

## College of Architecture, Art, and Planning

### Administration

Jason Seley, dean  
 Ian R. Stewart, associate dean  
 Wendy Phoenix, director of administrative services  
 John M. Crowley, director of external affairs  
 Charles L. Williams, director of minority educational affairs  
 M. Sophie Newhart, registrar  
 Betty Gangle, accountant  
 Margaret Webster, slide curator

### Faculty Advisers

Freshmen are assigned faculty advisers for their first year and are also invited to share their concerns and seek advice from the volunteer student advisers at any time.

Upperclass students have no regular assigned advisers and are free to seek assistance and advice from the most appropriate faculty member or college officer.

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

M. Sophie Newhart, registrar  
 Charles L. Williams, director of minority affairs  
 Jerry A. Wells, chairman, Department of Architecture  
 Stanley J. Bowman, chairman, Department of Art  
 Sidney Saltzman, chairman, City and Regional Planning

### Degree Programs

	Degree
Architecture	B.Arch.
City and Regional Planning	B.S.
Fine Arts	B.F.A.
History of Architecture and Urban Development	B.S.
Urban and Regional Studies	B.S.

The college offers four 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; and a two-year program with a concentration in urban and regional studies leads to the Bachelor of Science.\*

Graduate-level programs are offered in art, architectural design and urban and regional design, architectural sciences, history of architecture and urban development, preservation planning, city and regional planning, regional science, and related programs, 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 sixty, 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.

\*This program is limited to transfers to the junior and senior level.

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, Tjaden Hall, Rand Hall, and the Foundry. In Sibley are the facilities for architecture and city and regional planning as well as certain administrative offices and the Fine Arts Library. The Department of Art is housed in Tjaden Hall. Sculpture and shop facilities are in the Foundry. The Green Dragon, a student lounge, is located in the basement of Sibley Hall. The college has three darkrooms which are available for general use 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 in the slide library.

Through the generosity of the late Mrs. Lillian P. Heller, the college also owns the 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 Dome serves the College of Architecture, Art, and Planning through its collections on architecture, fine arts, and city and regional planning. The library, with more than 106,000 books, is capable of supporting undergraduate, graduate, and research programs. Some 1,800 serials are currently received and maintained.

A slide library is maintained in Sibley Hall and contains extensive files of architectural history slides and a large and growing collection of slides of art and architecture from all parts of the world. The library now includes approximately 250,000 slides.

The facilities of the libraries of other schools and departments on campus and the 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 new 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. Current work of students in the College of Architecture, Art, and Planning is shown in the exhibition areas in Sibley Hall and the gallery in Tjaden Hall.

## 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 will be held each semester as part of the yearly schedule of the Tjaden Hall and Sibley Dome Galleries. These may display the work of a specific course or exhibit examples of the best recent work done.

### Scholastic Standards

Term by term, a candidate for an undergraduate degree in this 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 may be suspended.
- 2) *Final Warning* indicates that the student's record is unsatisfactory. Unless considerable improvement is shown in the subsequent term, the student is subject to dismissal from the college.
- 3) *Suspended: Academic Deficiency* The student is dismissed from the college and may not continue studies in the college. A student who has been suspended may apply for readmission after an absence of at least two semesters. Application for readmission is made by letter, addressed to the associate dean, College of Architecture, Art, and Planning. The student must submit evidence that his other time has been well spent since suspension, and, if employed, must submit a letter from an immediate superior. Readmission to the college after being suspended is at the discretion of the Admissions Committee.
- 4) *Dismissed: 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 suspended for academic deficiency at the end of the next term if the performance during that time is deemed to be grossly deficient.

It is necessary to have a cumulative average of at least C- (1.7) for graduation.

## Architecture

J. A. Wells, chairman; J. O. Bragstad, P. M. Cohen, R. W. Crump, M. D. Dennis, W. Goehner, D. P. Greenberg, G. Hascup, L. F. Hodgden, A. Kira, B. G. MacDougall, R. D. MacDougall, A. B. Mackenzie, J. C. Miller, L. Mirin, E. K. Morris, C. F. Otto, C. W. Pearman, H. W. Richardson, M. Romanach, C. Rowe, F. W. Saul, M. L. Schack, M. Schiler, A. Senkevitch, J. P. Shaw, D. M. Simons, O. M. Ungers

**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 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 applied, had established their interest and motivation to enter the field. It therefore incorporates both a general and professional educational base.

The program is oriented towards 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 human behavior, 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 and be applied by further studies in these areas. Within the professional program, a basis for understanding architecture in its contemporary and historical cultural context 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 toward the Bachelor of Architecture degree also 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.

**Washington Program**

Fourth- and fifth-year students in good standing who have completed the requirements of the first three years of the curriculum are eligible for a term of study in Washington, D.C., with permission of the program director. Courses offered by Cornell include design, introduction to the thesis, special problems in architectural design, a professional seminar, and a professional studies course. Students are encouraged to enroll for additional courses at local institutions. The Cornell facilities in Washington are in an excellent location adjoining DuPont Circle. The program provides a period of intensive exposure to the characteristics of urban development within the framework of a design studio. Content concentrates on urban design issues, restraints relative to financing, zoning, development criteria, adaptive reuse, and multiuse developments. Tuition is pro rated for students in this program.

**Curriculum**

**First Year**

<i>Fall Term</i>	<i>Credits</i>
101 Design I	6
131 Introduction to Architecture	2
141 History of Architecture I	3
151 Design Fundamentals I	2
191 Drawing I	2
Out-of-college elective	3
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	18
<i>Spring Term</i>	
102 Design II	6
142 History of Architecture II	3
152 Design Fundamentals II	2
162 Introduction to Social Sciences in Design	2
192 Drawing II	2
Out-of-college elective	3
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	18

**Second Year**

<i>Fall Term</i>	
201 Design III	6
221 Mathematical Techniques	3
231 Architectural Elements and Principles	2
262 Building Technology, Materials, and Methods	3
Out-of-college elective	3
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	17

<i>Spring Term</i>	
202 Design IV	6
222 Structural Concepts	4
232 Design Methods and Programming	2
261 Introduction to Environmental Science	3
College elective	3
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	18

**Third Year**

<i>Fall Term</i>	
301 Design V	6
321 Structural Systems I	3
361 Environmental Controls I	3
Out-of-college elective	3
Departmental elective	3
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	18

<i>Spring Term</i>	
302 Design VI	6
322 Structural Systems II	3
362 Environmental Controls II	3
Out-of-college elective	3
Departmental elective	3
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	18

**Fourth Year**

<i>Fall Term</i>	
401 Design VII	6
481 Professional Practice	3
Out-of-college elective	3
College elective	3
Departmental elective	3
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	18

<i>Spring Term</i>	
402 Design VIII	6
Out-of-college elective	3
College or out-of-college elective	3
Departmental elective	3
College elective	3
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	18

**Fifth Year**

<i>Fall Term</i>	
501 Design IX	6
or 503 Design IX—Thesis I	8
or 601 Special Program	9
510 Thesis Introduction	3
Out-of-college elective	3
Departmental elective	3
Out-of-college elective	3
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	18, 20, or 21

<i>Spring Term</i>	
502 Design X—Thesis	8
or 504 Design X—Thesis II	8
or 602 Special Program	9
College or out-of-college electives (two courses)	6
Departmental elective	3
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	17 or 18

Total credits

178

**Elective Distribution Requirements**

Departmental electives	18
College or out-of-college electives	9
College electives	9
Out-of-college electives	27
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Total electives	63

*Departmental Elective Distribution Requirements*

	<i>Credits</i>
History of architecture courses	6
Principles, theories, and methods and nonsequence design courses	6
Design communication, any art or computer graphics course	3
Architectural sciences course	3

*College Elective Distribution Requirements*

Two art courses, including a course in sculpture	6
Planning course	3

*Out-of-College Elective Distribution Requirements*

Mathematics, physics, or biological sciences course	3
Humanities courses	6
Social science courses	6
Computer programming course	3

**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 an 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 which has not been covered by equivalent work. If the applicant has had no previous work in architectural design, the ten-term design sequence must be completed. Since this sequence may be accelerated by attending summer terms, seven or eight normal 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.

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

**Nonprofessional Alternative Program**

After completing the first four years of requirements, the student may choose to receive the nonprofessional degree of Bachelor of Fine Arts (B.F.A.) in architecture.

The first two years of the professional program are considered a basic introduction to the field. It is possible after this phase to depart from the professional program to develop a concentration in some area of the broader field without the intention of becoming a licensed practicing architect. A student choosing an undergraduate nonprofessional major should apply in writing by February 1 in the second year to the department chairperson. The student will be interviewed and informed about acceptance by March 1.

A program developing a major concentration in the third and fourth years leading to the nonprofessional Bachelor of Science degree in history of architecture

and urban development is available. A student attaining this degree can either terminate studies or apply to a graduate program in that area of concentration.

### History of Architecture and Urban Development

The major in history of architecture and urban development is intended for undergraduate students interested in historical studies of architecture and planning offered in the context of a professional school. The program benefits from a tradition of pioneer work in the history of architecture and urban development that has grown at Cornell for several decades. Special features of the major are the availability of work in preservation planning. Fourteen members of the college faculty offer courses appropriate for this major.

**Admission to the major.** Architectural history and urban development may be elected as a major if a student has completed Architecture 141 and 142 with a grade of B or better. Other students must petition for admission to the major.

**Requirements.** To satisfy the major subject requirement, a minimum of 40 credits of history course work must be completed with a grade of C or better. Of these 40 credits, 26 must be in architectural history and urban development with 8 of these 26 credits obtained in courses above the intermediate level. In addition, 8 credits must be taken in related fields such as history of art; archaeology; intellectual, cultural, or political history; and history of science.

Majors will be expected to meet the language requirement in the manner specified for students enrolled in College of Arts and Sciences.

**Honors program.** Students who want to enroll in the honors program must indicate their intention in writing before the end of their junior year and be accepted for the program by the history of architecture faculty. Minimum requirements for admission to candidacy for honors are:

- 1) a cumulative average of B- or better in all courses;
- 2) a cumulative average of B or better in all history of architecture and urban development courses.

Honors candidates will take a 4-credit research course in the fall of their senior year. In the spring there will be a 4-credit session during which they will prepare and defend an architectural history presentation or demonstration, or a paper approximately fifty pages long.

**Curriculum.** Students must have already completed the first two years of the Bachelor of Architecture curriculum, for a total of 70 credits.

Third Year, Fall	Credits
Fine art elective	3
Related field courses	4
History of architecture (intermediate level) or history of urban development	4
Electives	4
	<hr/> 15

Third Year, Spring	
Related field courses	4
History of architecture (intermediate level) or history of urban development	4
Electives	8
	<hr/> 16

Fourth Year, Fall	
History of architecture (advanced level) or history of urban development	4
Honors or history related subject	4
Electives	8
	<hr/> 16

Fourth Year, Spring	
History of architecture (advanced level) or history of urban development	4
Honors or history-related subject	4
Electives	7
	<hr/> 15

Students complete a total of 132 credits.

### 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 are offered at second- through fifth-year levels in Ithaca. Normally, there is also a design program abroad for third-, fourth-, and fifth-year students.

Registration is limited to students in good standing who have completed the sophomore year of study. In exceptional cases a student who has completed only one year of study may be allowed to register.

Students from schools of architecture other than Cornell are welcome to apply to the college for admission to any summer programs.

At the graduate level, the summer term is devoted to problems forming part of the student's program of work. The term may carry residence credit equal to that of a normal academic term. Participation in the program cannot be undertaken without the consent of the student's Special Committee.

### Architectural Design

A studio fee of \$10 is charged each semester for every design course.

#### Sequence Courses

**101 Design I** Fall. 6 credits. Limited to department students.

Studios and lects, M W F 2-6. Staff.  
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.

**102 Design II** Spring. 6 credits. Limited to department students. A continuation of Architecture 101.

Studios and lects, M W F 2-6. Staff.  
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.

**201-202 Design III and IV** Fall and spring. 6 credits each term. Coregistration in Architecture 231-232 required. Limited to department students.  
Studios and sems, M W F 2-6. Staff.

**301-302 Design V and VI** Fall and spring. 6 credits each term. Limited to department students.  
Studios and sems, M W F 2-6. Staff.

**401-402 Design VII and VIII** Fall and spring. 6 credits each term.  
Studios and sems, M W F 2-6. Staff.  
Programs in architectural design, urban design, or architectural technology and environmental science are offered each term.

