
- *LA 202 Medium of the Landscape**
Spring. 6 credits.
- *LA 261 Urban Archaeology (also CRP 261)**
Fall. 3 credits.
- *LA 262 Laboratory in Landscape Archaeology**
Spring. 3 credits.
- *LA 282 The American Landscape**
Spring. 3 credits.
- *LA 301 Integration of Realities**
Fall. 6 credits.
- *LA 302 Integration of Realities**
Spring. 6 credits.
- *LA 315 Site Engineering I**
Spring. 2 credits. First seven weeks of semester.
- *LA 316 Site Engineering II**
Fall. 2 credits. Second seven weeks of semester.
- *LA 317 Site Construction I**
Fall. 2 credits. First seven weeks of semester.
- *LA 318 Site Construction II**
Spring. 2 credits. Second seven weeks of semester.
- [*LA 360 Pre-Industrial Cities and Towns of North America (also CRP 360, CRP 666 and LA 666)]**
Fall. 3 credits. Offered alternate years 1997-98/1999-00.]
- *LA 363 American Indians, Planners, and Public Policy (also CRP 363/547 and LA 547)**
Spring. 3 credits.
- *LA 401 Advanced Synthesis: Project Design**
Fall. 6 credits.
- *LA 402 Advanced Synthesis: Urban Design**
Spring. 6 credits.
- *LA 410 Computer Applications in Landscape Architecture**
Fall or spring. 3 credits.
- *LA 412 Professional Practice**
Spring. 1 credit.
- *LA 480 Principles of Spatial Design and Aesthetics (also CRP 481/581)**
Fall. 3 credits.
- *LA 483 Design Criticism**
Spring. 3 credits.
- *LA 486 Community Design Workshop**
Spring. 3 credits.
- *LA 487 Experiential Community Design**
Fall. 3 credits.
- *LA 491 Planting Design and Establishment (also HORT 491)**
Fall. 3 credits.
- *LA 494 Special Topics in Landscape Architecture**
Fall or spring. 1-3 credits.

LANAR 497 Individual Study in Landscape Architecture

Fall or spring. 1-5 credits; may be repeated for credit. S-U grades optional. L. J. Mirin.

Work on special topics by individuals or small groups.

***LA 498 Undergraduate Teaching**

Fall or spring. 1-3 credits.

LANAR 501 Composition and Theory

Fall. 6 credits. Limited to graduate students. Cost of basic drafting and supplies about \$250. Cost of field trip \$250. L. J. Mirin.

Basic design principles and processes applied to the design of the outdoor environment. Studio projects focus on the analysis, organization, and form of outdoor space through the use of three-dimensional components including structures, vegetation, and earthform.

***LA 502 Composition and Theory**

Spring. 6 credits.

***LA 505 Graphic Communication I**

Fall. 3 credits.

***LA 506 Graphic Communication II**

Spring. 3 credits.

LANAR 520 Contemporary Issues in Landscape Architecture

Fall. 2 credits. S-U grades only. L. Mirin. Presentations on topics that are current and significant to the environmental design and planning fields. Issues are discussed from a landscape architecture point of view by practitioners and researchers representing a range of professions.

LANAR 524 History of European Landscape Architecture

Spring. 3 credits. L. Mirin.

A survey from classical times to the present, emphasizing design principles and techniques that have established the landscape architecture tradition in Europe. Particular reference is made to the manner in which environments such as gardens, streets, plazas, parks, and new towns reflect in their built form a range of response to demands of culture, economics, technology, security, the law, and ecology.

LANAR 525 History of American Landscape Architecture

Fall. 3 credits. L. Mirin.

Landscape architecture in the United States from Jefferson to the present is examined as a unique expression of the American experience. Influences exerted by the physical landscape, the frontier and utopian spirit, and the cultural assumptions of democracy and capitalism are traced as they affect the forms of urban parks, private and corporate estates, public housing, transportation planning, national parks, and other open-space designs.

***LA 547 American Indians, Planners, and Public Policy (also CRP 363/547 and LA 363)**

Spring. 3 credits.

For description, see LA 363.

***LA 569 Archaeology on Preservation Planning and Landscape (also CRP 569)**

Fall. 3 credits. Offered alternative years 1998-99/2000-2001.