**501 Design IX** Fall or spring. 6 credits.  
Studios, M W F 2-6. Staff.

**502 Design X—Thesis** Fall or spring. 8 credits.  
Required of all students who are candidates for the B.Arch degree, who must satisfactorily complete a

thesis during one term of their last year in residence. Students accepted for admission to the graduate studio are exempt from the thesis requirement.  
Studios, M W F 2-6. Staff.

**503-504 Design IX—Thesis I and Design X—Thesis II** Fall or spring. 8 credits each term.  
Prerequisite: permission of department.

Studios, M W F 2-6. Staff.  
Students who have obtained approval may elect to spend two terms working on the thesis.

**510 Thesis Introduction** Fall or spring. 3 credits.  
Required of all architecture students in the year preceding their thesis.

Lec and sem, R 1:25-3:20. Staff.  
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 is followed by tutorial work with the student's advisory committee.

**601-602 Special Program** Fall or spring. 9 credits each term. Limited to students applying to a graduate program in the department who have completed an application to the Graduate School. Registration by petition only.

**111-112 Elective Design Studio** 111, fall; 112, spring. 6 credits each term. Limited to students from outside the department. Prerequisite: permission of department office. Coordinated by the Department of Architecture office.  
M W F 2-6. Staff.

**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.  
M W F 2-6. Staff.

#### Nonsequence Courses

**310 Special Problems in Architectural Design**

Fall or spring. Registration and credit by arrangement.

Hours to be arranged. Staff.  
Independent study.

**[611-612 Urban Housing Developments** 611, fall; 612, spring. 2 credits each term. Limited to fourth- and fifth-year students in architecture, and graduate students. Prerequisite: permission of instructor. Not offered 1981-82.

Sem, hours to be arranged. O. M. Ungers.  
Large-scale housing developments, particularly size, density, and problems of infrastructure.]

**613 Transportation** Fall. 2 credits. Prerequisite: permission of instructor. No offered 1980-81.

Sem, R 3:30-5:30. P. Cohen, A. Meyburg.  
The impact of various transportation forms on the environment are considered from the perspectives of architects, engineers, planners, and human ecologists. Readings and discussions of past, current, and future transportation modes focuses on aesthetic and physical aspects.

**614 Low-Cost Housing** Fall or spring. 3 credits.

Prerequisite: permission of instructor.  
Sems, T R 1:25-2:15. F. O. Slate, P. Cohen, C. B. Daniels, H. W. Richardson.  
Aspects of low-cost housing involving engineering technology, architecture, physical planning, economics, and sociology.

**[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 1981-82.  
Hours to be arranged. O. M. Ungers, staff, and guest lecturers.

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.]

#### Graduate Courses

**711–712 Problems in Architectural Design** 711, fall; 712, spring. 9 credits each term.

Studio and sem, hours to be arranged  
O. M. Ungers.

The basic first-year design course for graduate students whose major concentration is architectural design.

**713–714 Problems in Urban Design** 713, fall; 714, spring. 9 credits each term.

Studio and sem, hours to be arranged. C. Rowe.  
The basic first-year design course for graduate students whose major concentration is urban design.

**811 Thesis or Research in Architectural Design** Fall or spring. 9 credits.

Hours to be arranged. O. M. Ungers.  
Second-year design course for graduate students whose major concentration is architectural design.

**812 Thesis or Research in Urban Design** Fall or spring. 9 credits.

Hours to be arranged. C. Rowe.  
Second-year design course for graduate students whose major concentration is regional design.

#### Structures

**002 Basic Mathematics** Fall or spring. 2 credits. Limited to freshmen. Credits earned for this course may not be applied toward credits required for graduation.

M F 10:10. F. W. Saul, B. West.  
A review of basic mathematics.

#### Sequence Courses

**221 Mathematical Techniques** Fall. 3 credits. Lects, T R 10:10–11; rec to be arranged.

Mathematics department staff.  
Mathematical concepts and operations used in architecture are introduced.

**222 Structural Concepts** Fall or spring. 4 credits. Prerequisite: Architecture 221 or approved equivalent.

Lecs and sems, T R 9:05–11. F. W. Saul.  
Fundamental concepts of structural behavior. Statics and strength of materials.

**321 Structural Systems I** Fall. 3 credits. Prerequisites: Architecture 221 and 222.

Lecs and sems, T R 11:15–1:10. F. W. Saul.  
Structural design concepts and procedures for steel building construction.

**322 Structural Systems II** Spring. 3 credits. Prerequisite: Architecture 222.

T R 11:15–1:10. F. W. Saul.  
Structural design concepts and procedures for reinforced concrete building construction.

#### Nonsequence Courses

**[323 Advanced Steel Building Design** Fall. 3 credits. Prerequisites: Architecture 321 and permission of instructor. Not offered 1981–82.

Sems, M W F 10:10–11. F. W. Saul.  
Design and investigation of advanced systems of steel building structure, plastic design of continuous beams, rigid frames, and high-rise buildings.]

**326 Building Substructure** Spring. 3 credits. Prerequisites: Architecture 322 or concurrent registration and permission of instructor.

Sem, hours to be arranged. F. W. Saul.

The principles of soil mechanics and subsurface exploration. Design of building foundations—footings, piles, and subgrade walls.

#### Architectural Principles, Theories, and Methods

##### Sequence Courses

**131 Introduction to Architecture** Fall. 2 credits. Open to students in other colleges.

Lec, T 2–4. Staff.  
The built and natural environments are introduced as a context for culture. Architecture as an environmental design discipline and its relation to other fields is discussed.

**231 Architectural Elements and Principles** Fall. 2 credits. Architecture students must register concurrently in Architecture 201.

Studios and lecs, T R 1:30–3:25. Staff.  
Theory of the order, perception, and function of architectural space. Discourse on the nature of architectural systems and the multiplicity of ways they can be used to solve architectural problems.

**232 Design Methods and Programming** Spring. 2 credits. Architecture students must register for this course concurrently with Architecture 202.

Studios and lecs, T R 1:30–3:25. Staff.  
Basic methods for developing architectural programs. Programming as a conceptual as well as a descriptive task is emphasized. Basic methods of design. Analytic and synthetic skills are stressed.

##### Nonsequence Courses

**331 Special Problems in Principles, Theories, and Methods** Fall or spring. Registration and credit by arrangement.

Hours to be arranged. Staff.  
Independent study.

**333–334 (also Computer Science 417–418) Computer Graphics** 333, fall; 334, spring. 4 credits. Prerequisites: two terms of calculus and Computer Science 211, or equivalent.

T R 9:05–9:55. D. P. Greenberg.  
Introduction to the principles of interactive computer graphics, including input techniques, display devices, display files, interactive graphic techniques, two- and three-dimensional computer graphics, perspective transformations, hidden line and hidden surface algorithms, and color picture generation.

**335–336 Theory of Architecture** 335, fall; 336, spring. 3 credits each term. Prerequisite: Architecture 231–232 or permission of instructor.

Lecs, T R 4:40–6:30 p.m. L. Hodgden.

**337 Special Investigations in the Theory and History of Architecture I.** Fall or spring. Variable credit. Prerequisite: permission of the instructor.

Hours to be arranged. Staff.  
Independent study.

**437–438 Special Projects in Computer Graphics** 437, fall; 438, spring. Variable credit. Limited to third-year students and above. Prerequisites: Architecture 334 plus concurrent registration in Computer Science 314 or equivalent, and permission of instructor.

Hours to be arranged. D. P. Greenberg.  
Advanced work in computer graphics input and display techniques, including storage tube, dynamic vector, and color raster displays.

**[531–532 Computer-Aided Structural Design**

531, fall; 532, spring. 4 credits each term. Limited to fourth-year students and above. Prerequisites: Architecture 334 and Engineering CEE G301–G302, Structural Engineering, concurrent registration in CEE G612 Advanced Structural Analysis, and permission of instructor. Not offered 1981–82.

D. P. Greenberg.  
Advanced topics involving interactive computer graphics and advanced structural analysis techniques.]

**[533–534 Computer-Aided Environmental Design**

533, fall; 534, spring. 4 credits each term. Limited to students in their fourth or later year. Prerequisites: Architecture 334, 362, and one year of college physics, and permission of instructor. Not offered 1981–82.

Staff.  
Advanced topics involving interactive computer graphic and advanced environmental design techniques. Topics may include acoustics, lighting, and energy analyses.]

**635 Critical Theory in Architecture** Fall or spring. 3 credits. Prerequisite: permission of the instructor.

Hours to be arranged. E. K. Morris.  
An inquiry into the fundamental principles of architectural criticism, in theory and practice, with emphasis on the philosophical problems involved.

**637 Special Investigations in the Theory and History of Architecture II** Fall or spring. Variable credit. Prerequisite: permission of the instructor.

Hours to be arranged. Staff.  
Independent study.

**[639 Principles of Design Process** Fall. 3 credits. Limited to third-year architecture students and above; students in other colleges must have permission of instructor. Not offered 1981–82.

Sems, M W 10:10–12:05. A. Mackenzie.  
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.]

Note: **667–668 Architecture in Its Cultural Context I and II** is accepted as a theory course.

#### Architectural History

##### Sequence Courses

**141–142 History of Architecture I and II** 141, fall; 142, spring. 3 credits each term. Students in other colleges may take either or both terms for credit.

Lecs, T R 11:15–1:10. C. F. Otto and staff.  
History of architecture as social and cultural expression of Western civilization. Selected examples from Mesopotamia to the eighteenth century are considered in 141; history of modern architecture is discussed in 142.

##### Nonsequence Courses

**[244 History of Preindustrial Building** Spring. 4 credits. Not offered 1981–82.

Lecs, hours to be arranged. Staff.  
The development of traditional architectural elements and forms, materials, methods, and design expression.]

**[340 Architecture of the Ancient Near East** Spring. 3 credits. Prerequisite: Architecture 141 or permission of instructor. Not offered 1981–82.

Lecs, hours to be arranged. Staff.  
Architecture of the oldest historic civilizations associated with Western tradition. Emphasis on Egypt, Mesopotamia, and Anatolia.]

**341 Architecture of the Classical World** Fall. 3 credits. Prerequisite: Architecture 141 or permission of instructor.

T R 9:05–11. Staff.  
Architecture of the ancient Mediterranean civilizations, with emphasis on Greece and Rome.

**342 Russian Architecture** Spring. 3 credits.

T R 9:05–11:00. A. Senkevitch.  
A survey of Russian architecture and city planning

from the late tenth century to the present, with consideration of foreign influences and parallel developments.

**343 (also CRP 460) Introduction to the History of Urban Planning** Fall. 3 credits.

T R 9:05–9:55, W 2:30–3:20. Staff.  
Survey of urban planning in Western civilization from the Greeks and Romans through medieval Renaissance, and modern Europe and colonial and nineteenth-century America.

**[344 Islamic Architecture** 3 credits. Prerequisite: permission of the instructor. Lec, hours to be arranged. Not offered 1981–82.]

**345 Nineteenth-Century Architecture** Spring. 3 credits. Prerequisites: Architecture 141–142 or permission of instructor.

Hours to be arranged. A. Senkevitch.  
An examination of architectural developments in the nineteenth century, with emphasis on the rationalist tradition developed in France and the picturesque tradition developed in England.

**346 The Renaissance** Fall or spring. 3 credits. Prerequisites: Architecture 141–142 and permission of instructor.

Lecs, T R 9:05–11. C. F. Otto.  
European architecture and city planning of the fifteenth and sixteenth centuries.

**347 The Baroque** Fall or spring. 3 credits. Prerequisites: Architecture 141–142 and permission of instructor.

Lecs, T R 9:05–11. C. F. Otto.  
European architecture and city planning of the seventeenth and eighteenth centuries.

**348 American Architecture I and II** Fall and spring. 3 credits. Prerequisites: Architecture 141–142 or permission of instructor.

Lecs, M W 10:10–12:05. Staff.  
Fall: Building in the United States from the colonial period through 1860. Spring: Building after 1860.

**349 Modern European Architecture** Fall. 3 credits. Prerequisite: permission of instructor.

M W 11:15–1:10. C. F. Otto.  
A survey of nineteenth- and twentieth-century architecture and city planning in Europe.

**442 Historical Seminars in Architecture** Fall or spring. 2 credits. Prerequisite: permission of instructor.

Hours to be arranged. Staff.  
Using historical evidence, students prepare papers discussing problems relating to design or architecture.

**445 Special Investigations in the History of Architecture** Fall or spring. Variable credit. Prerequisite: permission of instructor.

Hours to be arranged. Staff.  
Independent study.

**[447 History Workshop** Fall or spring. Variable credit. Sem, hours to be arranged. Staff. Not offered 1981–82.]

**448 Lectures in Architectural History** Fall or spring. Variable credit. Prerequisite: permission of instructor.

Lec, hours to be arranged. Staff.  
A series of one or two lectures a week on topics related to architectural history.

**542 (also CRP 461) Methods of Archival Research** Spring. 3 credits.

Lec, R 10:10–12:05. K. C. Parsons.  
Examination of methods for research in the history of architecture and urban development, using archival materials and such as manuscripts, drawings, correspondence, and documents in the Cornell University archives and regional history collections.

**543 Measured Drawing** Fall. 3 credits. For undergraduate architecture students and graduate students in history and preservation. Prerequisite: permission of instructor.

W 11:15–3:30. M. A. Tomlan, J. P. Shaw.  
Combines study of architectural drawings 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.

**544 (also CRP 563) Problems in Contemporary Preservation Practice** Fall or spring. Variable credit.

Sem, T 2:30–4:25. M. A. Tomlan, T. Werbizky.  
A review and critique of preservation planning projects selected to indicate the range of current approaches.

**545 (also CRP 562) Perspectives on Preservation** Fall or spring. 3 credits.

T 12:20–3:20. M. A. Tomlan.  
Introductory course for preservation planning. The rationale for and methods of using existing cultural and aesthetic resources in the planning and design of regions and cities.

**546 (also CRP 560) Documentation for Preservation Planning** Spring. 3 credits

M 2:30–5:30. M. A. Tomlan.  
Methods of collecting, recording, processing, and analyzing historical architectural and planning materials.

**547 Preservation Planning Workshop** Fall or spring. 4 credits.

Sem, hours to be arranged. Staff and lecturers.  
Seminar with visiting professionals, readings, and reports.

**548 Problems in Modern Architecture** Spring. 2 credits. Prerequisite: permission of instructor.

Lec, hours to be arranged. Staff.

**[640 Seminar in Architecture of the Ancient Near East** Fall. 4 credits. Prerequisite: Architecture 340 or permission of instructor. Not offered 1981–82. Staff.

Problems in Near Eastern architectural history.]

**641 Seminar in Architecture of the Classical World** Spring. 4 credits. Prerequisite: Architecture 341 or permission of instructor.

Hours to be arranged. Staff.  
Problems in Greek and Roman architectural history.

**645 (also CRP 564) Building Materials Conservation** Fall or spring. 3 credits. Limited to upperclass and graduate students.

Lec, hours to be arranged. M. A. Tomlan.  
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.

**646 Seminar in the Renaissance** Spring. 4 credits. Prerequisite: Architecture 346 or permission of instructor.

Sem, hours to be arranged. C. F. Otto.  
Historical problems of European architecture and city planning of the fifteenth and sixteenth centuries.

**647 Seminar in the Baroque** Spring. 4 credits. Prerequisite: Architecture 349 or permission of instructor.

Sem, hours to be arranged. C. F. Otto.  
Historical problems in European architecture and city planning of the seventeenth and eighteenth centuries.

**648 Seminar in the History of American Architecture** Fall or spring. 4 credits. Prerequisite: permission of instructor.

M 12:20–2:15. Staff.

Investigation, by means of readings, lectures, and reports, of historical problems in architecture of the nineteenth and twentieth centuries in the United States.

**649 Seminar in the History of Modern Architecture** Fall or spring. 4 credits. Prerequisite: permission of instructor.

Sem, hours to be arranged. Staff.  
Problems in modern art and architecture.

#### Graduate Courses

**740 Informal Study in the History of Architecture** Fall or spring. Variable credit. Prerequisite: permission of instructor.

Hours to be arranged. Staff.  
Independent study.

**741 Seminar in the History of Architecture and Urban Development** Fall or spring. 4 credits.

Sem, hours to be arranged. C. F. Otto and staff.  
Motives, methods, and resources for scholarly work in history of architecture and history of urban development. Discussions, readings, and reports.

**840 Thesis in Architectural History** Fall or spring. Variable credit.

Hours to be arranged. Staff.  
Independent study for the master's degree.

**940 Dissertation in Architectural History** Fall or spring. Variable credit.

Hours to be arranged. Staff.  
Independent research by candidates for the doctoral degree.

#### Design Communication

##### Sequence Courses

**151 Design Fundamentals I** Fall. 2 credits.

Studio and lec, R 2–6. Staff.  
Fundamentals of visual and conceptual organization. Dynamics of perception; spatial organization and its representation. Demonstrative problems of an analytic and conceptual nature.

**152 Design Fundamentals II** Spring. 2 credits.

Studio and lec, R 2–6. Staff.  
Theory of visual and conceptual organization, spatial perception, spatial organization and its representation; demonstrative problems of an analytic and conceptual nature.

##### Nonsequence Courses

**251–252 (also Art 161–162) Introductory Photography** 251, fall; 252, spring. 3 credits each term. Darkroom fee, \$30.

T R 3:25–6:30. Staff.  
For course description, see Art 161–162.

**351 (also Art 261) Second-Year Photography** Fall. 3 credits. Prerequisite: Architecture 251 or 252, or Art 161 or 162, or permission of instructor.

Darkroom fee, \$30.  
T R 9:05–12:05. S. Bowman.  
For course description, see Art 261.

**352 (also Art 262) Second-Year Photography** Spring. 3 credits. Prerequisite: Architecture 251 or 252, or Art 161 or 162, or permission of instructor.

Darkroom fee, \$30.  
T R 9:05–12:05. Staff.  
For course description, see Art 262.

**353 Large-Format Architectural Photography** Spring. 3 credits. Prerequisites: Architecture 251 or 252, or Art 161–162, or permission of instructor.

Darkroom fee, \$30.  
Lec and studio, hours to be arranged. Staff.  
The special uses of large-format view camera photography. Emphasis on the creative use of the view camera in architectural photography.

**355 Graphic Design Studio** Fall or spring. 3 credits. Prerequisite: Architecture 152 or permission of instructor.

Lec and studio, hours to be arranged. Staff. Design and preparation of materials for reproduction in print media. Studio in typography, available printing processes, and photomechanical methods of reproduction.

**[356 Architectural Simulation Techniques**

Spring. 3 credits. Prerequisite: Architecture 152 or permission of instructor. Not offered 1981–82.

Lec and studio, hours to be arranged. G. Hascup. Two- and three-dimensional simulation techniques in architecture. Emphasis on simulation of environment, space, materials, and lighting as visual tools for architectural design.]

**457 Special Project in Photography** Fall or spring. Variable credit. Prerequisites: written proposal outlining the special project and permission of instructor. Darkroom fee, \$30.

Hours to be arranged. Staff. Independent study.

**458 Special Project in Design Communication**

Variable credit. Prerequisite: written proposal outlining the special project and permission of instructor. Darkroom fee, \$30.

Hours to be arranged. Staff. Independent study.

## Architectural Science and Technology

### Sequence Courses

**162 Introduction to Social Sciences in Design**

Spring. 2 credits.

Lecs, M W F 9:05. B. MacDougall.

An introduction to concepts and methods in the social sciences for architects; how approaches from anthropology, environmental psychology, and sociology can be used in the study and design of the built environment.

**261 Introduction to Environmental Science** Fall or spring. 3 credits.

Lecs, M W F 11:15. M. Schiler.

The basic principles involved in inventory and analysis techniques as they relate to design implementation in the outdoor environment. Case studies depicting application of these principles at all scales of land planning and design are presented.

**262 Building Technology, Materials, and Methods**

Fall or spring. 3 credits. Prerequisites: Architecture 162 and 261.

Lecs, M W 11:15–1:10. R. Crump.

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

**361 Environmental Controls I**

Fall or spring. 3 credits each term. Prerequisite: Architecture 262.

Lecs, M W F 10:10. R. Crump.

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.

**362 Environmental Controls II**

Fall or spring. 3 credits each term. Prerequisite: Architecture 361.

Lecs, M W 10:10. M. Schiler.

Energy conservation. Passive solar design. HVAC distribution systems.

### Nonsequence Courses

**371 Environmental Technology Workshop I** Fall. 2 credits. Prerequisite or corequisite: Architecture 361.

Studio, hours to be arranged. R. Crump.

The mechanical engineer's task and its relation to the architectural design process. Full-scale and model studies of the role of air movement and temperature in building design. Passive and active solar energy design.

**372 Environmental Technology Workshop II**

Spring. 2 credits. Prerequisite or corequisite:

Architecture 362.

Studio, hours to be arranged. R. Crump.

The tasks of the acoustical consultant, the electrical engineer, and the illumination consultant in relation to the architect's work. Acoustical and lighting design studies using full-scale mock-ups and specific building type studies. Cost factors.

**561–562 Special Problems in Architectural Science**

561, fall; 562, spring. Variable credit.

Prerequisite: permission of science staff instructor.

Hours to be arranged. Staff.

Independent study.

**662 Environmental Control Systems**

Spring. 3 credits. Lecture and seminar. Prerequisite:

Architecture 362.

Hours to be arranged. R. Crump.

The influences of the environment on the design of buildings and urban developments. Lecture and workshop exercises use the wind tunnel and artificial sun.

**667–668 Architecture in Its Cultural Context I and II**

667, fall; 668, spring. 4 credits each term.

Prerequisite: permission of instructor.

Sem, M W F 11:15. B. MacDougall.

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.

### Graduate Courses

**761–762 Architectural Science Laboratory**

761, fall; 762, spring. Variable credit. Open to graduate students only.

Hours to be arranged. Staff.

Projects, exercises, and research in the architectural sciences.

**763–764 Thesis or Research in Architectural Science**

763, fall; 764, spring. Variable credit.

Limited to graduate students.

Hours to be arranged.

Independent study.

## The Profession of Architecture

### Sequences Courses

**481 Professional Practice** Fall or spring. 3 credits each term.

T 1:25–3:20. Staff.

An examination of organizational and management theories and practices for delivering professional design services. Included are an assessment of the building industry and its influence on practice; an analysis of the basic management functions within professional firms; and the legal concerns facing practitioners today. Sessions with selected guest participants focus on case studies.

### Architectural Drawing

**191 Drawing I** Fall. 2 credits.

Studios, T R 9:05–11.

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

**192 Drawing II** Spring. 2 credits. Prerequisite: Architecture 191.

Studios, T R 9:05–11. Staff.

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

## Washington, D.C., Field Program

Fourth- and fifth-year students in good standing who have completed the requirements of the first three years of the curriculum are eligible for this program. Students must obtain permission of the program director. Courses offered include Design, Thesis Introduction, Special Problems in Architectural Design, plus the courses listed below. Other course offerings may be available.

**480 Professional Studies** Fall or spring. 2 credits.

Lec, hours to be arranged. M. Schack and visiting lecturers.

An examination of organizational and management theories and practices for delivering professional design services. Included are an assessment of the building industry and its influence on practice, an analysis of the basic management functions within professional firms, and the legal concerns facing practitioners today. Sessions with selected guest participants focus on case studies.

**530 Professional Seminar** Fall or spring. 1 credit each term.

Hours to be arranged. Staff and visiting critics.

## Art

S. Bowman, chair; Z. Blum, V. Colby, J. Cole, N. D. Daily, J. Locey, E. Meyer, E. Mikus, G. Page, S. Poleskie, J. Seley, A. Singer, J. L. Squier, J. Valerio, P. Webb, 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 three 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 painting, sculpture, photography, and the graphic arts in the last three years. Beginning with the fourth term, students concentrate on painting, sculpture, photography, or printmaking. They may elect additional studio work in any of these subjects during the last two years, with the consent of the instructor, providing the courses are taken in sequence and at the hours scheduled. These courses are designed to promote a knowledge and critical understanding of these arts and to develop the individual student's talent. All members of the faculty in the Department of Art are active practicing artists whose work represents a broad range of expression.

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 an independent program of study within the College of Architecture, Art, and Planning. However, the intimate relationships between the fine arts and training in architecture and city planning is a source of special strength in the Cornell program and affords unusual benefits to the students in these three disciplines.

Although the undergraduate curriculum in art is an excellent background for a career in applied art and offers courses in the use of graphics in modern communications, no specific technical courses are offered in such areas as interior design, fashion, or commercial art.