***LA 590 Thesis Seminar**

Fall. 3 credits.

***LA 601 Content and Landscape/Integration of Reality**

Fall. 6 credits. Limited to graduate students.

***LA 602 Content and Landscape/Integration of Reality**

Fall. 6 credits.

***LA 615 Site Engineering I**

Spring. 2 credits. First seven weeks of semester.

***LA 616 Site Engineering II**

Fall. 2 credits. Second seven weeks of semester.

***LA 617 Site Construction I**

Fall. 2 credits. First seven weeks of semester.

***LA 618 Site Construction II**

Spring. 2 credits. Second seven weeks of semester.

***LA 619 Advanced Site Grading**

Spring. 2 credits.

[*LA 666 Pre-Industrial Cities and Towns of North America (also CRP 360, CRP 666 and LA 360)

Fall. 3 credits. Offered alternate years 1997-98/1999-00.]

***LA 680 Graduate Seminar in Landscape Architecture**

Fall or spring. 1-3 credits.

***LA 694 Special Topics in Landscape Architecture**

Fall or spring. 1-3 credits.

***LA 701 Urban Design and Planning (also CRP 555)**

Fall. 6 credits.

***LA 702 Advanced Design Studio**

Spring. 6 credits.

LANAR 800 Master's Thesis in Landscape Architecture

Fall or spring. 9 credits. L. J. Mirin.

Independent research under faculty guidance, leading to the development of a comprehensive and defensible design or study related to the field of landscape architecture. Work is expected to be completed in the final semester of residency.

*Offered through the College of Agriculture and Life Sciences.

FACULTY ROSTER

Baughner, Sherene, Ph.D., SUNY at Stony Brook, Visiting Prof., City and Regional Planning
 Beneria, Lourdes, Ph.D., Columbia U. Prof., City and Regional Planning
 Bertoia, Roberto, M.F.A., Southern Illinois U. Assoc. Prof., Art
 Blum, Zevi, B.Arch., Cornell U. Assoc. Prof., Art
 Booth, Richard S., J.D., George Washington U. Assoc. Prof., City and Regional Planning
 Bowman, Stanley J., M.F.A., U. of New Mexico. Prof., Art
 Chi, Lily H., M. Phil., Cambridge U., Asst. Prof., Architecture
 Christopherson, Susan M., Ph.D., U. of California at Berkeley. Asst. Prof., City and Regional Planning

Clavel, Pierre, Ph.D., Cornell U. Prof., City and Regional Planning
 Colby, Victor E., M.F.A., Cornell U. Prof. Emeritus, Art
 Crump, Ralph W., B.Arch., Cornell U. Prof. Emeritus, Architecture
 Cruvellier, Mark R., M. Eng., Ph.D., McGill U. (Canada). Asst. Prof., Architecture
 Curry, Milton S. F., M. Arch., Harvard U., Asst. Prof., Architecture
 Czamanski, Stan, Ph.D., U. of Pennsylvania. Prof. Emeritus, City and Regional Planning
 Daly, Norman, M.A., Ohio State U. Prof. Emeritus, Art
 Drennan, Matthew P., Ph.D., New York University. Prof., City and Regional Planning
 Evett, Kenneth W., M.A., Colorado Coll. Prof. Emeritus, Art
 Forester, John, Ph.D., U. of California at Berkeley. Prof., City and Regional Planning
 Goehner, Werner H., Dipl. Ing., Technical U. Karlsruhe (Germany), M.Arch., Cornell U. Assoc. Prof., Architecture
 Goldsmith, William W., Ph.D., Cornell U. Prof., City and Regional Planning
 Greenberg, Donald P., Ph.D., Cornell U. Prof., Architecture
 Gruzdzys, Sophia A., M. Arch., Harvard U., Asst. Prof., Architecture
 Hascup, George E., B.Arch., U. of California at Berkeley. Assoc. Prof., Architecture
 Hodgden, Lee F., M.Arch., Massachusetts Inst. of Technology. Prof. Emeritus, Architecture
 Hubbell, Kent L., M.F.A.S., Yale. Nathaniel and Margaret Owens Distinguished Alumni Professor of Architecture. Prof., Architecture
 Isard, Walter, Ph.D., Harvard U. Prof., City and Regional Planning
 Jarzombek, Mark, Ph.D., Massachusetts Inst. of Technology. Assoc. Prof., Architecture
 Jones, Barclay G., Ph.D., U. of North Carolina. Prof., City and Regional Planning
 Kelly, Burnham, M.C.P., Massachusetts Inst. of Technology. Prof. Emeritus, City and Regional Planning
 Kira, Alexander, M.R.P., Cornell U. Prof. Emeritus, Architecture
 Kord, Victor, M.F.A., Yale U. Prof., Art
 Lewis, David B., Ph.D., Cornell U. Assoc. Prof., City and Regional Planning
 Locey, Jean N., M.F.A., Ohio U. Prof., Art
 Lynch, Barbara, Ph.D., Cornell U. Visiting Assoc. Prof., City and Regional Planning
 MacDougall, Bonnie G., Ph.D., Cornell U. Assoc. Prof., Architecture
 Mackenzie, Archie B., M.Arch., U. of California at Berkeley. Assoc. Prof., Architecture
 McMinn, William G., M. Arch., U. of Texas at Austin. Dean, Prof., Architecture
 Meyer, Elisabeth H., M.F.A., U. of Texas. Assoc. Prof., Art
 Mikus, Eleanor, M.A., U. of Denver. Prof. Emeritus, Art
 Miller, John C., M.Arch., Cornell U. Prof., Architecture
 Mirin, Leonard J., M.L.A., U. of Michigan. Assoc. Prof., Landscape Architecture
 Mulcahy, Vincent J., M.Arch., Harvard U. Assoc. Prof., Architecture
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 Olpadwala, Porus, Ph.D., Cornell U. Assoc. Prof., City and Regional Planning
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 Ovaska, Arthur, M.Arch., Cornell U. Assoc. Prof., Architecture