The department discourages the concept of accelerated graduation. However, a student may petition for consideration of early graduation upon the following terms and conditions: (1) the petition must be submitted to the faculty before course enrollment

in the spring semester of the student's junior year, and (2) the student must have a cumulative average that places him or her in the first quarter of the class.

A candidate for the B.F.A. degree who also wants to earn a Bachelor of Arts degree from the College of Arts and Sciences can arrange to do so. 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 is assigned an adviser in the College of Arts and Sciences to provide needed guidance. Those students who are interested primarily in the history rather than in the practice of art should apply for admission to the College of Arts and Sciences with the objective of pursuing a major in the Department of History of Art in that college. Department of Art studio courses may then be taken as electives.

## Curriculum

### First Year

#### Fall Term

	Credits
111 Introductory Art Seminar	1
151 Introductory Drawing	3
110 Color, Form, and Space	3
121 Introductory Painting	3
141 Introductory Sculpture	3
Out-of-college elective	3
	16

#### Spring Term

122 Introductory Painting	3
142 Introductory Sculpture	3
152 Introductory Drawing	3
162 Introductory Photography	3
B.F.A. students must take one of the following three courses:	
132 Introductory Intaglio Printing	3
134 Introductory Silk-Screen Printing	3
136 Introductory Lithography	3
Out-of-college elective	0-3
	15-18

### Second Year

#### Fall Term

251 Second-Year Drawing	3
131, 133, or 135, courses in graphic arts	3
261 Second-Year Photography	3
Departmental electives	0-6
Out-of-college electives	3-9
	15-18

#### Spring Term

252 Second-Year Drawing	3
Departmental electives	0-6
Out-of-college electives	3-9
	15-18

**Third and fourth years.** Students in the third and fourth years should plan their programs to complete 30 credits in courses in one of the following studio areas: painting, sculpture, graphics, or photography. Or, they should plan to complete 20 credits in each of two of the above areas. An additional 12 credits in history of art at the 200 level or higher or in architectural history must also be completed. Students are expected to take 32 credits in their third and fourth years respectively.

The B.F.A. program is designed so that students may fulfill the degree requirement of 130 credits with a minimum of 66 credits taken in the Department of Art and a minimum of 50 credits taken outside of the department. Within these ranges, students may design their own programs subject to the following limitations:

1) Of the minimum of 50 elective credits to be taken outside the Department of Art, four courses must be in English, history, or other humanities offered in the College of Arts and Sciences. In the first two years 6 credits in history of art at the 200 level or higher or in architectural history must be completed. An additional 12 credits in art history at the 200 level or higher, or in architectural history, must be completed in the last two years.

2) Of the minimum of 66 credits to be taken within the Department of Art, the following courses must be completed in the first two years: 110 Color, Form, and Space; 111 Introductory Art Seminar; 151-152 Introductory Drawing; 251-252 Second-Year Drawing. The following sequences must also be completed in the first two years: 121-122 Introductory Painting; 141-142 Introductory Sculpture; 162 Introductory Photography; and 261 Second-Year Photography. Students must also take two of the following three courses by the end of the third semester: 131-132 Introductory Intaglio Printing, 133-134 Introductory Silk-Screen Printing, 135-136 Introductory Lithography. Art 310, Issues in Contemporary Art, must be taken in the first semester of the junior year.

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.

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.

## Course Information

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

**Fees are charged for all Department of Art courses. For fine arts majors, the fee is \$20 each semester. Students from outside the department are charged \$10 a course.**

## Courses in Theory and Criticism

**110 Color, Form, and Space** Fall or spring. 3 credits. Fall enrollment limited to B.F.A. candidates. M 9:30-11. N. Daly.

A study of traditional and contemporary ways of drawing and painting. An analysis of color theory and pictorial space.

**111 Introductory Art Seminar** Fall. 1 credit.

Limited to B.F.A. candidates.

F 1:25-3.

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

**610 Seminar in Art Criticism** Fall or spring. 2 credits. May be repeated for credit. Four terms required for M.F.A. candidates. Open to other graduate students.

Hours to be arranged. Fall, J. Cole; spring, Z. Blum. Historical and modern critical opinions and their relation to problems in the theory of art are studied.

## Studio Courses in Painting

**121-122 Introductory Painting** 121, fall; 122, spring. 3 credits each term.

121: sec 1, T R 1:25-4:25; sec 2, T R 9:05-12:05; sec 3, T R 1:25-4:25. Staff.

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.

**221-222 Second-Year Painting** 221, fall; 222, spring. 3 credits each term. Prerequisite: Art 121 or 122 or permission of instructor.

221: T R 1:25-4:25. Staff.

Study of traditional and contemporary media.

**321 Third-Year Painting** Fall. 4 credits.

Prerequisite: 9-12 studio credits, depending on major.

T R 9:05-12:05. J. Valerio.

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

**322 Third-Year Painting** Spring. 4 credits.

Prerequisite: Art 321.

Staff.

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

**421 Fourth-Year Painting** Fall. 6 credits.

Prerequisite: Art 322.

T R 9:05-12:05. J. Valerio.

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

**422 Senior Thesis in Painting** Spring. 6 credits.

Prerequisite: Art 421.

Staff.

Advanced painting project to demonstrate creative ability and technical proficiency.

**721-722, 821-822 Graduate Painting** 721 and

821, fall; 722 and 822, spring. Credit as assigned.

May be repeated for credit. Limited to M.F.A.

students in painting.

Staff.

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

## Studio Courses in Graphic Arts

**131-132 Introductory Intaglio Printing** 131, fall; 132, spring. 3 credits each term.

Fall: T R 9:05-12:05. Spring: T R 12:20-3:20.

E. Meyer.

A basic introduction to etching techniques with emphasis on engraving, lift ground, relief printing, monotypes, and experimental techniques.

**133-134 Introductory Silk-Screen Printing** 133, fall; 134, spring. 3 credits each term.

Fall: T R 9:05-12:05; spring: T R 12:20-3:20.

S. Poleskie.

A basic introduction to fine-art silk-screen printing. Students explore the use of lacquer film, paper stencil, tusche and glue, and other commonly used procedures of serigraphy.

**135-136 Introductory Lithography** 135, fall; 136, spring. 3 credits each term.

Fall and spring: M W 9:05-12:05. G. Page.

The theory and practice of planographic, utilizing limestone block and aluminum plate. Basic lithographic techniques of crayon, wash, and transfer art are studied.

**231-232 Second-Year Intaglio Printing** 231, fall; 232, spring. 3 credits each term. Prerequisite: Art or permission of instructor.

Fall: T R 1:25-4:25; spring: T R 9:05-12:05.

E. Meyer.

Continuation of the study and practice of methods of intaglio printing with emphasis on techniques and color.

**233-234 Second-Year Silk-Screen Printing** 233, fall; 234, spring. 3 credits each term. Prerequisite: Art 133 or 134.

Fall: T R 1:25-4:25; spring: T R 8-11. S. Poleskie.

Continuation of silk-screen printing, including photographic stencils, three-dimensional printing, and printing on metal, plastic, and textiles.

**235-236 Second-Year Lithography** 235, fall; 236, spring. 3 credits each term. Prerequisite: Art 135 or 136.

Fall and spring: M W 1:25-4:25. G. Page. Continuation of the study and practice of planographic printing with emphasis on color.

**331 Third-Year Printmaking** Fall. 4 credits. Prerequisite: 9 credits of course work in an area of specialization (intaglio, lithography, or silk-screen printing) or permission of instructor.

Fall: T R 1:25-4:25. Staff. Study of the art of graphics through both assigned and independent projects. Work may concentrate in any one of the graphic media or in a combination of media.

**332 Third-Year Printmaking** Spring. 4 credits. Prerequisite: Art 331 or permission of instructor. Hours to be arranged. Staff. Continuation and expansion of Art 331.

**431 Fourth-Year Printmaking** Fall. 6 credits. Prerequisites: Art 331-332, or permission of instructor. Hours to be arranged. Staff. Further study of the art of graphics through both assigned and independent projects executed in various media. Instruction through group discussions and individual criticism.

**432 Senior Thesis in Printmaking** Spring. 6 credits. Prerequisite: Art 431 or permission of instructor. Hours to be arranged. Staff. Advanced printmaking project to demonstrate creative ability and technical proficiency.

**731-732, 831-832 Graduate Printmaking** 731 and 831, fall; 732 and 832, spring. Credit as assigned; may be repeated for credit. Limited to M.F.A. candidates in graphic arts. Prerequisite: permission of instructor.

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

### Studio Courses in Sculpture

**141-142 Introductory Sculpture** 141, fall; 142, spring. 3 credits each term. Sec 1, M W 8-11; sec 2, T R 8-11; sec 3, T R 3:35-6:35. Staff.

A series of studio problems introduce the student to the basic considerations of artistic expression through three-dimensional design. Modeling in Plastiline, building directly in plaster, and casting in plaster.

**241-242 Second-Year Sculpture** 241, fall; 242, spring. 3 credits each term. Prerequisites: nonmajors, none; majors, Art 141-142.

Sec 1, W F 1:25-4:25; sec 2, T R 1:25-4:25. Staff. Various materials including clay, plaster, wood, and stone are used for exercises involving figurative modeling, abstract carving, and other aspects of three-dimensional form and design.

**341 Third-Year Sculpture** Fall. 4 credits. Prerequisite: Art 242. Sec 1, W F 1:25-4:25; sec 2, T R 1:25-4:25. Staff. Continued study of the principles of sculpture and the selection and expressive use of materials and media. Group discussions and individual criticism.

**342 Third-Year Sculpture** Spring. 4 credits. Prerequisite: Art 341. Staff. Continuation and expansion of Art 341.

**441 Fourth-Year Sculpture** Fall. 6 credits. Prerequisite: Art 342. Sec 1, W F 1:25-4:25; sec 2, T R 1:25-4:25. Staff. Further study of the art of sculpture through both assigned and independent projects executed in various media. Instruction through group discussions and individual criticism.

**442 Senior Thesis in Sculpture** Spring. 6 credits. Prerequisite: Art 441. Staff. Advanced sculpture project to demonstrate creative ability and technical proficiency.

**741-742, 841-842 Graduate Sculpture** 741 and 841, fall; 742 and 842, spring. Credit as assigned. May be repeated for credit. Limited to M.F.A. students in sculpture. Staff.

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

### Studio Courses in Photography

**161-162 (also Architecture 251-252) Introductory Photography** 161, fall; 162, spring. 3 credits each term. Darkroom fee, \$30. T R 2:30-5:30. J. Locey.

A basic lecture-studio course in black and white photography for beginners. Emphasis is on basic camera skills, darkroom techniques, and understand photographic imagery.

**261 (also Architecture 351) Second-Year Photography** Fall. 3 credits. Prerequisite: Art 161 or 162 or permission of instructor. Darkroom fee, \$30.

Fall: M W 1:25-4:25. S. Bowman. A studio course in color photographic processes, including color toning and hand coloring of black and white prints, and color printing. Emphasis is on camera skill, color techniques, image content, and creative use of color photography.

**262 (also Architecture 352) Second-Year Photography** Spring. 3 credits. Prerequisite: Art 161 or permission of instructor. Darkroom fee, \$30. T R 9:05-12:05. J. Locey.

A studio course in black and white or color photography. Emphasis is on advanced camera and darkroom skills, image content, and creative use of black and white photography.

**263 Photo Processes** Fall or spring. 3 credits each term. Prerequisite: Art 161 or 162 or permission of instructor. Darkroom fee, \$30. Hours to be arranged. Staff.

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

**361-362 Third-Year Photography** 361, fall; 362, spring. 4 credits each term. A studio course intended for photography majors and other qualified students. Prerequisite: Art 261 and 262 or permission of instructor. Darkroom fee, \$30.

Fall: T R 9:05-12:05, J. Locey. Spring: T R 2:30-5:30, S. Bowman. Continued study of creative use of photography with emphasis upon specialized individual projects.

**461-462 Fourth-Year Photography** 461, fall; 462, spring. 6 credits each term. A studio course intended for photography majors and other qualified students. Prerequisite: Art 361 and 362 or permission of instructor. Offered only for students who enter in the fall of 1977. Darkroom fee, \$30.

Fall: T R 9:05-12:05, J. Locey. Spring: T R 2:30-5:30, S. Bowman. Continued study of creative use of photography leading to thesis exhibition.

**751-752, 851-852 Graduate Photography** 751 and 851, fall; 752 and 852, spring. Credit as assigned; may be repeated for credit. Limited to M.F.A. students in photography.

### Studio Courses in Drawing

**151-152 First-Year Drawing** 151, fall; 152, spring. 3 credits each term. 151: sec 1, M W 1:25-4:25; sec 2, T R 8-11; sec 3, T R 1:25-4:25.

A basic drawing course in the study of form and techniques. Contemporary and historical examples of figure drawing are analyzed in discussion.

**251-252 Second-Year Drawing** 251, fall; 252, spring. 3 credits each term. Prerequisites: Art 151 or 152, or permission of instructor. 251: sec 1, M W 9:05-12:05; sec 2, M W 9:05-12:05. Staff.

A continuation of Art 151, but with a closer analysis of the structure of the figure and a wider exploitation of its purely pictorial qualities.

**[351 Third-Year Drawing** Fall. 3 credits. Prerequisites: Art 151, 152, 251, and 252. Staff. Not offered 1981-82.]

### Graduate Thesis

**712 Graduate Thesis** Spring. Credit as assigned. Staff. For graduate students in their last term in the programs in painting, sculpture, and graphics.

### Special Studio Courses

**370 Independent Studio in Painting** Fall or spring. Credit as assigned; may be repeated for credit. Prerequisite: written permission of instructor. Hours to be arranged. Staff. Advanced studio concentration in painting.

**371 Independent Studio in Sculpture** Fall or spring. Credit as assigned; may be repeated for credit. Prerequisite: written permission of instructor. Hours to be arranged. Staff. Advanced studio concentration in sculpture.

**372 Independent Studio in Printmaking** Fall or spring. Credit as assigned; may be repeated for credit. Prerequisite: written permission of instructor. Hours to be arranged. Staff. Advanced studio in printmaking.

**373 Independent Studio in Photography** Fall or spring. Credit as assigned; may be repeated for credit. Prerequisite: written permission of instructor. Hours to be arranged. Staff. Advanced studio concentration in photography.

**374 Independent Studio in Drawing** Fall or spring. Credit as assigned; may be repeated for credit. Prerequisite: written permission of instructor. Hours to be arranged. Staff. Advanced studio concentration in drawing.

## City and Regional Planning

S. Saltzman, chairman; R. S. Booth, P. Brandford, P. Clavel, S. Czamanski, J. F. Forester, W. W. Goldsmith, B. G. Jones, D. B. Lewis, D. W. Nelkin, K. C. Parsons, J. W. Reys, S. W. Stein, I. R. Stewart, M. A. Tomlan, T. Werbizky

Planning seeks to guide the development of the economic, social, natural, and built environments in order that some of the needs and aspirations of people may be better satisfied. Most of the activities in the department focus on a broad range of issues which are often subsumed under the labels urban, regional, or social policy planning. There is clearly a

considerable overlap among these three areas of professional and scholarly study, and the department encourages the integration of related planning activities.

**Urban planning** is generally concerned with the urban environment, the physical facilities as well as social and economic forces that affect this environment, and the processes of urban plan making and administration.

**Regional planning** is usually 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 in regional development.

**Social policy planning** is generally concerned with the social decision processes involved in both city and regional planning.

**International planning** is an additional area in which the department offers a range of courses and activities which involve United States citizens and foreign nationals.

The programs of study are primarily at the graduate level; however, an undergraduate program in urban and regional studies offers students completing their first two years in areas of study such as social sciences, design, the humanities, or engineering an opportunity to redirect their education toward an academic understanding of the various social, political, economic, and environmental issues facing cities and regions. For further information consult the department chairman, Professor Saltzman, 105 West Sibley Hall.

### 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.

There are two components to city and regional planning course numbers: (a) Courses numbered from 500–599 and 600–699 are generally considered to be introductory and/or first-year courses; those numbered from 700–799 and 800–899 are generally considered to be more advanced courses. Upperclass undergraduate courses are numbered from 300–499. (Undergraduates with the necessary prerequisites and permission of the instructor may enroll in courses numbered 500 and above.) (b) Courses are grouped (by the tens digit of the course number) to represent the underlying structure of the planning curriculum as follows: theory and quantitative methods (0, 1, 2), program areas (3, 4, 5), and interprogram topics (6, 7, 8, 9).

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 the latest changes.

### Urban and Regional Theory

**[200 Contemporary Issues in Urban and Regional Studies]** Spring. 4 credits. Prerequisite: one course in either government, economics, or sociology. Not offered 1981–82.  
Staff.

An interdisciplinary course exploring at an introductory level theories of the development and spatial patterning of cities and regions and the political and economic interactions with them. Emphasis is on the relationships between these theories and current social and urban issues.]

**400, 500 Introduction to Urban and Regional Theory** Spring. 4 credits. A first-year graduate course, open to juniors and seniors.  
T 2:30–5:30. W. W. Goldsmith.

A review of attempts by the various social sciences to understand the contemporary city and its problems, particularly as seen by planners. Material is drawn from urban and regional economics, human ecology, urban sociology, psychology, anthropology, and geography in order to explain the location, size, form, and functioning of cities. Traditional and contemporary critical theory is examined as it applies to physical, social, and economic problems of the modern city.

**402 Spatial Analysis of Urban and Regional Systems I** Fall. 4 credits.

Staff.  
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.

**403 Spatial Analysis of Urban and Regional Systems II** Spring. 4 credits. Prerequisite: CRP 402.

A detailed, in-depth 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.

**600 Urban Economics** Spring. 4 credits.  
Prerequisite: basic economics.

T 10:10–12:05. S. Czamanski.  
Urban phenomena are analyzed from an economic point of view using methods of economic analysis. 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 policy. Some time will be spent in discussing problems of cities in developing countries.

**708 Fieldwork or Workshop in Urban and Regional Theory** Fall or spring. Credit as assigned.  
Staff.

Work on problems in urban and regional theory in a field or laboratory setting or both.

**709 Special Topics in Urban and Regional Theory** Fall or spring. Credit as assigned.  
Staff.

**800 Advanced Seminar in Urban and Regional Theory I** Fall. 3 credits. Prerequisite: CRP 500.  
M 3:35–5:30. B. G. Jones.

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.

**801 Advanced Seminar in Urban and Regional Theory II** Spring. 3 credits. Prerequisite: CRP 800.  
M 3:35–5:30. B. G. Jones.

A continuation of CRP 800, concentrating on recent developments.

**809 Informal Study in Urban and Regional Theory** Fall or spring. Credit as assigned.  
Staff.

### Planning Theory and Politics

**413 Planning and Political Economy I** Fall. 4 credits.  
Staff.

This course deals with Marx's methodological approach and his elaborations in volume I of *Capital*. Topics will cover Marx's method, labor theory of value, labor-process and surplus-value, absolute and relative surplus-value, general law of capital accumulation, and transition from feudalism to capitalism.

**414 Planning and Political Economy II** Spring. 4 credits.  
Staff.

This course covers the economic formulations Marx expounded in volumes II and III of *Capital* and in *Theories of Surplus-Value*, as well as current contributions on the different ensuing debates. Topics cover the circulation of capital, productive and unproductive labor, reproduction schemes, accumulation, the transformation of surplus-value into profits, the transformation of values into prices of production, the tendency of the rate of profit to fall, and crises. The end of the course treats the division of profits into profits of enterprise, interest, and, in particular, ground rent. Students must have read volume I of *Capital* and be generally familiar with Marx's approach.

**510 Introduction to Planning Theory** Spring. 3 credits.  
T 1:25–3:20. P. Clavel.

Normative and behavioral models of decision making for the provision of public goods and services. Theories of individual decision and choice are reviewed, followed by applications in institutional contexts stressing the impact of alternative organizational and political models of social decision processes.

**511 Introduction to Planning** Fall. 4 credits.  
M W F 10:10–11. P. Clavel.

The origins, history, programs, and contemporary issues of city and regional planning in the United States. Conceptions of the state, the role of planners in public action, and the dominant methods and values of planners are discussed and criticized.

**[612 Urban Politics and Planning]** Spring. 3 credits. Not offered 1981–82.  
I. R. Stewart.

A consideration of the political dimension of planning and renewal activities. Emphasis on government mandate and structure, as well as interest group and power relationships as they are related to development decision-making processes. Theory and case-study analyses.]

**[614 Neighborhood and Community Theory]** Spring. 4 credits. Not offered 1981–82.  
Staff.

An examination of contemporary social and economic conditions of neighborhoods; community differentiation reinvestment and revitalization policies and practice; community control; and the role of the community in the provision of goods, services, and social support.]

**710 Politics of the Planning Process** Spring. 4 credits.  
W 2:30–4:25. P. Clavel.

Analysis of planning and political institutions in selected subjects and policy areas, relating national and subnational levels. Subjects are drawn from such areas as environmental control and use policy, industrial development, transportation, and community development. Theories of planning and politics are compared for their analytical usefulness in these areas.

**711 Planning and Organization Theory** Fall. 4 credits.  
R 3:35–5:30. P. Clavel.

An examination of organizational and administrative models relevant to plan formation and implementation. Applications are made to such programs as community development, regional administration, urban renewal, and land-use control.

**718 Fieldwork or Workshop in Planning Theory and Politics** Fall or spring. Credit as assigned.  
Staff.

Work on problems in planning theory and politics in a field or laboratory setting or both.

**719 Special Topics in Planning Theory and Politics** Fall or spring. Credit as assigned. Staff.

**810 Advanced Planning Theory** Fall. 3 credits. Prerequisite: CRP 500 or 710. F 3:35–5:30. B. G. Jones. 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.

**819 Informal Study in Planning Theory and Politics** Fall or spring. Credit as assigned. Staff.

## Quantitative Methods and Systems Analysis

**320 Introduction to Quantitative Methods I** Fall. 3 credits. Prerequisite: Mathematics 108 or equivalent, or permission of instructor. T R 10:10–12:05. Staff.

An introduction to the application of quantitative methods to issues in urban and regional studies. Special attention is given to the characterizations, evaluations, and control of evolving processes of urban and regional issues. Emphasis is on methods for the description of physical and social phenomena by mathematical means. Topics include linear and nonlinear deterministic processes, elementary stochastic process, process identification, and simulation.

**321 Introduction to Quantitative Methods II** Spring. 3 credits. Prerequisite: CRP 320, or permission of instructor. Staff.

Methods for the evaluation and control of process performance. Topics include linear and dynamic programming, single stage and multistage decisions, and elementary statistical decision theory.

**520 Mathematical Concepts for Planning** Fall. 1, 2, 3, or 4 credits. Prerequisite: permission of instructor. Mathematics 201, Mathematics for the Social Sciences, and Sociology 420. Mathematics for Sociologists, are acceptable substitutes for this course. T R 9:05–11. P. Brandford.

Intended for students having little or no background in college mathematics. Basic concepts in matrix algebra, calculus, and probability are covered in self-contained units of one credit each. Students may register for any or all of these topics.

**521 Introduction to Computers in Planning** Fall. 3 credits.

T R 12:20–2:15; lab to be arranged. P. Brandford. An introduction to the use of computers in the problem-solving and planning processes. Students run programs using PL/1 or another appropriate programming language. Brief introduction to computer systems and the use of library routines. Advantages and limitations of using computers are considered.

**620 Planning Analysis** Spring. 4 credits. Prerequisite: CRP 621.

M W F 10:10–11:00; lab, T 2:30–4:25. B. G. Jones. A survey of commonly used techniques for analyzing various aspects of subnational socioeconomic systems, emphasizing planning applications.

**621 Statistical Analysis for Planning** Spring. 3 credits. Prerequisites: CRP 520 or equivalent and permission of instructor.

T R 9:05–9:55; lab, T 4:30–5:30. Staff. An introduction to basic methods of statistical analysis with an emphasis on their use in the decision-making process in planning. Material in decision theory, sampling, estimation, hypothesis testing, and prediction will be introduced.

**[622 Planning Information Systems]** Fall. 3 credits. Prerequisite: CRP 521 or equivalent. Not offered 1981–82.

T R 3:35–4:25; lab to be arranged. Staff. The design and use of computer-based information systems for planning and policy analysis, including conventional data processing and advanced data base systems. Technical aspects in the design and structure of such information systems are introduced along with a variety of applications.]

**[623 Methods of Social Policy Planning]** Spring. 3 credits. Prerequisite: CRP 521 or equivalent. Not offered 1981–82. Staff.

An examination of methodologies of needs assessment, programming, and evaluation suitable for social planning problems. Many of the methodologies, survey research, social area analysis, and social indicators have been drawn from other social science disciplines but are applied to policy and planning issues. Others, such as needs assessment, social impact assessment, goal attainment, PPBS, and PERT were developed directly or were adapted for use in social planning.]