Page, Gregory, M.F.A., U. of Wisconsin. Assoc. Prof., Art
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 Pearman, Charles W., B.Arch., U. of Michigan. Prof., Architecture
 Perlus, Barry A., M.F.A., Ohio U., Assoc. Prof., Art
 Poleskie, Stephen F., B.S., Wilkes Coll. Prof., Art
 Reps, John W., M.R.P., Cornell U. Prof. Emeritus, City and Regional Planning
 Richardson, Henry W., M.R.P., Cornell U. Assoc. Prof., Architecture
 Rowe, Colin F., M.A., U. of London (England). A. D. White Prof. Emeritus
 Saltzman, Sid, Ph.D., Cornell U. Prof., City and Regional Planning
 Saul, Francis W., M.S., Harvard U. Assoc. Prof. Emeritus, Architecture
 Schack, Mario L., M.Arch., Harvard U. Prof., Architecture
 Shaw, John P., M.Arch., Massachusetts Inst. of Technology. Prof. Emeritus, Architecture
 Simitch, Andrea, B.Arch., Cornell U. Assoc. Prof., Architecture
 Singer, Arnold. Prof. Emeritus, Art
 Squier, Jack L., M.F.A., Cornell U. Prof., Art
 Stein, Stuart W., M.C.P., Massachusetts Inst. of Technology. Prof. Emeritus, City and Regional Planning
 Taft, W. Stanley, M.F.A., California College of Arts and Crafts, Assoc. Prof., Art
 Tomlan, Michael A., Ph.D., Cornell U. Asst. Prof., City and Regional Planning
 Trancik, Roger T., M.L.A.-U.D., Harvard U. Prof., Landscape Architecture/City and Regional Planning
 Ungers, O. Mathias, Diploma, Technical U. Karlsruhe (Germany). Prof. Emeritus, Architecture
 Vietorisz, Thomas, Ph.D., Massachusetts Inst. of Technology. Adjunct Prof., City and Regional Planning
 WalkingStick, Kay, M.F.A., Pratt Institute. Assoc. Prof., Art
 Warke, Val K., M.Arch., Harvard U. Assoc. Prof., Architecture
 Wells, Jerry A., B.Arch., U. of Texas. Prof., Architecture
 White, Gail S., M.F.A., Boston Museum School and Tufts U. Asst. Prof., Art
 Woods, Mary N., Ph.D., Columbia U. Assoc. Prof., Architecture
 Zissovici, John, M.Arch., Cornell U., Asst. Prof., Architecture