**720 Quantitative Techniques for Policy Analysis and Program Management** Fall. 4 credits.

M W 9:05–11; lab, W 2:30–3:20. D. Lewis. 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.

**[721 Simulation in Planning and Policy Analysis]** Fall or spring. 3 credits. Prerequisites: CRP 621 and 521 or equivalent. Not offered 1981–82.

T R 4:40–5:30. S. Saltzman. The design and use of simulation models in planning and policy analysis. Various approaches drawn from discrete stochastic simulation, econometric simulation, microanalytic simulation, and urban dynamics are evaluated. Applications in design, land use, regional development, and social policy are considered. Students run their own programs on the Cornell computer.]

**722 Decision Analysis for Policy Planning and Program Management** Spring. 4 credits.

M W F 9:05; lab, W 12:20–2:15. D. Lewis. An examination of selected techniques for analyzing complex dynamic decision problems in the planning context. Topics include dynamic programming (deterministic and probabilistic), integer programming, and process simulation (queueing models).

**728 Fieldwork or Workshop in Systems Planning and Analysis** Fall or spring. Credit as assigned.

Staff. Work on applied systems planning problems in a field or laboratory setting or both.

**729 Special Topics in Quantitative Methods and Analysis** Fall or spring. Credit as assigned. Staff.

**829 Informal Studies in Quantitative Methods and Analysis** Fall or spring. Credit as assigned. Staff.

## Regional Development Planning

**[430 Regional Economic Development]** Fall. 4 credits. Prerequisite: CRP 500. Not offered 1981–82.

Staff. Problems of and theories about development of lagging, underdeveloped, or poor regions in industrial nations, with emphasis on planning implementation.]

**[630 Introduction to Regional Development Planning]** Fall. 3 credits. Prerequisite: CRP 500. Not offered 1981–82. Staff.

An introduction to the history, theories, methods, and processes of regional development planning which also focuses on specialized planning functions of various public agencies.]

**[630 Regional Development Administration]** Fall or spring. 4 credits. Not offered 1981–82. M 1:25–3:20. P. Clavel.

Administrative institutions relevant to regional development policies, with attention to the United States, Western Europe, and Third World countries. Approaches to theory, measurement, and spatial distribution of institutions are covered with emphasis on the design of effective programs.]

**730 Methods of Regional Science** Fall. 4 credits. Prerequisites: basic economics and elementary matrix algebra.

T 10:10–12:05. S. Czamanski. Main quantitative techniques offered in regional planning are covered. Since many methods have multiple applications in planning, the topics are organized around three broad subjects: population and migration studies, regional economic analysis, industrial policies, and interindustry relations.

**731 Optimization Techniques in Planning** Spring. 4 credits. Prerequisites: basic economics, elementary calculus, and matrix algebra.

W 10:10–12:05, plus optional workshops. S. Czamanski. Typology of plans and planning models. Static optimization techniques, especially linear programming, integer and quadratic programming, optimization under competition, and multiobjective planning are discussed in the context of applications to land use, location of public facilities, et cetera. Examination of dynamic systems covers basic control theory, introduction to dynamic programming and its application to regional growth and migration policies, and economic theory of socialism. Elements of calculus of variations and of geometry of vector spaces are covered in optional workshops.

**732 Regional Industrial Development** Fall. 4 credits. Prerequisites: basic economics and elementary calculus.

W 10:10–12:05. S. Czamanski. The course focuses on issues of industrial, as distinct from agricultural or regional development. Material includes problems pertinent to developed and developing countries. Relevant parts of the theories of economic growth, international trade, production and technological change, location theory, and formation of industrial complexes are examined. Planning application and case studies are discussed.

**738 Fieldwork or Workshop in Regional Development Planning** Fall or spring. Credit as assigned. Staff.

Work on applied problems in regional development planning in a field or laboratory setting or both.

**739 Special Topics in Regional Development Planning** Fall or spring. Credit as assigned. Staff.

**832 Location Theory** Fall or spring. 3 credits. Prerequisites: CRP 500 and 620 and Economics 311–312, or equivalent.

R 7–10 p.m. W. Isard. Traditional Weberian location doctrine; transport orientation, labor orientation, agglomeration, and urban rent theory are examined. Interregional trade and market and supply area analysis is treated. Particular attention is paid to Loschian and Christaller systems of urban places.

**833 Methods of Regional Analysis** Spring  
3 credits.

R 1:25–4:25. W. Isard.

Advanced applications of interregional and regional input-output and linear programming techniques to development problems. Applications of spatial interaction and growth (intertemporal) models to the analysis of urban and multiregional systems, with particular reference to environmental quality management.

**839 Informal Study in Regional Development Planning** Fall or spring. Credit as assigned.  
Staff.**Social Policy Planning****340 Institutional Decision Processes** Fall.  
3 credits.  
Staff.

An introduction to the administrative and political environment in which urban and regional issues occur. Starting from an analysis of social decision procedures, the course then goes on to describe the characteristic administrative and political institutions in which issues on urban and regional problems take place; some attention is also given to the underlying dynamics of economic and political development in cities and regions, and the roles that various participants play in these decision processes.

**440 (also Economics 302 and Government 302) The Impact and Control of Technological Change** Cosponsored by the Program on Science, Technology, and Society. Spring. 4 credits.

T R 2:30–4:25. S. Del Sesto.

Social, environmental, and economic implications of technological change in the context of present policies and strategies of control. Several specific cases are considered in detail, followed by investigation of the problems of a modern technological society. Alternative political and economic solutions are explored.

**442 (also Sociology 355) Social and Political Studies of Science** Spring. 3 credits.

W 2:30–4:30. D. Nelkin.

A view of science less as an autonomous activity than as a social and political institution. Focus is on its relationship to government, the media, religion, and education. Drawing from recent controversies, questions of ethics and social responsibility in science, struggles to maintain internal control over research and the teaching of science, and concepts of limits to inquiry are discussed.

**[540 Introduction to Social Policy Planning** Fall.  
4 credits. Not offered 1981–82.  
Staff.

The process and politics of providing public services, primarily social services, within the context of changing fiscal and social conditions. Topics include (1) a review of the nature and source of selected social problems and of the present service systems that attempt to meet these needs; (2) an analysis of the inadequacies and problems of this system in the light of changing conditions that affect service delivery, such as fiscal and service disparities, budget retrenchment, and political movements to limit spending such as Proposition 13; and (3) an exploration of new forms or alternatives to the existing service delivery systems.]

**541 (also Government 628 and B&PA NPA 515) The Politics of Technical Decisions I** Cosponsored by the Program on Science, Technology, and Society. Fall. 4 credits.

W 2:30–4:25. D. Nelkin

Political aspects of decision making in areas traditionally regarded as technical. Subjects include the origins and characteristics of "technical politics," the role of experts in government, and the problem of expertise in a democratic system. Alternatives to current decision-making procedures are explored.

**[542 (also Government 629 and B&PA NPA 516) The Politics of Technical Decisions II**

Cosponsored by the Program on Science, Technology, and Society. Spring. 4 credits. Not offered 1981–82. Prerequisite: CRP 541 or permission of instructors.

Hours to be arranged. D. Nelkin.

A continuation of CRP 541, focusing on decision making in several technical policy areas. Students develop individual or group research projects focusing on policy decisions with a significant technical component and considerable public impact.]

**543 Planning, Organizing, and Public Service Delivery** Fall or spring. Credit as assigned.  
R 10:10–12:05. J. Forester.

An exploration of planners' roles and practices with special attention to organizational and political contexts of planning and policy analysis efforts. Focus is on communicative dimensions of organizational behavior and planning practice; planning is assessed as an organizing activity extending far beyond technical problem solving.

**544 Recurring Themes in Social Policy Planning** Spring. Credit as assigned.

J. Forester.

A seminar devoted to the understanding of problems of social policy planners. Recurring social policy themes are studied: professional power and creation of dependency, political and technical aspects of expertise, organizational and institutional settings of social policy programs and services, problems of professional altruism of services.

**642 Critical Theory and the Foundation of Planning Analysis** Fall. Credit as assigned.

J. Forester.

Beginning with Weber, Marx, and Durkheim, the fundamental assumptions, theories, and frameworks structuring planning and policy analyses are explored. Positivist, phenomenological, ordinary language, and critical perspectives are considered as they clarify or obscure questions of value, rationality, objectivity, interpretation, and action in public policy contexts.

**643 Legal Aspects of Public Administration** Fall.  
3 credits.  
R. Booth.

Examination of basic legal issues that commonly arise in the administration of government agencies, including, for example, agency rule making, protection of individual rights in administrative processes, and judicial review of agency decisions. The course is designed for persons interested in professional careers that will involve working in or with public agencies.

**740 Seminar in Social Policy Research and Analysis** Spring. 4 credits.  
Staff.

Focuses on examining contemporary methods of social policy analysis, including their political implications, and developing multidisciplinary approaches to selected social policy issues. The dilemmas of action research and of implementing research findings are explored.

**743 Critical Theory and Public Policy** Spring.  
4 credits. Prerequisite: background in political or social theory.

M 1:25–3:20. J. Forester.

This seminar explores the critical theory of Jurgen Habermas, particularly its application to problems of planning and public policy analysis. We consider: problems of legitimation, power, rationalization, instrumental and communicative action, ideology, and systematically distorted communications as they appear more broadly in the practice of planners, policy analysts, or professionals.

**[744 Urban Financial Planning and Management** Spring. 3 credits. Not offered 1981–82.  
Staff.

Introduction to the theory and practice of financial management and planning in urban government, including budgeting, capital expenditures, management of short-term assets, borrowing, taxation, and intergovernmental finance. Case studies and problem sets that require the student to make decisions are emphasized.]

**[745 Urban Fiscal Analysis** Fall. 3 credits.  
Prerequisite: CRP 744 or a course in public finance. Not offered 1981–82.

Staff.

Government financial information (fund accounting, financial statements, and budgets) is introduced and this information and other data are used to identify major fiscal problems and their causes faced by cities. Alternative solutions to urban fiscal problems are evaluated using this analysis.]

**746 Informal Seminar in Planning Theory: Philosophy, Ethics, and Values in Planning** Fall or spring. Credit as assigned.

J. Forester.

An informal seminar to discuss problems of values, ethics, and alternative philosophical positions that are inherent in various planning proposals or perspectives. The claims of incrementalists to the contrary, can planning be ethical? Must value judgments be arbitrary?

**748 Fieldwork or Workshop in Social Policy Planning** Fall or spring. Credit as assigned.  
Staff.

Work on applied problems in social policy planning in a field or laboratory setting or both.

**749 Special Topics in Social Policy Planning** Fall or spring. Credit as assigned.  
Staff.**849 Informal Study in Social Policy Planning** Fall or spring. Credit as assigned.  
Staff.**Urban Development Planning****[551 Suburbanization and Metropolitan America** Fall. 3 credits. Prerequisite: permission of instructor. Not offered 1981–82.

I. R. Stewart.

The major issues in suburban development, metropolitan growth analysis, and the role of new communities in accommodating expected future population.]

**552 Urban Land-Use Planning I** Spring. 3 credits.  
T R 12:20–1:10. S. Stein.

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

**[553 Urban Land-Use Planning II** Fall. 2 credits.  
Prerequisite: CRP 552 or permission of instructor. Not offered 1981–82.

T 12:20–2:15. S. Stein.

In-depth consideration of neighborhoods, central business districts, shorelines and waterfronts, new towns, planned-unit developments, high-density housing, highway-oriented uses, and others.]

**554 Introduction to Planning Design** Fall.  
3 credits. Intended for graduate planning students without design backgrounds. Prerequisite for other students: permission of instructor.  
T R 11:15–1:10. S. Stein.  
Planning and design of built environments as an aesthetic reflection of comparative values and needs.

Lectures, seminars, readings, and design exercises explore basic concepts and issues related to urban planning, urban design, and site planning.

**555 Planning Design Workshop** Spring. Variable credit. Prerequisite: CRP 554 or permission of instructor. No previous graphics or design experience required.

T R 10:10–12:05. S. Stein.

A studio course focusing on planning and design problems related to the built environment. An understanding of the design process is developed and graphic communication techniques are explored.

**556 Built-Environment Education Workshop** Fall and spring. Variable credit.

W 3–4:30; fieldwork, hours to be arranged.

S. Stein

Interdisciplinary teams of students from the environmental design disciplines and historic preservation program work in elementary and junior high school classrooms with school children and teachers to deepen their understanding of the impact of the built environment on their lives, and encourage their participation in the shaping of their own environment. Work in local school classrooms is emphasized.

**557 Small-Town Community Design Workshop** Fall and spring. 4 credits.

S. Stein and staff.

An in-depth approach to the problems and challenges facing the small-town commercial district. Various aspects of design including building and storefront rehabilitation, graphics and signage, construction details, and presentation are explored in workshop and studio settings. Emphasis is placed on preservation of historic architecture. Students participate in downtown revitalization activities, including contact with merchants and property owners, promotional events, and community events.

**551 Urban Land Policy and Programs** Fall. 3 credits. Prerequisite: 653 or permission of instructor.

M 1:25–3:15. J. W. Repts.

Major problems of urban land control and management and possible solutions are considered. Subjects for discussion include taxation, compensation and betterment, large-scale public land acquisition, subsidies and incentives, and acquisition of developmental rights.

**552 The Urban Development Process** Spring. 2 credits. Enrollment limited. Prerequisite: CRP 511 or permission of instructor.

M 3:35–5:30. J. W. Repts.

Examination of the goals, strategies, methods, and achievements of major participants in the urban land and building market: land owners, speculators, real estate brokers, developers, bankers, lawyers, nonprofit builders, and government agencies.

**553 Legal Aspects of Land-Use Planning** Spring. 3 credits. Prerequisite: CRP 511 or permission of instructor.

R 12:20–2:15. Staff.

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

**556 Critical Areas Protection** Fall. 3 credits.

M W F 9:05–9:55. R. Booth.

State governments attempt to protect critical areas such as tidal wetlands, key agricultural lands, and flood plains with planning and regulatory techniques. Significant management, implementation, and legal issues of these attempts are analyzed.

**557 Planning and Development Workshop** Fall or spring. 4 credits.

Staff.

**750 Urban Land Policy and Programs—Special Problems** Fall or spring. Credit as assigned. Staff.

**758 Fieldwork or Workshop in Urban Development Planning** Fall or spring. Credit as assigned. Staff.

Work on applied problems in urban development planning in a field or laboratory setting or both.

**759 Special Topics in Urban Development Planning** Fall or spring. Credit as assigned. Staff.

**859 Informal Study in Urban Development Planning** Fall or spring. Credit as assigned. Staff.

### Special Interprogram Topics: History and Preservation

**460 (also Architecture 343) Introduction to the History of Urban Planning** Fall. 3 credits.

T R 9:05–9:55; lab, W 2:30–3:20. Staff.

Survey of urban planning in Western civilization, from the Greeks and Romans through medieval, Renaissance, and modern Europe, to colonial and nineteenth-century America.

**461 (also Architecture 542) Methods of Archival Research** Spring. 3 credits.

T 10:10–12:05. K. C. Parsons.

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 urban development.

**462 The American Planning Tradition** Fall. 4 credits. No prerequisites.

M W F 9:05. J. W. Repts.

A systematic review of American city planning history, beginning with the earliest colonial settlements and ending with the era of the New Deal. An introductory lecture course requiring no previous exposure to planning or architecture, and a prerequisite for students intending to take advanced seminars or independent studies in planning history.

**560 (also Architecture 546) Documentation for Preservation** Fall or spring. 3 credits.

M 2:30–5:30. M. A. Tomlan and visiting lecturers.

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

**561 Historic Preservation Planning Workshop: Surveys and Analyses** Fall and spring. 4 credits.

R 3:30–5:30. T. Werbizky.

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

**562 (also Architecture 545) Perspectives on Preservation** Fall. 3 credits.

T 12:20–3:20. M. A. Tomlan and visiting lecturers.

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.

**[563 (also Architecture 544) Problems in Contemporary Preservation Practice** Fall or spring. Variable credit. Not offered 1981–82.

S. W. Stein, M. A. Tomlan, T. Werbizky.

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

**564 (also Architecture 645) Building Materials Conservation** Fall or spring. 3 credits. Open to juniors, seniors, and graduate students.

M. A. Tomlan and visiting lecturers.

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.

**660 Seminar in the History of American City Planning** Spring. 3 credits. Prerequisites: 462 or permission of the instructor.

J. W. Repts.

A research seminar in which each student selects a topic for oral presentation followed by the completion of a research paper. Early sessions examine the scope of planning history, its relations to other disciplines, sources of written and graphic materials, and the uses of historical evidence in interpreting urban planning and development.

**661 Historic Preservation Planning Workshop: Plans and Programs** Fall and spring. Variable credit. Prerequisite: CRP 561.

Hours to be arranged. T. Werbizky.

Preparation of elements of historic preservation plans, designs, legislation, and special studies. Individual or group projects are selected by students. Fieldwork is emphasized.

**662 Seminar in American Urban History** Spring. 3 credits. Prerequisite: permission of instructor.

M 10:10–12:05. I. R. Stewart.

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

**663 Historic Preservation Law** Spring. 3 credits. Offered alternate years.

M W 11:15–12:05. R. Booth.

Law of historic district and landmark designation; tools for preservation (such as police power, taxation, eminent domain); recent developments in state and federal historic preservation mandates.

**664 Economics and Financing of Neighborhood Conservation and Preservation** Fall. 2 credits.

B. G. Jones.

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.

**665 Public Policy and Preservation Planning** Fall. 3 credits.

I. R. Stewart.

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.

**768 Fieldwork or Workshop in History and Preservation** Fall or spring. Credit as assigned.

Staff.

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

**769 Special Topics in History and Preservation** Fall or spring. Credit as assigned.

Staff.

**869 Informal Study in History and Preservation** Fall or spring. Credit as assigned.

Staff.

### Special Interprogram Topics: International Studies

**[570 Seminar in Latin American Urban Planning and Development]** Fall and spring. 2 credits. Not offered 1981-82.

S. Stein and guest lecturers.  
Seminar covering the broad urban planning and development problems facing Latin American cities. Historical development; current and future physical, social, economic, and administrative issues focusing on urban areas, with consideration of their regional context. Coordinated with CRP 571.]

**[571 Workshop in Latin American Urban Planning and Development]** Fall and spring. 4 credits. Not offered 1981-82.

S. Stein.  
Application of planning theories and methodologies to problems of Latin American cities. Selection of specific urban planning projects for survey, analysis, policy formulation, plan preparation, and program development. Students work in teams or individually in workshop-studio setting.]

**[670 Regional Planning and Development in Developing Nations]** Fall 4 credits. Prerequisite: second-year graduate standing. Not offered 1981-82.

T 2:30-5. W. W. Goldsmith.  
Extensive case studies of development planning are analyzed. Focus is on a Marxist critique of the process of regional development through urbanization and in particular in 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.]

**671 Seminar in International Planning** Spring. 1 credit. S-U grades only.

F 12:20-1:30. W. W. Goldsmith.  
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.

**771 Seminar in Science and Technology Policy in Developing Nations** Spring. 3 credits.

D. Lewis.  
An examination of the issues facing developing countries as they endeavor to use technology in pursuit of their national goals. Topics covered include alternative choices of technology and the associated impacts, the role of multinational corporations, government policymaking institutions, manpower development and utilization strategies, and policy instruments.

**[772 Seminar in Policy Planning in Developing Nations: Technology Transfer and Adaptation]** Fall. 3 credits. Not offered 1981-82.

F 10:10-12:05. D. Lewis.  
An exploration of the international transfer of technology to developing nations and the policies used to guide this process. Topics covered include the role of foreign aid and multinational corporations, economic rationale for choice of appropriate technology, and social benefit-cost analysis. Case studies are emphasized.]

**773 Seminar in Project Planning in Developing Countries** Spring. 3 credits.

M 1:25-3:20. D. Lewis.  
An examination of the problems and issues involved in the process of planning and implementing development projects in developing countries. The role of the planner is explored from several different disciplinary points of view through a series of case studies selected from agriculture, industry, rural development, and urban planning. Countries typically

represented include: Egypt, Ethiopia, India, Jordan, Korea, Mexico, Nepal, and the Commonwealth of Puerto Rico.

**777 Theories of Development and Underdevelopment** Spring. 4 credits. Prerequisite: familiarity with Marxist theory.

R 2:30-4:25. W. W. Goldsmith.  
An exploration of current debates regarding the problem of articulation of the world economy and peripheral regions.

**778 Fieldwork or Workshop in Planning for Developing Regions** Fall or spring. Credit as assigned.

Staff.  
Work on applied problems in planning for developing regions in a field or laboratory setting or both.

**779 Special Topics in Planning for Developing Regions** Fall or spring. Credit as assigned.

Staff.  
**878 Advanced Fieldwork or Workshop in Planning for Developing Regions** Fall or spring. Credit as assigned.  
Staff.  
Work on applied problems in planning for developing regions in a field or laboratory setting or both.

**879 Informal Studies in Planning for Developing Regions** Fall or spring. Credit as assigned.

Staff.  
**Special Interprogram Topics:  
Environmental Health, Housing, and Institutional Planning**

**480 Environmental Issues and Public Decisions** Fall. 3 credits.

M W F 11:15. R. Booth.  
An examination of public decisions affecting environmental quality, including the pressures that require decisions on environmental issues; the methods of influencing those decisions; the decision makers; the criteria and rationale for the decisions; and the environmental, social, political, and economic impacts.

**481 Environmental Aesthetics** Spring. 4 credits.

K. C. Parsons.  
Introduction to issues affecting the design of the large-scale built environment. Development of awareness to aspects of the urban environment; theories and concepts drawn from historical and current writings; critical analysis of extant urban spaces; understanding of the creative contributions of the design disciplines (i.e., urban designers, architects, landscape architects) to the evolving urban form. Primarily for students without background in design. Lectures, seminars, field projects.

**582 Administrative Planning** Spring. 3 credits. Prerequisite: permission of instructor.

K. C. Parsons.  
An analysis of interactive elements in the planning process for colleges and universities. Topics include organizational and administrative theory, management objectives, evaluation, accountability-quantity and quality budgeting, and program planning. Governmental constraints are stressed.

**585 Introduction to Environmental Health Issues** Spring. 3 credits.

F 2:30-4:25. B. G. Jones.  
An examination of concepts and issues in environmental health, particularly as they relate to planning for health and medical care delivery systems, economic development, and other policy issues.

**685 Environmental Epidemiology** Spring. 3 credits. Prerequisite: CRP 520.

W 9:05-11. P. Brandford.  
Introduction to epidemiological methods. Emphasis is on the detection of changes in health status associated with changes in environmental conditions and the significance of these findings for environmental health planning.

**[686 Environmental Law, Policy, and Management]** Fall. 3 credits. Not offered 1981-82.

M W F 11:15-12:05. R. Booth.  
Examination of selected environmental law topics from a policy management standpoint. Topics include environmental impact statement preparation and analysis, pollution control laws, and government regulatory procedures.]

**687 Environmental Management Workshop** Spring. 3 credits.

M W F 9:05. R. Booth.  
Research and analysis of environmental management topics of current interest at the state or local government level. Fieldwork is emphasized; students produce reports, recommendations, or draft legislation that contributes to solving current issues.

**688 (also Engineering CEE B616) Environmental Law II: Natural Resources and Toxic Substances** Spring. 3 credits. Prerequisite: one course in environmental law or permission of the instructors

Sem, hours to be arranged. R. Booth and N. Orloff.  
Environmental Law I (CEE B615) introduces students to the way the legal system operates and explores the legal doctrines governing the environmental impact statement process and air pollution. This course extends that introduction on two different levels. It exposes students to the legal doctrines in the fields of natural resources and toxic substances. Topics such as resource conservation and public lands management, as well as regulation of carcinogens and disposal of hazardous wastes, are considered. It is intended to sharpen the student's nascent legal skills. Close attention is given to the analysis of legislation and judicial decisions. In addition, students prepare a major paper designed to give them experience using a law library and doing independent legal research. The course's goal is to improve the student's ability to understand the legal dimensions of national environmental policy.

**[784 The Political Economy of Health Planning]** Spring. 3 credits. Not offered 1981-82.

R 11:15-1:45. Staff.  
Lectures, reading, and fieldwork and theoretical and practical materials are combined to develop operating skills in health planning. The critical focus is on (1) the social determinants of illness, (2) the engineering model of medicine, (3) the commodity form of medical care, and (4) the prevailing economic definition of health. These topics together comprise the social context in which health planning takes place. After an intensive institutional introduction to health planning legislation, organizations, and practices, participants in the course work in one of four health planning research projects conducted in the surrounding area. Contact with local and regional organizations in and out of health planning is included.]

**785 Planning and Evaluation of Environmental Health Programs and Projects** Spring. 3 credits. Prerequisite: second-year graduate standing.

T R 9:05. P. Brandford.  
An examination of the use of quantitative methods and economic analysis as aids to social decision making for action in the area of environmental health. Applications of these methods to the study of particular problems of environmental health.

**786 Environmental Health Planning** Fall. 2 credits. Prerequisite: second-year graduate standing.

M W 10:10. P. Brandford.

Introduction to concepts and issues in environmental health planning. Topics covered include the planning problems involved in the control of water quality, liquid and solid waste disposal, air quality.

**787 Health Systems Planning** Fall. 3 credits. Not offered 1981-82.

T R 9:05-9:55. Staff and guest lecturers.

Issues, institutions, politics, economics, and social elements involved in the planning and administration of health problems. Special emphasis is on planning techniques and methodologies.]

**788 Fieldwork or Workshop in City and Regional Planning** Fall or spring. Credit as assigned.

Staff.

Work on applied planning problems in a field or laboratory setting or both.

**789 Special Topics in City and Regional Planning** Fall or spring. Credit as assigned.

W 4:30-5:30. Staff.

**790 Professional Planning Colloquium I** Fall. 1 credit.

Staff.

**791 Professional Planning Colloquium II** Spring. 1 credit.

W 4:30-5:30. Staff.

**792 Master's Thesis, Project, or Research Paper I** Fall. Credit as assigned.

Staff.

**793 Master's Thesis, Project, or Research Paper II** Spring. Credit as assigned.

Staff.

**794 Planning Internships** Fall, spring, summer. 1-4 credits.

Staff.

Combines a professional planning internship in a metropolitan area with academic study in order 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 includes 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.

**795 Master's Thesis in Preservation Planning** Fall. Credit as assigned.

Staff.

**796 Master's Thesis in Preservation Planning** Spring. Credit as assigned.

Staff.

**888 Informal Studies in Environmental Health Planning** Fall or spring. Credit as assigned.

Staff.

**889 Informal Studies in City and Regional Planning** Fall or spring. Credit as assigned.

Staff.

**890 Planning Research Seminar I** Fall. 1 credit. Intended for doctoral candidates in city and regional planning; other students welcome.

Staff.

Presentation and discussion of current problem areas and research by advanced doctoral students, faculty, and visitors.

**891 Planning Research Seminar II** Spring. 1 credit.

Staff.

**892 Doctoral Dissertation I** Fall. Credit as assigned.

Staff.

**893 Doctoral Dissertation II** Spring. Credit as assigned.

Staff.

## Landscape Architecture

L. Mirin

*Associated Faculty:* M. Adleman, E. Carter, T. Johnson, A. Lieberman, P. Trowbridge

The Landscape Architecture Program at Cornell is 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 offers three professional degree alternatives: a two-year graduate program leading to a Master of Landscape Architecture degree, a three-year graduate program leading to a Master of Landscape Architecture degree, and a four-year undergraduate program leading to a Bachelor of Science degree (from the College of Agriculture and Life Sciences).

For further information contact Professor Mirin, B40 East Sibley Hall.

**\*201 Design I: Basic Landscape Architectural Design** Fall. 5 credits.

T. H. Johnson.

**\*202 Design II: Basic Landscape Architectural Design** Spring. 5 credits.

M. I. Adleman.

**\*220 Principles of Landscape Architecture** Fall. 2 credits.

P. J. Trowbridge.

**\*221 Principles of Landscape Architecture Seminar** Fall. 1 credit.

P. J. Trowbridge.

**\*224 Plants and Design** Fall (1981 only) or spring. 3 credits.

M. I. Adleman.

**\*240 Landscape Design** Fall. 3 credits.

**\*301 Design III: Intermediate Landscape Architectural Design** Fall. 5 credits.

P. J. Trowbridge.

**\*302 Design IV: Intermediate Landscape Architectural Design** Spring. 5 credits.

T. H. Johnson.

**\*310 Site Construction I** Spring. 4 credits.

P. J. Trowbridge.

**\*311 Site Construction II** Fall. 4 credits.

T. H. Johnson.

**\*400 Thesis Project Seminar** Fall. 1 credit.

P. J. Trowbridge.

**\*401 Design V: Advanced Landscape Architectural Design** Fall. 5 credits.

M. I. Adleman.

**\*402 Design VI: Senior Thesis Project** Spring. 5 credits.

P. J. Trowbridge.

**\*431 Introduction to Parks and Recreation** Fall. 2 credits.

E. J. Carter.

**\*432 Parks and Recreation Workshop** Spring. 2 credits.

E. J. Carter.

**\*435 Urban Environmental Planning** Fall. 2 credits.

E. J. Carter.

**\*436 Urban Environment Workshop** Spring. 2 credits.

E. J. Carter.

**497 (555) Independent Study in Landscape Architecture** Fall or spring. 1-5 credits; may be repeated for credit. S-U grades optional.

L. Mirin.

Work on special topics by individuals or small groups.

**\*500 (502) Graduate Landscape Architecture Design Studio** Spring. 5 credits

**501 Graduate Landscape Architecture Design Studio** Fall. 5 credits.

Studios, M W F 1:25-4:25. L. Mirin.

Project design of complex landscape architecture problems. Emphasis on procedures and solutions responsive to historical example, natural and cultural system sensitivity, and client need. Studio work is coordinated with actual clients and involves existing sites.

**520 Contemporary Issues in Landscape Architecture** Fall. 2 credits.

Lec, F 11:15-1:25. L. Mirin.

Presentations on topics of currency and significance 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.

**521 History of Landscape Architecture I** Fall. 3 credits.

Lecs, T R 11:15-12:05; discs to be arranged.

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.

**522 History of Landscape Architecture II** Spring. 3 credits.

Lecs, T R 11:15-12:05; discs to be arranged.

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.

**530 Urban Landscape Planning and Design** Spring. 3 credits.

Lec, disc, and field trips to be arranged. L. Mirin.

The principles and techniques of landscape architectural development and conservation of urban open space. Areas studied include the urban landscape tradition, urban arboriculture, streets and strollways, design controls and public space, recreation, and housing.

**\*531 Regional Landscape Inventories and Information Systems** Fall. 3 credits.

A. S. Lieberman.

\*Offered through the College of Agriculture and Life Sciences.

**\*532 Analysis and Use of Vegetation in Comprehensive Land Planning** Spring. 3 credits.  
A. S. Lieberman.

**621 Summer Internship Seminar** Fall. 2 credits.  
Hours to be arranged. L. Mirin.  
Presentation and discussion of projects developed during summer internships.

**\*622 Graduate Seminar in Landscape Architecture** Spring. 2 credits.  
T. H. Johnson.

**650 Fieldwork or Workshop in Landscape Architecture** Fall or spring. 1-5 credits; may be repeated for credit. S-U grades optional.  
L. Mirin.  
Work on applied problems in landscape architecture in a field or studio setting or both.

**800 Thesis Research and Preparation in Landscape Architecture** Fall or spring. 9 credits.  
Hours to be arranged.  
Independent research under faculty guidance leading to the development of a comprehensive and defensible design or study related to the field of landscape architecture.

\*Offered through the College of Agriculture and Life Sciences.

## Faculty Roster

Blum, Zevi, B. Arch., Cornell U. Assoc. Prof., Art  
Booth, Richard S., J.D., George Washington U. Asst. Prof., City and Regional Planning  
Bowman, Stanley J., M.F.A., U. of New Mexico. Asst. Prof., Art  
Bragstad, Jeremiah O., B.Arch., U. of California at Berkeley. Asst. Prof., Architecture  
Brandford, Paul, Ph.D., Harvard U. Asst. Prof., City and Regional Planning  
Clavel, Pierre, Ph.D., Cornell U. Assoc. Prof., City and Regional Planning  
Cohen, Peter, M.Arch., Harvard U. Adjunct Assoc. Prof., Architecture  
Colby, Victor E., M.F.A., Cornell U. Prof., Art  
Crump, Ralph W., B.Arch., Cornell U. Prof., Architecture  
Cummer, W. Willson, Ph.D., U. of Pennsylvania. Asst. Prof., Architecture  
Czamanski, Stan, Ph.D., U. of Pennsylvania. Prof., City and Regional Planning  
Daly, Norman, M.A., Ohio State U. Prof. Emeritus, Art  
Dennis, Michael D., B.Arch., U. of Oregon. Assoc. Prof., Architecture  
Evelt, Kenneth W., M.A., Colorado Coll. Prof. Emeritus, Art  
Forester, John, Ph.D., U. of California at Berkeley. Asst. Prof., City and Regional Planning  
Goehner, Werner H., M.Arch., Cornell U. Asst. Prof., Architecture  
Goldsmith, William W., Ph.D., Cornell U. Assoc. Prof., City and Regional Planning  
Greenberg, Donald P., Ph.D., Cornell U. Prof., Architecture  
Hascup, George E., B.Arch., U. of California at Berkeley. Assoc. Prof., Architecture  
Hodgden, Lee F., M.Arch., Massachusetts Inst. of Technology. Adjunct Assoc. Prof.  
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., Architecture  
Lewis, David B., Ph.D., Cornell U. Asst. Prof., City and Regional Planning  
Locey, Jean N., M.F.A., Ohio U. Asst. Prof., Art  
MacDougall, Bonnie G., Ph.D., Cornell U. Asst. Prof., Architecture  
MacDougall, Robert D., Ph.D., Cornell U. Assoc. Prof., Architecture

Mackenzie, Archie B., M.Arch., U. of California at Berkeley. Assoc. Prof., Architecture  
Meyer, Elizabeth H., M.F.A., U. of Texas. Asst. Prof., Art  
Mikus, Eleanore, M.A., U. of Denver. Asst. Prof., Art  
Miller, John C., M.Arch., Cornell U. Asst. Prof., Architecture  
Mirin, Leonard J., M.L.A., U. of Michigan. Assoc. Prof., Landscape Architecture  
Morris, Ellen K., Ph.D., Princeton U. Asst. Prof., Architecture  
Nelkin, Dorothy W., B.A., Cornell U. Prof., City and Regional Planning/STS†/Physics  
Otto, Christian F., Ph.D., Columbia U. Assoc. Prof., Architecture  
Page, Gregory, M.F.A., U. of Wisconsin. Asst. Prof., Art  
Parsons, Kermit C., M.R.P., Cornell U. Prof., City and Regional Planning  
Pearman, Charles W., B.Arch., U. of Michigan. Prof., Architecture  
Poleskie, Stephen F., B.S., Wilkes Coll. Assoc. Prof., Art  
Reps, John W., M.R.P., Cornell U. Prof., City and Regional Planning  
Richardson, Henry W., M.R.P., Cornell U. Assoc. Prof., Architecture  
Romanach, Maria, M.Arch., Princeton U. Asst. Prof., Architecture  
Rowe, Colin F., M.A., U. of London. Prof., Architecture  
Saltzman, Sid, Ph.D., Cornell U. Prof., City and Regional Planning  
Saul, Francis W., M.S., Harvard U. Assoc. Prof., Architecture  
Schack, Mario L., M.Arch., Harvard U. Prof., Architecture  
Schiler, Marc, M.S., Cornell U. Asst. Prof., Architecture  
Seley, Jason, B.A., Cornell U. Prof., Art  
Senkevitch, Anatole, Ph.D., Cornell U. Assoc. Prof., Architecture  
Shaw, John P., M.Arch., Massachusetts Inst. of Technology. Prof., Architecture  
Simons, David M., M.F.A., Princeton U. Assoc. Prof., Architecture  
Singer, Arnold. Prof., Art  
Squier, Jack L., M.F.A., Cornell U. Prof., Art  
Stein, Stuart W., M.C.P., Massachusetts Inst. of Technology. Prof., City and Regional Planning  
Stewart, Ian R., Ph.D., Cornell U. Asst. Prof., City and Regional Planning  
Ungers, O. Mathias, Diploma, Technical U. Karlsruhe. Prof., Architecture  
Valerio, James, M.F.A., Art Inst. of Chicago. Assoc. Prof., Art  
Webb, Patrick M., M.F.A., Yale U. Asst. Prof., Art  
Wells, Jerry A., B.Arch., U. of Texas. Nathaniel and Margaret Owings Distinguished Alumni Prof. of Architecture, Architecture

†Program on Science, Technology, and Society.